The Impact of Anti-corruption on Mental Health: Evidence from China

Jiawei Fu[a], Congyi Zhou[b]

[a] *Institution for Social and Policy Studies, Yale University, 77 Prospect St, New Haven, 06511, CT, United States*
[b] *Wilf Family Department of Politics, New York University, 19 West 4th Street, New York, 10012, NY, United States*

Abstract

Mental health directly influences individuals' behaviors and decision-making processes, particularly for government officials grappling with mental health issues. This paper utilizes field data from China's anti-corruption campaign to evaluate the campaign's impact on mental health. Our findings indicate that depressive symptoms, as measured by CES-D8 scores, have risen significantly among government employees by 0.4 units per 100 increase in corruption investigation cases. This result suggests that the anti-corruption campaign within a year could potentially result in an average increase of 29% in depressive symptoms among government employees. Interestingly, no comparable effect was found among the general Chinese population. This discrepancy could be attributed to the transformative impact of the anti-corruption campaign on the internal governmental work environment, engendering stress among its employees.

Keywords:
Anti-corruption, Depressive Symptoms, Mental Health
JEL: D73, I10, I18, P30, P36

July 9, 2024

1. Introduction

On October 23, 2018, Xi Jinping, the President of China, attended the inauguration of the Hong Kong–Zhuhai–Macau Bridge in Macau. Four days before Xi's arrival, Zheng Xiaosong, the Director of the Macau Liaison Office–the highest Chinese official assigned to Macau–committed suicide. The official cause of death was listed as depression. Disturbingly, the media reported that between 2009 and 2016, more than 243 Chinese officials had committed suicide, with most deaths occurring after the anti-corruption campaign was launched in 2012.[1] Depression was cited as the most common reason for suicide. In this study, we investigate a long-ignored question in political economy: how does a shift in national institutions influence the mental well-being of individuals, particularly that of politicians and government officials?

Studying the influence of anti-corruption on people's mental health, particularly among government employees, can make a contribution to the existing literature in two ways. First, existing studies have demonstrated that corruption adversely impacts individual well-being (e.g., Gillanders 2016; Peterson 2021). Nikolova (2016) establishes a connection between institutional transitions and human well-being. Mavisakalyan et al. (2021) investigates the effects of bribery on health in post-communist nations. However, few studies provide empirical evidence on whether alleviating corruption directly enhances overall well-being. Since 2012, following President Xi Jinping's rise to power, China has launched its most extensive and enduring anti-corruption campaign to date. By October 2018, seven national-level leaders had been sentenced to prison, and over 58,000 officials were prosecuted. Studies indicate that the Chinese Communist Party (CCP) has taken the anti-corruption campaign seriously, with the aim of improving the corruption situation and enhancing the party's legitimacy (Manion 2016). Since then, China's Corruption Perceptions Index ranking has improved from 80 in 2012 to 66 in 2022. Based on prior research findings, this improvement in combating corruption could have a positive impact on people's mental health. However, our analysis reveals an interesting outcome: the anti-corruption campaign negatively influences the mental health of government employees but does not show a significant impact on ordinary Chinese citizens.

[1] "Why are so many Chinese officials killing themselves?" by Wang Xiangwei https://www.scmp.com/week-asia/opinion/article/2175401/why-are-so-many-chinese-officials-killing-themselves

Second, mental health within bureaucracies has been overlooked in social science research. An examination of both the mental and physical health of US presidents by McDermott (2007) suggests that health issues can significantly influence important policy decisions more than many people may realize. While existing literature has explored mental health issues in the workplace (Karasek 1979), the significance of this matter within government institutions should not be underestimated. The mental well-being of government officials and employees can directly influence policy-making and implementation in society. This is particularly relevant in authoritarian regimes where political power is not restrained by democracy, as government officials and the bureaucratic system play a crucial role in shaping economic and social policies (e.g., Li and Zhou 2005; Jiang 2018). The ongoing anti-corruption campaign presents an empirical opportunity to examine this long-overlooked problem.

To examine how the anti-corruption campaign might influence people's mental health, we conduct a study combining China's Corruption Investigation Dataset (CCID) and the China Family Panel Studies (CFPS). First, we directly tested how the anti-corruption campaign might affect the mental health of government employees. For this analysis, we use individual self-reported mental health status, measured by the Center for Epidemiologic Studies Depression Scale (CES-D) with eight items, as the dependent variable, and the number of officials under corruption investigations in each province as the main explanatory variable. The empirical results revealed that potential depressive symptoms increased by 0.4 units when the number of corruption investigations increased by 100. In contrast, the intensity of the anti-corruption campaign had no significant impact on the mental health of ordinary Chinese citizens who do not work in the government. Considering that government employees in the CFPS dataset had an average depressive symptom score of around 4 units, and each province had an average of close to 300 corruption investigation cases in 2015, as per CCID data, our estimated results suggest that the anti-corruption campaign within a year could potentially lead to an average increase of 29% in depressive symptoms among government employees. This effect is more than the impact of the COVID-19 pandemic, which led to a 25% rise in global anxiety and depression levels.

Considering that the anti-corruption campaign primarily focuses on government officials, one potential explanation for the empirical findings is that this campaign may have altered the workplace atmosphere and increased stress levels among government employees, potentially leading to mental

health issues. Meanwhile, individuals in China who are not employed by the government have not been directly affected by this campaign, and as a result, no significant mental health issues were detected among them.

To address potential omitted variable bias in our estimate, we also employ an instrumental variable (IV) estimation to further test our results. The IV we constructed is based on whether a provincial leader is politically connected with the general secretary of the Chinese Communist Party. In China, officials' networks and factions have been examined to understand issues related to political selection (Shi 2014; Jia et al. 2016), economic development (Jiang 2018), and corruption investigations (Lorentzen and Lu 2018). Therefore, political connections among high-ranking officials may influence corruption investigations in the anti-corruption campaign. However, there is no evidence to suggest that these connections directly affect the mental health of grassroots-level individuals, who were randomly selected in the survey dataset. Our IV estimate yielded a result similar to that of the linear regression, providing further support for our findings.

To further demonstrate how the anti-corruption campaign can influence mental health, we conducted an analysis to examine whether the rank of corrupt officials affects people's mental health differently. Our findings indicate that the fall of high-ranking officials has no significant effect on government employees' mental health, but the fall of low-ranking officials does have an impact. This suggests that an intense anti-corruption campaign, as reflected by the total number of corruption investigations rather than the high-profile cases of top officials, changes the work environment in the government and affects the mental health of government employees.

Our study is directly related to the literature about the effects of corruption on health. From a general comparative perspective, Peterson (2021) analyzes health status and corruption in 150 nations. Yamamura et al. (2012) find that countries with lower corruption rates have lower suicide rates. Gillanders (2016) documents a significant positive correlation between being a victim of corruption and anxiety in Sub-Saharan Africa, and Pedigo and Marshall (2009) find similar evidence in Australia. Using cross-national data, Li and An (2020) find that subjective well-being is negatively correlated with corruption. Prior literature also addresses the mechanism behind corruption's direct effect on mental health. Corruption is a source of stress (Gillanders 2016), and in a corrupt society, people experience stress because of the possibility that they will not obtain necessary resources in a fair way. Thus, corruption increases feelings of stress (Van Deurzen 2017) and induces

anger and frustration (Smith et al. 1994), which worsens mental health. Furthermore, individuals without the resources to bribe officials may believe that they are less likely to succeed in society–and, therefore, feel less hopeful about the future (Mirowsky and Ross 1986).

Diverging from the existing literature that focuses on the relationship between corruption and health, and consistently finds that corruption negatively impacts both physical and mental well-being, our paper is the first to reveal that anti-corruption initiatives might have detrimental effects on mental health. Integrating theories that analyze mental health in the workplace (Karasek 1979; Karasek and Theorell 1990), our findings suggest that the anti-corruption movement could alter the workplace atmosphere and generate stress. This shift may, in turn, lead to mental health issues among government employees.

Since the Chinese anti-corruption campaign was launched in 2013, research on this topic has grown rapidly. Some researchers argue that Xi started the campaign to consolidate his power by purging rivals (Yuen 2014; Xi et al. 2018); however, empirical evidence indicates the CCP has taken the campaign seriously, and intends to shake up officialdom and increase the party's legitimacy (Manion 2016). Cross-national studies show that political corruption increases anti-government protests and undermines a regime's long-term legitimacy (Seligson 2002; Anderson and Tverdova 2003; Chang and Chu 2006; Gingerich 2009; Morris and Klesner 2010).

However, the effect of the campaign on many aspects of Chinese society yields mixed results. Jiang and Yang (2016) find that Chinese citizens are more willing to express their opinions about the regime after local politicians are removed–but, using survey data, Wang and Dickson (2022) show that the anti-corruption campaign decreases respondents' support for the government. Chen and Kung (2019) exploit corruption in the Chinese land market, and Wang (2022) indicates that local officials shirk their efforts regarding the land privatization market to avoid risk.

Our research adds a new dimension to the existing body of literature on anti-corruption campaigns by examining how such campaigns can affect mental health. The impact of political behavior on health, particularly in developing countries, has been largely overlooked. Li et al. (2024) discover that the anti-corruption campaign led to a reduction in BMI and overweight issues among public sector employees. Our study stands out as the first to focus on the mental health consequences resulting from an anti-corruption campaign.

The remainder of the paper is organized as follows. Section 2 presents the potential mechanism that may cause mental health issues and our empirical hypotheses. Section 3 describes the dataset in detail. Section 4 presents the empirical estimate and main results. Section 5 exploits which level of corruption investigations causes mental health issues. Section 6 discusses the potential alternative explanation of our empirical findings, and Section 7 is the conclusion.

2. Background, Theory and Empirical Hypotheses

In November 2012, Xi Jinping became the general secretary of the Chinese Communist Party (CCP). In early 2013, the CCP launched its anti-corruption campaign to eliminate corruption in the country. The campaign's goal was to eliminate not only "flies" (low-ranking officials) but also "tigers" (high-ranking officials). Xi's anti-corruption campaign is considered to be the most intense and long-lasting movement in the history of the People's Republic of China (Wedeman 2016). This campaign has deeply changed the political structure and work environment in the Chinese government and the Communist Party (Manion 2016; Zhu 2017; Li and Manion 2022).

Research in psychology and public health has established a connection between the psychological work environment and mental health. Karasek (1979) and Karasek and Theorell (1990) propose a framework wherein work-related mental health and associated psychiatric disorders stem from a blend of, and interactions among, four distinct employment factors: substantial job demands and job insecurity, restricted involvement in decision-making processes, inadequate job skill discretion, and deficient social support in the workplace.

The anti-corruption campaign is a government-led movement that directly targets government officials and employees at all levels. When considered in conjunction with the theoretical framework linking psychological work environments and health in the workplace, this campaign could significantly heighten stress and anxiety among government employees in several ways. First, it likely increases job demands for these employees. During the campaign, government employees are required to manage their regular administrative duties while also attending numerous meetings to learn about anti-corruption policies. Since the campaign extends to all levels of government, employees at every tier must be prepared to cooperate with anti-corruption inspection teams from higher levels at any moment. Furthermore, the Chi-

nese central government's intention to sustain this intense campaign over a long duration directly amplifies the job demands placed on all government employees, potentially leading to a considerable deterioration in their mental health.

Additionally, the campaign could intensify stress and anxiety among government employees concerning their job security. Generally, government positions are perceived as some of the most secure and stable jobs in the labor market. However, the anti-corruption campaign has led to a significant shift: more than 58,000 government officials have been prosecuted until 2018. This dramatic alteration has increased the uncertainty surrounding government roles. As a substantial number of officials are removed from their positions, the remaining employees have more reasons to worry about their careers and job security. This includes concerns about opportunities for promotion, work benefits, and social connections in the workplace.

Another factor that may affect government employees is their limited involvement in decision-making processes. Wang and Dickson (2022) indicates that government employees have reduced their efforts in daily work, suggesting an attempt to avoid potential risks during the anti-corruption campaign. This behavior indicates that employees, whether passively or actively, are diminishing or relinquishing their participation in work-related decision-making.

The absence of work-based social support for government employees could play a significant role in their mental health. The World Health Organization (WHO) highlights the importance of such support in the workplace.[2] Ferrie et al. (1998, 2002) also stress the importance of work-based social support for the mental health of government employees in the United Kingdom. However, in China, especially in government sectors, there is a noticeable lack of this support. With its focus on the intensity and duration of the anti-corruption campaign, the Chinese government has not adequately addressed mental health support for its employees, an essential component of workplace well-being. Moreover, government employees who are not under investigation may be required to provide evidence to investigators.[3] Such extensive corruption investigations can create a tense work environment, breeding sus-

[2] `https://www.who.int/news-room/fact-sheets/detail/mental-health-at-work`

[3] Under the "Oversight Law of the People's Republic of China," law enforcement authorities have the right to require citizen cooperation in investigations.

picion among colleagues and undermining any potential for work-based social support within the workplace.

Woo and Postolache (2008) reviews the impact of the work environment on mental health through clinical trial evidence and provides a potential medical mechanism to explain the connection.[4] They argue that "Work stress can result in psychosomatic symptoms, such as fatigue, sleep disturbance, and concentration difficulty, all of which can be both symptoms and risk factors for mood disorders." Since the anti-corruption campaign has changed the work environment in the Chinese government, and the effects of the campaign on government officials have been detected in the prior literature, it is plausible that this campaign could have a negative impact on the mental health of government employees. Therefore, we have the first empirical hypothesis.

Hypothesis 1. *Government employees are more likely to have mental health issues when the intensity of the anti-corruption campaign is high.*

On the other hand, studies have indicated that politics could serve as a macro-social determinant of health (Link and Phelan 1995; Putnam and Galea 2008). As mentioned earlier, research has also shown that corruption has a negative influence on people's mental health. Given that the anti-corruption campaign has improved the corruption situation in China (Manion 2016), it is reasonable to expect that this campaign should not have a negative impact on people's mental health from a macro-social perspective. Thus, it becomes important to examine the impact of the anti-corruption campaign on ordinary Chinese people.

Since the anti-corruption campaign in China primarily targets government officials, individuals outside of the government should not experience a similar change in their mental health status resulting from the political and work environment changes inside the government. Therefore, the impact of the anti-corruption campaign on ordinary Chinese people is likely to reflect the effect of the macro-social change brought by this campaign. Based on this, we formulate the following hypotheses.

[4]The medical explanation of this mechanism related to the high level of corticosteroids caused by intense stress in the work environment can be found in Woo and Postolache (2008), pp. 8.

Hypothesis 2. *The anti-corruption campaign has no negative impact on people who do not work in the government.*

Hypothesis 2 implies that if the anti-corruption campaign has a negative influence on the mental health of ordinary Chinese citizens, we cannot solely attribute the negative impact of the anti-corruption campaign on government employees to the physiological changes in the workplace environment. This is because government employees should be affected by the same macro-social influences as other Chinese citizens. Conversely, if the anti-corruption campaign has a positive impact or, at least, does not negatively affect the mental health of ordinary Chinese citizens, then the negative impact of the anti-corruption campaign on government employees might be attributed to the physiological changes in the workplace environment. In other words, testing Hypothesis 1 and 2 is similar to conducting a heterogeneity analysis to discover the mechanism behind the anti-corruption campaign and its impact on people's mental health.

3. Data and Variables

In this section, we introduce the dataset and key variables in our analysis.

Corruption

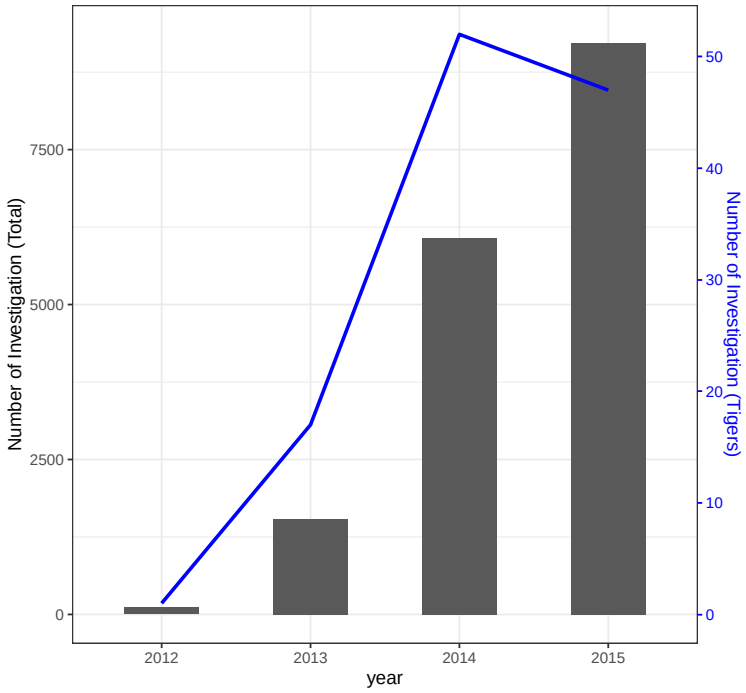
The dataset we use to measure the intensity of the anti-corruption campaign is CCID, which collects data on all reported corruption investigations across China from 2011 to early 2016.[5] It is the most comprehensive public corruption investigation database in China. We focus on corrupt officials who were not in the central government from 2012 to 2015, but drop cases in 2011 and 2016, because only 13 investigations were reported in 2011, and the data for 2016 cover only the first few months. Figure 1 illustrates the sharp rise in the number of corruption investigations. The total number of investigations increased tenfold from 2012 to 2013, reflecting the launch of the anti-corruption campaign in 2013. The number of "big tigers" (deputy provincial level and above) under investigation also dramatically increased during the campaign (Table A1 in Appendix details cases by level and province).

Mental Health

Our individual-level data are from the CFPS 2012 and 2016, which are nationally representative and longitudinal surveys of Chinese communities,

[5] `https://dataverse.harvard.edu/dataverse/yuhuawang`

Figure 1: Corruption Investigation



Note: The gray bars with the y-axis on the left denote the total number of corruption investigations in each year. The blue curve with the y-axis on the right illustrates the number of corrupt "big tigers" (deputy provincial level and above).

families, and individuals.[6] In the survey, a specific section is designed to examine the subjects' mental health status. The survey follows the CES-D by Radloff (1977), which is the widely adopted self-reported questionnaire that measures the severity of depressive symptoms in the general population (See example: the *Health and Retirement Study* and *National Health and Nutrition Examination Survey* in the United States). The survey in 2012 asked subjects all 20 questions from the CES-D. The survey in 2016 adopted a simplified version including eight questions (CES-D8), which are the same as the corresponding part in the European Social Survey in 2006 and 2012.[7] For consistency, we focus on these eight mental health–related questions that are included in both waves of surveys (Table 1). For each of these questions, respondents are asked "How often have you experienced them in the past week?" Responses are coded into an increasing ordinal variable-specifically, $0 =$ *almost never* (<1 day), $1 =$ *sometimes* (1–2 days), $2 =$ *usually* (3–4 days), and $3 =$ *most of the time* (5–7 days).[8] As the standard uses of the CES-D, we construct the measure of depressive symptoms as a sum of responses to all questions (the depressive symptoms score).[9] Therefore, the measure of depressive symptoms is scaled from 0 to 24.

We are interested in the influence of the anti-corruption campaign on the mental health of different groups of people. Hence, we separate individuals into two categories. "government employees" who work in the government, and "citizens" who don't work in the government.[10] Table 2 illustrates that after the anti-corruption campaign began, government employees' depressive

[6]The CFPS has been conducted biennially since 2010. In 2012 and 2016, the CFPS utilized the CES-D to assess individuals' mental health. Conversely, the CFPS 2014 employed the Kessler Psychological Distress Scale with six items (K6) for this purpose. To ensure consistency in our primary analysis, we exclude the CFPS 2014 data. For a robustness check, we include the CFPS 2014 data in the analysis detailed in Section 4.3.

[7]The validity of the CES-D8 is tested by Karim et al. (2015)

[8]In the CFPS, the original codes are $1 =$ *almost never* (<1 day), $2 =$ *sometimes* (1–2 days), $3 =$ *usually* (3–4 days), and $4 =$ *most of the time* (5–7 days). This design is to avoid respondents using zero in the survey. As the standard uses of the CES-D, we minus one to each of these responses.

[9]For the questions that reflect a positive effect and behavior, such as "I was happy," the score is calculated in the opposite order.

[10]Note that "work in the government" includes occupations in the government; the executive branch of the CCP; and military and people's organizations, such as the All-China Women's Federation, which is considered to be a government branch.

symptoms increased from 3.9 in 2012 to 4.05 in 2016. Meanwhile, the average mental health status of ordinary citizens changed from 4.63 to 4.75 during this period.

Table 1: CES-D8 Questionnaires in the CFPS

Here are some feelings or activities you may have experienced before. Please tell us how often you experienced them in the past week. 0= Almost never (Less than one Day); 1= Sometimes (1-2 Days); 2= Often (3-4 Days); 3= Most of the Time (5-7 Days)		
Physical Symptoms	Depressive Symptoms	Positive Emotions
I could not get "going"	I felt depressed	I was happy.
My sleep was restless.	I felt sad.	I enjoyed life.
I felt that everything I did was an effort.	I felt lonely.	

Table 2: Summary Table of Depressive Symptoms

	2012	2016		
Group	Mean (S.D.)	Mean (S.D.)	t-stats	p-value
Government Employees	3.90 (3.12)	4.05 (3.44)	-0.81	0.42
Citizens	4.63 (3.44)	4.75 (3.62)	-2.86	0.004

Note: Date source: the CFPS. The table shows the summary statistics for the main outcome variable the depressive symptoms. It is measured by the sum of respondents' answers of the CES-D8. In the last two columns, we report the tests (t-statistics and corresponding p-value) whether the means are significantly different in these two years.

Other Variables

Other variables we use in the analysis include three parts. Individual characteristics, which include gender, age, ethnicity, education, self-reported physical health status, marital status, and smoking and drinking habits. Household information, which includes Hukou status and family assets.[11] We also include macro-level variables, such as medical facilities and the average GDP growth, which may capture the time-varying public goods provision and economic change in each province. The descriptive statistics of these variables are summarized in Table 3.

[11] *Hukou* is a household registration system in China that includes two categories: urban and rural, determined by the registration location.

Table 3: Summary Statistics

	2012		2016	
	Mean	S.D.	Mean	S.D.
Individual Level:				
Age	44.22	16.85	45.30	16.79
Physical Health	3.13	1.22	3.00	1.19
Asset (Thousand)	54.01	244.80	118.95	382.78
	Percent		Percent	
Education				
High school or below	0.92		0.89	
Higher education	0.08		0.11	
Marriage				
Single	0.15		0.14	
Married	0.77		0.79	
Divorce	0.01		0.02	
Widowed	0.05		0.05	
Female	0.50		0.50	
Urban Hukou	0.73		0.71	
Alcohol	0.85		0.85	
Smoke	0.71		0.73	
Minority	0.08		0.08	
Observations	32327		23474	

Macro-Level Variable (Average Growth Rate):

	Mean	S.D.	Mean	S.D.
GDP	0.13	0.03	0.10	0.02
Medical Facilities	0.23	0.02	0.26	0.01
Land Value-Added Tax	53.75	0.18	5.68	0.13
Fiscal Budget	19.75	0.04	11.21	0.07
Public Safety	12.85	0.03	16.53	0.03
Science and Technology	21.68	0.08	14.18	0.23
Airmail Routes	14.88	0.30	-0.63	0.25
Railway Routes	11.93	0.23	17.49	0.51
Automotive Routes	20.05	0.19	4.57	0.09

Notes: Data source: the CFPS 2012 and 2016. Physical Health is coded in 5 levels, where 1 denotes *healthy* and 5 denotes *very unhealthy*. Smoke and Alcohol measure whether the respondent smoked/drank within the last month. "Hukou" represents the location registration status, it includes two category "urban" and "rural". Macro-level variables are summarized from the statistical year books. Medical facilites, public safety, and science and technology represent the government spending in each category. Airmail, railway, and automotive routes represent the fixed asset investment.

4. Empirical analysis

4.1. Baseline estimate

We use the following two-way fixed effects regression as the baseline estimate to test whether the anti-corruption campaign influences mental health.

$$Dep_{ipt} = \alpha_0 + \alpha_1 CO_{pt} + \alpha_2 \mathbf{X}_{it} + \alpha_3 \mathbf{Z}_{pt} + Prov_{FE} + Year_t + \varepsilon_{ipt}, \quad (1)$$

The outcome variable Dep_{ipt} is individual i's potential depressive symptoms in province p in survey year t.[12] The explanatory variable CO_{pt} measures the average intensity of the anti-corruption campaign in province p from the previous survey round to the current survey time t. More precisely, CO_{pt} is the average number of corruption investigations from 2013 to 2015 when $t = 2016$. Meanwhile, CO_{pt} only includes the number of corruption investigations in the year 2012 when $t = 2012$. These conditions are attributed to the excluded information on corruption investigations in 2011 (the scenario includes the cases from 2011 is discussed in Section 4.3)

$\mathbf{X}_{it}$ is the set of control variables for individual i at time t. The macroeconomic situation can also impact an individual's mental health, as corruption can influence the provision of local public goods, thereby affecting people's mental well-being. Thus, we include the set of variables $\mathbf{Z}_{pt}$, which represents the average growth rate of macro-level variables at province p and year t. $Prov_{FE}$ is the province fixed effect and $Year_t$ is the survey year fixed effect.[13] ε_{ipt} is the idiosyncratic error. Standard errors are clustered at the province level.

Table 4 presents the estimated results (the table with all control variables is in Appendix Table A2).[14] Column 2 indicates that by adding all

[12]The CFPS data only provide the location of each individual at the province level, so we cannot further investigate the anti-corruption effect on mental health at the prefecture or county level.

[13]Survey year fixed effects can be used to control for the potential change of corruption investigations by the CCP from year to year. The corruption investigations may also vary among different provinces; therefore, we control for province-fixed effects.

[14]In Equation 2, we don't include include individual fixed effects due to insufficient data on repeated observations of government employees. Specifically, only 272 government employees were surveyed twice. As a part of our robustness check, we have included individual fixed effects in the estimation. The results, which align closely with our primary analysis, are reported in Appendix Table A4.

control variables, depressive symptoms for government employees increase by 0.4 units at the 1% significance level for every additional 100 corruption investigations. This result is consistent with our first hypothesis that the anti-corruption campaign may worsen government employees' mental health status. The CCID indicates an average of 295 corruption investigations in each province in 2015, which marks the end of our data set. Considering that government employees have an average depressive symptom score of 4 units, the estimated results suggest that the anti-corruption campaign within a year could potentially result in an average increase of 29% in depressive symptoms among government employees. This effect is particularly noteworthy when compared to the World Health Organization's report, which states that the COVID-19 pandemic led to a 25% increase in anxiety and depression worldwide.[15]

Table 4: Effect of the Anti-corruption Campaign on Mental Health

	Dependent Variable: Depressive Symptoms			
	Government Employees	Government Employees	Citizens	Citizens
	(1)	(2)	(3)	(4)
Anti-corruption intensity	0.002*	0.004***	0.0004	0.0002
	(0.001)	(0.001)	(0.001)	(0.0005)
Controls	N	Y	N	Y
Province and Year FEs	Y	Y	Y	Y
Observations	1,205	1,075	24,547	20,927
Adjusted R^2	0.043	0.117	0.026	0.143

Note: This table reports the estimated results of Eq.(1). The dependent variable is depressive symptoms. The table with all control veraibles is in Appendix Table A2. Standard errors are clustered at the province level. *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.1$.

In Columns 3 to 4 of Table 4, we examine the effect of the anti-corruption campaign on ordinary Chinese citizens who do not work in the government. The results indicate that the intensity of this campaign has no significant impact on ordinary Chinese people, which is consistent with Hypothesis 2. This result suggests that, although the anti-corruption campaign improves the corruption situation in China, this macro-social change does not signif-

[15] https://www.who.int/news/item/02-03-2022-covid-19-pandemic-triggers-25-increase-in-prevalenc

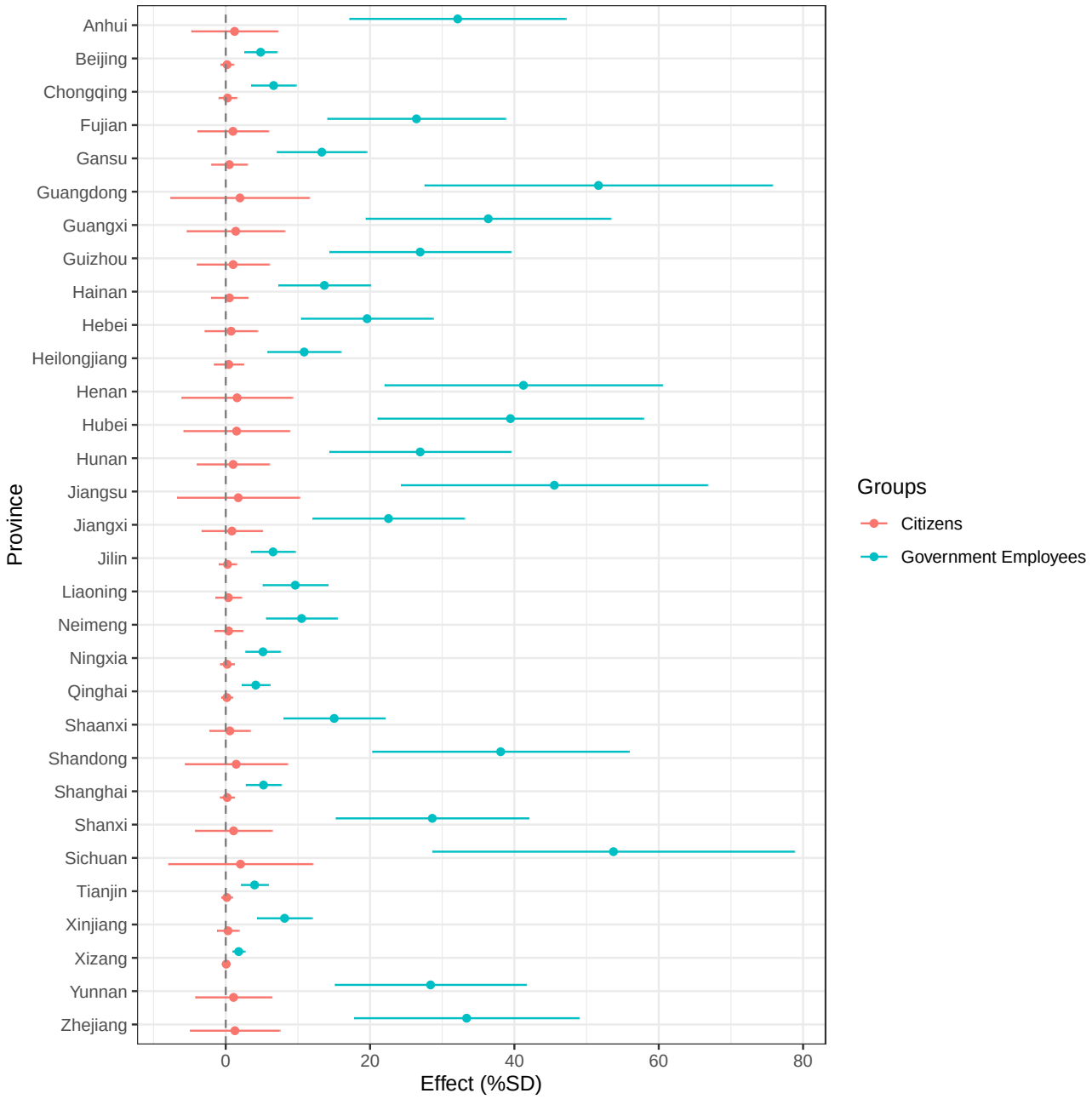
icantly influence the mental health of most Chinese citizens. Furthermore, it implies that the impact of the anti-corruption campaign on government employees may indeed arise from a change in the work environment inside the Chinese government.

To further compare the difference between government employees and ordinary Chinese citizens, we used the estimated coefficients in Column (2) and (4) of Table 4 to predict the impact of the anti-corruption campaign on mental health by provinces. Figure 2 illustrates that the impact on government employees' mental health is larger than that on citizens in every province (the impact on the latter is close to zero). In several provinces characterized by a high intensity of corruption investigations, there has been a notable increase in depressive symptoms among government employees, surpassing 30% of the standard deviation (equivalent to an increase of more than 1 unit in the CES-D8 scale). Considering that the average measure of depressive symptoms among these employees was 4.05 in 2016, this significant impact of the anti-corruption campaign suggests that the mental health of government employees in these provinces was considerably affected.

Hypothesis 1 is based on the assumption that the work environment in the government was changed by the anti-corruption campaign and that work stress worsens individuals' mental health. However, another channel, which stems from individuals' beliefs and attitudes about the anti-corruption campaign, may also cause individuals' mental health issues. The information released in the anti-corruption campaign, such as the number of corrupt officials, may alter people's beliefs about China's underlying situation. People may be disappointed, or even shocked to learn that corruption in the country is worse than they thought. This change can reduce people's support for the regime (Wang and Dickson 2022) and cause mental health issues. Fortunately, the CFPS survey directly measures individuals' perspectives of corruption in China. In the survey, respondents are asked *"In your opinion, how severe is the problem of corruption in China?"* Responses are coded with an increasing ordinal variable from 0 to 10, with 0 representing *no corruption* and 10 representing *extreme corruption* (the summary statistics are in Appendix Table A3). Next, we investigate whether the anti-corruption campaign alleviates or exacerbates people's perceptions of corruption in China. To do this, we carry out the following regression:

$$Corruption_{ipt} = \beta_0 + \beta_1 CO_{pt} + \beta_2 \mathbf{X}_{it} + \beta_3 \mathbf{Z}_{pt} + Prov_{FE} + Year_t + \upsilon_{ipt}, \quad (2)$$

Figure 2: Expected Effect Plot



The figure shows the predicted effect of the anti-corruption campaign on depression symptoms by provinces based on the regression Table 4. The x-axis denotes the predicted effect measured in percentage of the sample standard deviation.

where $Corruption_{ipt}$ is the perspective of individual i on the corruption situation in China at time t.

The results in Table 5 indicate that the anti-corruption campaign slightly improves both government employees' and ordinary citizens' perspectives on corruption. After we add all control variables, the estimated coefficient of the anti-corruption intensity for government employees is significant at 10% level. These results provide further evidence for Hypothesis 1. Government employees believe that the anti-corruption campaign reduces corruption in China, but their depressive symptoms are worsened with the intensity of the anti-corruption campaign. Therefore, the change in mental health status is more likely to be attributed to the change in stress and atmosphere in the workplace. The anti-corruption campaign has a similar impact on ordinary Chinese people's perspective about the corruption situation.

Table 5: Effect of the Anti-corruption Campaign on Corruption Perspectives

	Dependent Variable: Perspectives on Corruption			
	Government Employees	Government Employees	Citizens	Citizens
	(1)	(2)	(3)	(4)
Anti-corruption intensity	−0.002	−0.002*	−0.001	−0.002**
	(0.001)	(0.001)	(0.001)	(0.001)
Controls	N	Y	N	Y
Province and Year FEs	Y	Y	Y	Y
Observations	1,194	1,065	24,086	20,524
Adjusted R^2	0.017	0.043	0.013	0.048

Note: This table reports the estimated results of Eq.(2). The dependent variable is the perspective on corruption. Standard errors are clustered at the province level. *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.1$.

4.2. IV estimate

The launch of the anti-corruption campaign or the intensity of the corruption investigation is only slightly affected by individual variables that are related to the mental health of individuals. However, some omitted variables could potentially confound our results, especially macro-level or policy-related effects that cannot be directly observed. These effects may influence the local public goods provision, which may cause mental health issues.

We construct an IV in this section to introduce exogenous variations for our main explanatory variable–the intensity of corruption investigations–to estimate the causal effect. Yuen (2014) and Xi et al. (2018) argue that corruption investigations could be a tool in the political struggle. Personal connections, factions, or officials' patronage relationships may play a role in the anti-corruption campaign. Therefore, we construct a variable that measures the working connections of provincial leaders with national leaders as our IV using biographical information on officials from the Chinese Political Elite Database. More precisely, we check whether the work experiences of each provincial secretary and governor (the two most powerful leaders in the province) overlap with the general secretary in the standing committee of the politburo. For example, Xi Jinping was the provincial governor and the secretary of Zhejiang Province from 2002 to 2006. If Governor A in our dataset also held a position in Zhejiang during that time, then a working connection is considered to exist.[16]

The validity of the IV relies on the satisfaction of two conditions: (1) the relevance condition, which asserts that the instrument is correlated with the explanatory variable, and (2) the exclusion restriction, which states that the instrument cannot be correlated with the error term in the explanatory equation. We will address the relevance condition in our presentation of the estimated results. Regarding the exclusion restriction, although it cannot be directly empirically tested, we provide circumstantial evidence to support its validity in our study. First, our instrumental variable focuses solely on the working connections among high-level officials. Additionally, based on the sampling method employed in the CFPS dataset (Xie and Lu 2015), there is no apparent correlation between the relationships among top-level officials and the mental health of grassroots individuals, including both government employees and ordinary citizens, as indicated by our estimates. Second, we examine the correlation between the IV and the primary control variables in the baseline regression. Our analysis reveals that working connections show no significant correlation with the risk factors that may directly impact mental health (refer to Table A5 and A6 in the Appendix). Moreover, when estimating the relationship between the explanatory variable and the

[16]The construction of our IV can be considered as a "partial" political connection. We don't aim to measure the full nor even the main political connections among high-rank officials. From the IV estimation perspective, as long as this measure is not directly related to mental health but is related to the anti-corruption campaign, then this IV is valid.

IV, we control for various covariates, including macro-level variables such as province fixed effects and year fixed effects. Additionally, we control the potential time-varying macro-level variable. Therefore, we believe that our IV is not directly correlated with individuals' mental health conditional on other covariates.

Meanwhile, the working connection is regarded as one of the main measures for estimating political connections and factionalism in China (Shih et al. 2012). Therefore, the intensity of the anti-corruption campaign in a province could be correlated with the connection of its leader with the general secretary. We use the two-stage least squares (2SLS) method to estimate the relationship between the anti-corruption campaign and mental health. The first panel of Table 6 shows the results of the first-stage estimate, which tests the relationship between our IV and the intensity of the anti-corruption campaign (the table with all control variables is in Appendix Table A7 and A8). The result indicates that the political connection is not a weak IV with or without control variables. Across the two groups, if a connection exists, the number of corruption investigations is expected to decrease by more than 100. Notably, the construction of the IV in our estimate does not provide a causal inference between the anti-corruption campaign and the political connection. The goal is to find a valid IV that is correlated with the corruption investigation and not with mental health.

The estimated results of the second stage in Panel B of Table 6 reveal that the coefficients from the 2SLS and the results in the baseline estimate in Table 4 are almost identical. Thus, the intense anti-corruption campaign significantly increased the depressive symptoms of government employees. This result also suggests minimal endogenous problems in the main results.

4.3. Other Robustness Check

To account for the different intensities of the anti-corruption campaign, we utilize various measures. Since individual surveys in the CFPS data were conducted in different months of the survey year, we determine campaign intensity by using the total number of corruption investigations during the month of respondents' surveys. For instance, if a respondent was surveyed in August 2012, the explanatory variable for 2012 would encompass investigations from 2011 to August 2012. The model is then re-estimated, yielding

Table 6: The IV Estimate

	Dependent variable:			
	First Stage: Anti-corruption intensity			
	Government Employees	Government Employees	Government Employees	Citizens
	(1)	(2)	(3)	(4)
IV	−138.271***	−216.127***	−141.164***	−217.156***
	(35.517)	(67.999)	(32.325)	(65.560)
Controls	N	Y	Y	N
Province and Year FEs	Y	Y	Y	Y
Observations	1,217	1,078	25,104	20,980
Adjusted R^2	0.855	0.961	0.870	0.971
	Second Stage: Depressive Symptoms			
	Government Employees	Government Employees	Citizens	Citizens
	(1)	(2)	(3)	(4)
Anti-corruption intensity	0.002	0.004**	0.0004	0.002
	(0.002)	(0.002)	(0.001)	(0.001)
Controls	N	Y	N	Y
Province and Year FEs	Y	Y	Y	Y
Observations	1,205	1,075	24,547	20,927
Adjusted R^2	0.043	0.117	0.026	0.143

Note: In the first panel, the dependent variable is the number of corruption investigation. In the second panel, the dependent variable is the depressive symptoms. The table with all control variables is in Appendix Table A7 and A8. Standard errors are clustered at the province level. *p<0.1; **p<0.05; ***p<0.01

similar results to the baseline estimate (Appendix Table A9).[17] Meanwhile, there is no evidence suggesting that the mental health of ordinary citizens is affected by this campaign.

The CFPS has been conducted biennially since 2010. In a departure from the 2012 and 2016 iterations, the CFPS 2014 employed the Kessler Psychological Distress Scale with six items (K6) to measure mental health. We subsequently included individual data from 2014 for a robustness check. The K6 survey questions are listed in Appendix Table A12. To ensure consistency, we adjust the K6 responses so that higher scores indicate more severe symptoms, in line with the coding methodology of the CFPS 2012 and 2016. This involves subtracting one from each response and then summing these adjusted scores to calculate the depression score. To enable comparability between the CES-D8 and K6 measurements, we standardize the outcomes so that both of them have a mean of zero and a standard deviation of one. The results from both OLS and IV estimations, as shown in Appendix Tables A13 and A14 respectively, are akin to those of our primary analysis. Notably, every additional 100 corruption investigations significantly increases the depressive symptoms of government employees by 0.1 standard deviation. However, no significant impact of the anti-corruption campaign on the mental health status of the general Chinese population is detected.

In the CES-D8, the survey questions can be divided into three categories: psychological depressive symptoms, physical symptoms of the body, and positive emotions. Based on this categorization, we construct three additional dependent variables to separately measure aspects of mental health. The first variable we developed is based on questions specifically addressing psychological depressive symptoms, the second on questions related to the body's physical symptoms, and the third on questions about positive emotions.[18] The estimated results are presented in Appendix Table A15-A17. Across all three measures, our findings are consistent with those from our primary analysis, indicating that the anti-corruption campaign has a significant negative impact on government employees's mental health. For ordinary citizens, the results mirror our primary analysis, with the anti-corruption campaign showing no significant effect on their psychological symptoms. In terms of

[17] As a robustness check, Table A10 and A11 in the Appendix present the IV estimate using different measures of the intensity of the anti-corruption campaign, including cases from 2011.

[18] A larger number indicates fewer positive emotions.

physical symptoms and positive emotions, the campaign seems to have no significant impact on the general population once we add control variables into the regression.

Another concern of our analysis is the survey attrition problem. It is possible that government employees are more likely to decline the CFPS survey because of the pressure of the anti-corruption campaign. The CFPS data includes 591 government employees in the 2012 survey; only 351 of them remain in the 2016 survey (Appendix Table A18). The dropout rate is 59% for government employees, which is higher than that for ordinary citizens (45%). However, the correlation between the dropout rate and the intensity of the anti-corruption campaign at the provincial level is only 0.14. It suggests that the corruption investigation may not be the reason that government employees drop out of the survey. Moreover, if the anti-corruption campaign played a key role in causing government employees to refuse the survey interview in 2016, then our estimated result of the anti-corruption investigation's impact on government employees should be underestimated. Therefore, the result that the campaign has a significant effect on government employees' mental health is still reliable.

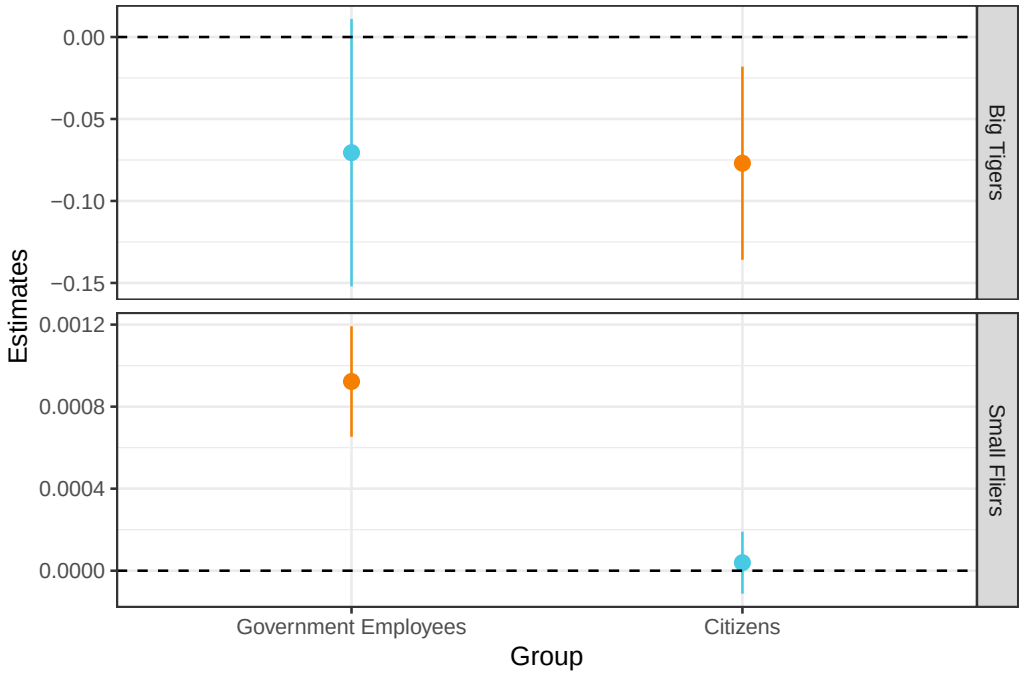
5. Who causes mental health issues?

The results in the previous section suggest that the intense corruption investigations exerted pressure on government employees who were directly targeted in the anti-corruption campaign. However, we do not observe similar effects on other Chinese people. These results only reflect the overall effect of corruption investigations. In this section, we further unpack the effect of the anti-corruption campaign. It is understood that not all levels of corruption investigations have the same implications for the public. To ordinary citizens, investigations of big tigers may have a greater public impact than investigations of low-ranking officials (small flies). However, to government employees who are mostly at the grass-roots level of the government, investigations of small flies probably cause more mental shocks because of their similar working conditions and relationships.

As shown in Figure 3, we detect some distinct patterns. Government employees' mental health status is mainly affected by investigations of smaller flies, with no significant influence from big tigers (the effects from every level of officials are presented in Appendix Table A19-A20). These findings may further confirm the result in the previous section: the stress that may in-

fluence depressive symptoms for government employees comes from changes in the pressure and the work environment. Those who work in the government have more information about corruption and daily operations inside the government, so they are less surprised about investigations of high-ranking officials than other people. Furthermore, these investigations will not directly affect the daily work of grass-roots government employees, but the investigation of many low-level officials may change the work environment in the government.

Figure 3: Big Tigers and Small Flies



The figure shows the effect of big tigers and small flies on depressive symptoms with 0.90 confidence interval. Big Tigers are corrupt officials who are at the deputy provincial level and above. Small Flies are lower-level corrupt officials. The orange point and corresponding confidence interval denote that the significance level at 0.1, and the blue lines otherwise.

By contrast, we see that ordinary citizens' mental health status is more likely affected by investigations of big tigers in a positive direction. The possible explanation is that few ordinary citizens are directly concerned with

the real intensity of corruption investigations, but investigations of big tigers may attract their attention. These investigations may directly impact ordinary citizens' trust in the government, which may slightly positive effect on their mental health. This finding aligns with the observed shift in people's perspective on corruption, where Chinese citizens perceive an improvement in the corruption situation as a result of the anti-corruption campaign.

6. Discussion

In this section, combined with the empirical findings, we further discuss and explore the potential channels that may cause mental health issues among government employees, alternative explanations of our empirical results, and some limitations of our analysis.

First, we examine the channels through which the anti-corruption campaign might influence individuals' lives—namely, physical health, marriage status, and wealth—and assess their potential impact on mental health. Physical health is generally directly related to mental health. As shown in the first two columns of Table A21 in the Appendix, the anti-corruption campaign has no significant impact on the physical health of either government employees or ordinary citizens. Marriage is another important channel that may affect people's mental health. The third and fourth columns of Table A21 indicate that the anti-corruption campaign has no significant impact on the divorce rate among government employees but marginally increases the divorce rate for ordinary citizens.

The last two columns of Table A21 reveal that the anti-corruption campaign positively impacts the family assets of both government employees and ordinary citizens. For ordinary Chinese people, the anti-corruption campaign may reduce transaction costs in business and increase economic vitality, which could lead to an increase in family assets. For government employees, since the Chinese government's revenue maintained a high growth rate during that period, increasing from 11.7 trillion yuan in 2012 to 15.9 trillion yuan in 2016, the government considerably raised compensation for its employees. This growth is documented in Table A22 of the Appendix, which utilizes CFPS data to track the rise in government employees' family assets from 2012 to 2018. Another aspect to consider is the potential expectation of reduced income flow among government employees due to the anti-corruption campaign, which could adversely affect their mental health. Although it is difficult to evaluate people's expectations for their future income, Table

A22 shows the increasing trend of government employees' assets even after the end of our study period. Therefore, we infer that government employees' perspectives on their income may not be affected by the anti-corruption campaign.

In Section 2, we provide an explanation of how the anti-corruption campaign may have changed the work environment in the Chinese government, leading to mental health issues. Although, it is difficult to directly observe the changes in daily work inside the government, we further explore some potential possibilities.

The anti-corruption campaign may increase government employees' concerns about their job security. Table A19 of the Appendix shows the impact of corruption investigations at each level of officials, from provincial level to Ke-level, on mental health. The table indicates that corruption investigations of any low-level officials, from level 5 to level 9, have a significant impact on government employees' mental health. Particularly, Table A23 of the Appendix shows that the lowest level (Ke-level) of officials accounts for 63% of the corruption investigations. This result indicates that most of the anti-corruption actions directly affect the grassroots level of government. Since corruption investigations at the grassroots level can directly affect daily administrative work in the government, this result suggests that the work environment among grassroots-level government employees has been changed by the anti-corruption campaign. When front-line bureaucrats learn that their superiors are under corruption investigation, it may raise concerns about job security or career development within the government, further leading to mental health problems.

Moreover, the work content may have changed within the government. Wang (2022) finds that government officials may shirk their efforts from "high-risk" jobs, such as land transactions, during intense anti-corruption campaigns. This finding suggests that government employees may voluntarily or involuntarily leave the decision-making process of more "profitable" tasks, implying that the work content or load—an important component of the work environment—has changed, which may lead to mental health issues.

Another possible explanation for our empirical findings is the implementation of "The Eight-point Regulation of the Centre" by the CCP when Xi Jinping assumed the position of general secretary in 2012. These regulations aimed to improve government conduct and principles, promote discipline among party members, and establish closer connections with the general public. They emphasize the importance of officials engaging in genuine work,

speaking truthfully, and understanding the practical realities on the ground.

As the anti-corruption campaign removed corrupt officials, the newly appointed government employees adhered to new working guidelines. This adjustment period may have caused mental health issues due to the need to adapt to change. It's worth noting that this internal process of change primarily affected the government and likely had minimal impact on ordinary Chinese citizens. Xi Jinping's anti-corruption campaign is part of his efforts to reform the Chinese government and consolidate his power. The mental health challenges among government employees may stem from this large-scale government reform, which correlates with the intensity of the anti-corruption campaign. While we cannot fully dismiss this alternative explanation, our empirical analysis suggests a shift in the atmosphere and work environment within the Chinese government since Xi Jinping assumed office, potentially leading to more severe mental health issues among government employees.

Several limitations in our empirical analysis merit consideration for future research. While the CCID supplies detailed information on corrupt officials and investigation locations, the CFPS data lacks individuals' prefecture-level locations. Focusing on provincial-level effects, our analysis would benefit from the inclusion of prefecture-level information in the CFPS data. Another limitation is the absence of individuals' specific occupations in the CFPS data, hindering the identification of different ranks' varied effects from the anti-corruption campaign. Lastly, our analysis does not examine the consequences of the induced mental health problems. As highlighted in our introduction, "Stress affects decision-making, and that, in turn, affects not just the politicians, but those they serve." Given the lack of workload or work willingness measurements in the CFPS data, addressing the implications of government employees' mental health issues, particularly their impact on public good provision, is challenging in the current research.

7. Conclusion

In this paper, we study how a political movement affects people's mental health. We combine field data on the anti-corruption campaign in China and the social survey to test the relationship between political movements and mental health. We find that government employees are significantly affected by the anti-corruption campaign. Specifically, every additional 100 corruption investigation cases may increase the depressive symptoms among

government employees by 0.4 units, measured by CES-D8. However, no similar effect is observed in ordinary Chinese citizens. After we control for people's perspectives on corruption, these results can be attributed to the change in the atmosphere and pressure in the government workplace caused by the anti-corruption campaign. To further confirm this finding, we use the work experience connection between provincial leaders and the party's general secretaries of the standing committee of the Politburo Bureau as the instrumental variable. Such connections may affect the intensity of the anti-corruption investigation, but are unrelated to grass-roots level individuals' mental health. The estimated results are similar to the baseline estimate using an ordinary least squares estimate.

In the end, we find that the anti-corruption campaign affects government employees' mental health. The effect occurs mainly through corruption investigations of low-level officials rather than high-level officials. However, investigations of high-ranking officials have a significant effect on ordinary citizens.

Appendix A. More Empirical Results

Table A1: Corruption Investigation

	2012		2013		2014		2015	
	Tigers	Fliers	Tigers	Fliers	Tigers	Fliers	Tigers	Fliers
Beijing	0	6	0	16	0	41	2	62
Tianjin	0	0	0	5	1	34	0	60
Hebei	0	1	0	21	1	202	2	264
Shanxi	0	9	0	79	9	219	1	408
Neimeng	0	1	1	38	1	83	3	137
Liaoning	0	1	0	43	1	107	0	90
Jilin	0	2	0	27	0	51	2	84
Heilongjiang	0	1	1	37	3	107	1	123
Shanghai	0	4	0	25	0	66	1	39
Jiangsu	0	12	1	129	1	438	1	569
Zhejiang	0	8	0	148	0	267	2	418
Anhui	0	10	1	67	1	335	0	400
Fujian	0	6	0	41	0	211	2	407
Jiangxi	0	4	1	30	2	227	1	303
Shandong	0	5	0	171	1	373	1	407
Henan	0	11	0	120	1	384	0	527
Hubei	0	6	2	49	1	301	3	631
Hunan	0	6	0	86	2	232	1	353
Guangdong	0	12	0	136	4	479	1	672
Guangxi	0	1	1	46	0	287	1	575
Hainan	0	0	0	6	3	107	0	226
Chongqing	0	1	0	17	1	36	0	112
Sichuan	1	1	1	76	2	522	0	743
Guizhou	0	1	1	16	0	231	0	426
Yunnan	0	0	0	24	3	224	2	457
Xizang	0	0	0	0	0	26	1	18
Shaanxi	0	1	0	14	1	124	1	236
Gansu	0	1	0	25	0	148	1	159
Qinghai	0	0	0	6	1	44	0	53
Ningxia	0	0	0	8	0	36	1	84
Xinjiang	0	1	1	13	0	70	1	119
Total	1	112	11	1519	40	6012	32	9162

Notes: Data source: the CCID. The table shows the number of anti-corruption investigations in each province from year 2012 to year 2015. Big Tigers are corrupt officials who are in deputy provincial level and above. Small Fliers are other level corrupt officials. There is a increasing trend of anti-corruption investigations in each province.

Table A2: Effect of Anti-Corruption Campaign on Mental Health (Full Table)

	Dependent Variable: Depressive Symptoms			
	Government Employees	Government Employees	Citizens	Citizens
	(1)	(2)	(3)	(4)
Anti-corruption intensity	0.002*	0.004***	0.0004	0.0002
	(0.001)	(0.001)	(0.001)	(0.0005)
Female		−0.383		−0.546***
		(0.253)		(0.063)
Age		−0.024**		−0.019***
		(0.009)		(0.004)
Married		−0.471		−0.621***
		(0.421)		(0.076)
Cohabit		−0.366		−0.197
		(1.232)		(0.415)
Divorce		2.046		0.863***
		(1.391)		(0.260)
Widowed		−0.556		1.520***
		(1.443)		(0.286)
Physical Health		0.789***		0.947***
		(0.110)		(0.032)
Education		−0.180**		−0.220***
		(0.071)		(0.036)
Smoke		−0.013		0.191***
		(0.177)		(0.067)
Alcohol		0.141		0.001
		(0.281)		(0.071)
Minority		−0.247		−0.101
		(0.377)		(0.122)
Asset		−0.197**		−0.093***
		(0.089)		(0.022)
GDP Growth		−2.077		4.587**
		(4.017)		(2.118)
Medical Facilities		13.176*		10.617***
		(7.338)		(2.981)
Land Value-Added Tax		−0.791		−1.417***
		(0.677)		(0.185)
Fiscal Budget		3.905		−5.115*
		(6.401)		(2.940)
Public Safety		6.247		8.230***
		(8.365)		(2.441)
Sci and Tech		−1.803*		−0.223
		(0.971)		(0.411)
Airmail Routes		1.389**		0.564**
		(0.528)		(0.219)
Railway Routes		0.605		−0.469*
		(0.445)		(0.263)
Automative Routes		−0.152		−0.670
		(1.431)		(0.468)
Controls	N	Y	N	Y
Province and Year FEs	Y	Y	Y	Y
Observations	1,205	1,075	24,547	20,927
Adjusted R^2	0.043	0.117	0.026	0.143

Notes: The table shows the effect of the anti-corruption campaign on mental health, which is the full regression results of the corresponding Table 4 in the main text. The first two columns regress depression symptoms on anti-corruption intensity for Government Employees. The significant and positive coefficients indicate corruption investigation increases the depressive symptoms of Government Employees. However, the intensity of the anti-corruption campaign has no significant effect on ordinary citizens (Column 3-4). All standard errors are clustered at the province level. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

Table A3: Perspectives on Corruption

Group	2012 Mean (S.D.)	2016 Mean (S.D.)	T statistics	P-value
Government Employees	6.17 (2.93)	6.37 (2.59)	-1.23	0.22
Citizens	6.29 (2.97)	6.77 (2.57)	36.15	0

Notes: Responses are coded with an increasing ordinal variable from 0 to 10, with 0 representing *no corruption* and 10 representing *extreme corruption*.

Table A4: Effect of the Anti-corruption Campaign on Mental Health including Individual fixed effects

	Dependent Variable: Depressive Symptoms			
	Government Employees	Government Employees	Citizens	Citizens
	(1)	(2)	(3)	(4)
Anti-corruption intensity	0.004**	0.008***	−0.00000	−0.001
	(0.001)	(0.002)	(0.001)	(0.001)
Controls	N	Y	N	Y
Individual and Year FEs	Y	Y	Y	Y
Observations	1,205	1,075	24,547	20,927
Adjusted R^2	0.524	0.519	0.411	0.451

Note: *p<0.1; **p<0.05; ***p<0.01

Table A5: Exclusion Restriction (Individual Level)

	Dependent variable:				
	Gender	Physical Health	Education	Drink	Smoke
	(1)	(2)	(3)	(4)	(5)
Working Connection	−0.003	−0.00004	0.002	−0.001	0.008
	(0.005)	(0.022)	(0.020)	(0.005)	(0.006)
Controls	Y	Y	Y	Y	Y
Province and Year FE	Y	Y	Y	Y	Y
Observations	59,786	59,786	59,786	59,786	59,786
Adjusted R^2	0.421	0.159	0.324	0.176	0.372

Notes: This table shows that working connections are not corrected with the risk factors that have directly effects on individual mental health. All standard errors are clustered at the province level.$^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

Table A6: Exclusion Restriction(Macro-Level)

	Dependent variable:					
	Hospital	GDP	Land	Budget	Safety	Technology
	(1)	(2)	(3)	(4)	(5)	(6)
Working Connection	0.003	0.005	−0.012	0.006	0.001	−0.030
	(0.005)	(0.010)	(0.053)	(0.013)	(0.010)	(0.039)
Year FE	Y	Y	Y	Y	Y	Y
Observations	88	88	88	88	88	88
Adjusted R^2	0.036	0.575	0.596	0.579	0.486	0.114

Note: *p<0.1; **p<0.05; ***p<0.01

Table A7: The First-Stage Estimate (Full Table)

	Dependent variable:			
	First Stage: Anti-corruption intensity			
	Government Employees	Government Employees	Government Employees	Citizens
	(1)	(2)	(3)	(4)
IV	−138.271***	−216.127***	−141.164***	−217.156***
	(35.517)	(67.999)	(32.325)	(65.560)
Female		1.230		−0.040
		(1.541)		(0.157)
Age		−0.072		0.016*
		(0.060)		(0.009)
Married		−2.668		−0.236
		(2.382)		(0.206)
Cohabit		−12.983		3.130**
		(8.708)		(1.453)
Divorce		−3.263		1.052
		(2.513)		(1.076)
Widowed		−5.339		0.065
		(4.213)		(0.489)
Physical Health		1.250**		−0.081*
		(0.605)		(0.040)
Education		−0.829		−0.029
		(0.507)		(0.091)
Smoke		2.567***		0.221
		(0.870)		(0.139)
Alcohol		−1.603		−0.925***
		(1.164)		(0.315)
Minority		−8.376		−0.614
		(5.774)		(0.711)
Asset		0.164		0.132*
		(0.208)		(0.075)
GDP Growth		1,797.160***		1,846.975***
		(449.485)		(396.071)
Medical Facilities		−590.334		−288.893
		(1,034.225)		(881.373)
Land Value-Added Tax		0.486		−0.784
		(50.640)		(43.966)
Fiscal Budget		−640.147		−716.983
		(1,017.971)		(988.735)
Public Safety		1,264.079*		1,234.536*
		(732.669)		(723.149)
Sci and Tech		−141.650		−133.187
		(207.219)		(191.165)
Airmail Routes		−75.901		−88.414
		(65.055)		(63.086)
Railway Routes		−69.099		−82.442*
		(49.345)		(41.537)
Automative Routes		290.897***		251.058***
		(95.101)		(87.524)
Controls	N	Y	Y	N
Province FEs	Y	Y	Y	Y
Year FEs	Y	Y	Y	Y
F statistics	257	562	5256	14410
Observations	1,217	1,078	25,104	20,980
R^2	0.858	0.962	0.870	0.971
Adjusted R^2	0.855	0.961	0.870	0.971
Residual Std. Error	56.075 (df = 1188)	28.728 (df = 1030)	53.210 (df = 25071)	24.491 (df = 20930)
Note:				*p<0.1; **p<0.05; ***p<0.01

Notes: This table shows the full table of the First Stage Estimate Table 6 in the main text. We find that our IV is strongly related to the treatment Anti-Corruption investigation. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

Table A8: Second Stage: Effect of Anti-Corruption Campaign on Mental Health (Full Table)

	Dependent variable:			
	Second Stage: Depressive Symptoms			
	Government Employees	Government Employees	Government Employees	Citizens
	(1)	(2)	(3)	(4)
Anti-corruption intensity	0.002	0.004**	0.0004	0.002
	(0.002)	(0.002)	(0.001)	(0.001)
Female		−0.383		−0.546***
		(0.253)		(0.063)
Age		−0.024**		−0.019***
		(0.009)		(0.004)
Married		−0.473		−0.622***
		(0.423)		(0.076)
Cohabit		−0.368		−0.199
		(1.234)		(0.415)
Divorce		2.044		0.860***
		(1.394)		(0.260)
Widowed		−0.557		1.518***
		(1.444)		(0.286)
Physical Health		0.789***		0.946***
		(0.110)		(0.032)
Education		−0.179**		−0.220***
		(0.071)		(0.036)
Smoke		−0.013		0.190***
		(0.177)		(0.067)
Alcohol		0.141		0.003
		(0.281)		(0.071)
Minority		−0.248		−0.095
		(0.380)		(0.122)
Asset		−0.197**		−0.093***
		(0.089)		(0.021)
GDP Growth		−2.341		2.185
		(4.251)		(3.675)
Medical Facilities		13.049*		9.684**
		(7.421)		(4.008)
Land Value-Added Tax		−0.785		−1.389***
		(0.699)		(0.213)
Fiscal Budget		4.344		−1.276
		(6.489)		(5.087)
Public Safety		5.791		4.813
		(9.325)		(4.985)
Sci and Tech		−1.884		−0.819
		(1.102)		(0.633)
Airmail Routes		1.373**		0.469
		(0.526)		(0.283)
Railway Routes		0.638		−0.204
		(0.458)		(0.261)
Automative Routes		−0.195		−0.857*
		(1.524)		(0.434)
Controls	N	Y	Y	N
Province FEs	Y	Y	Y	Y
Year FEs	Y	Y	Y	Y
F statistics	3	4	21	72
Observations	1,205	1,075	24,547	20,927
R^2	0.065	0.155	0.027	0.145
Adjusted R^2	0.043	0.117	0.026	0.143
Residual Std. Error	3.219 (df = 1176)	3.068 (df = 1027)	3.488 (df = 24514)	3.265 (df = 20877)
Note:				*p<0.1; **p<0.05; ***p<0.01

Notes: This table is the Full table of the IV second stage regression result 6 which shows the effect of the anti-corruption campaign on mental health. In column 1-3, the corruption investigation significantly increases depressive symptoms for Government Employees. The magnitude of the effect is the same as the OLS results. Similar to the OLS results, we do not find significant effect on citizens. All standard errors are clustered at the province level. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

Table A9: Effect of Anti-Corruption Campaign on Mental Health (Includes corruption cases in 2011)

	Dependent Variable: Depressive Symptoms			
	Government Employees	Government Employees	Citizens	Citizens
	(1)	(2)	(3)	(4)
Anti-corruption intensity	0.003*	0.005***	0.0005	0.0002
	(0.001)	(0.001)	(0.001)	(0.001)
Female		−0.383		−0.546***
		(0.253)		(0.063)
Age		−0.024**		−0.019***
		(0.009)		(0.004)
Married		−0.471		−0.621***
		(0.421)		(0.076)
Cohabit		−0.364		−0.197
		(1.234)		(0.415)
Divorce		2.046		0.863***
		(1.391)		(0.260)
Widowed		−0.556		1.520***
		(1.443)		(0.286)
Physical Health		0.789***		0.947***
		(0.110)		(0.032)
Education		−0.179**		−0.220***
		(0.071)		(0.036)
Smoke		−0.013		0.191***
		(0.177)		(0.067)
Alcohol		0.141		0.001
		(0.281)		(0.071)
Minority		−0.246		−0.101
		(0.376)		(0.122)
Asset		−0.197**		−0.093***
		(0.089)		(0.022)
GDP Growth		−2.267		4.607**
		(3.944)		(2.104)
Medical Facilities		13.539*		10.637***
		(7.181)		(2.979)
Land Value-Added Tax		−0.792		−1.418***
		(0.674)		(0.185)
Fiscal Budget		4.331		−5.143*
		(6.252)		(2.934)
Public Safety		6.045		8.262***
		(8.321)		(2.418)
Sci and Tech		−1.901*		−0.220
		(0.960)		(0.421)
Airmail Routes		1.398**		0.566**
		(0.525)		(0.218)
Railway Routes		0.614		−0.471*
		(0.437)		(0.265)
Automative Routes		−0.141		−0.667
		(1.416)		(0.467)
Controls	N	Y	N	Y
Province and Year FEs	Y	Y	Y	Y
Observations	1,205	1,075	24,547	20,927
Adjusted R^2	0.043	0.117	0.026	0.143
Note:				*p<0.1; **p<0.05; ***p<0.01

Notes: This table shows the effect of the anti-corruption campaign on mental health. In this table, the Anti-corruption intensity, is the average of corruption investigations in 2011 and 2012. The results are consistent with our findings in the main text. For Government Employees, the average corruption investigation raises the depressive symptoms of Government Employees by around 0.4 points per 100 investigations. For Citizens, however, the average intensity of the anti-corruption campaign has no significant effect (Column4-6). In addition, the sex, age, marital status, and physical health level, education, and asset of the subjects still exhibit persistent effects on mental health. All standard errors are clustered at the province level. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

Table A10: Second Stage: Effect of Anti-Corruption Campaign on Mental Health (Includes corruption cases in 2011, the IV estimate)

	Dependent variable:			
	Second Stage: Depressive Symptoms			
	Government Employees	Government Employees	Government Employees	Citizens
	(1)	(2)	(3)	(4)
Anti-corruption intensity	0.003	0.005**	0.0005	0.002
	(0.003)	(0.002)	(0.001)	(0.002)
Female		−0.383		−0.546***
		(0.253)		(0.063)
Age		−0.024**		−0.019***
		(0.009)		(0.004)
Married		−0.472		−0.622***
		(0.423)		(0.076)
Cohabit		−0.366		−0.199
		(1.236)		(0.415)
Divorce		2.044		0.860***
		(1.394)		(0.260)
Widowed		−0.557		1.519***
		(1.444)		(0.286)
Physical Health		0.789***		0.946***
		(0.110)		(0.032)
Education		−0.179**		−0.220***
		(0.071)		(0.036)
Smoke		−0.014		0.190***
		(0.177)		(0.067)
Alcohol		0.141		0.003
		(0.281)		(0.071)
Minority		−0.247		−0.095
		(0.380)		(0.122)
Asset		−0.197**		−0.093***
		(0.089)		(0.021)
GDP Growth		−2.548		2.115
		(4.283)		(3.770)
Medical Facilities		13.429*		9.789**
		(7.218)		(4.049)
Land Value-Added Tax		−0.785		−1.388***
		(0.697)		(0.213)
Fiscal Budget		4.804		−1.110
		(6.512)		(5.285)
Public Safety		5.567		4.751
		(9.347)		(5.093)
Sci and Tech		−1.989*		−0.860
		(1.126)		(0.673)
Airmail Routes		1.382**		0.472
		(0.524)		(0.279)
Railway Routes		0.648		−0.200
		(0.455)		(0.265)
Automative Routes		−0.184		−0.851*
		(1.508)		(0.431)
Controls	N	Y	Y	N
Province FEs	Y	Y	Y	Y
Year FEs	Y	Y	Y	Y
F statistics	3	4	21	72
Observations	1,205	1,075	24,547	20,927
R^2	0.065	0.156	0.027	0.145
Adjusted R^2	0.043	0.117	0.026	0.143
Residual Std. Error	3.219 (df = 1176)	3.068 (df = 1027)	3.488 (df = 24514)	3.265 (df = 20877)
Note:				*p<0.1; **p<0.05; ***p<0.01

Notes: This table is the IV second stage regression result which shows the effect of the anti-corruption campaign on mental health. However, we use a different intensity measures of the anti-corruption campaign. To be specific, the anti-corruption campaign intensity is the average number of investigations when the subjects are surveyed. The results are still consistent with our findings in the main text. In column 1-3, the corruption investigation significantly increases depressive symptoms for Government Employees. For Citizens, however, the intensity of the anti-corruption campaign has no significant effect (Column4-6). All standard errors are clustered at the province level. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

Table A11: Second Stage: Effect of Anti-Corruption Campaign on Mental Health (Total Investigations)

	Dependent variable:			
	Second Stage: Depressive Symptoms			
	Government Employees	Government Employees	Government Employees	Citizens
	(1)	(2)	(3)	(4)
Anti-corruption intensity	0.001	0.001**	0.0001	0.0005
	(0.001)	(0.001)	(0.0002)	(0.0004)
Female		−0.382		−0.546***
		(0.253)		(0.063)
Age		−0.024**		−0.019***
		(0.009)		(0.004)
Married		−0.470		−0.622***
		(0.424)		(0.076)
Cohabit		−0.370		−0.199
		(1.235)		(0.415)
Divorce		2.044		0.860***
		(1.392)		(0.259)
Widowed		−0.558		1.518***
		(1.445)		(0.286)
Physical Health		0.790***		0.946***
		(0.110)		(0.032)
Education		−0.179**		−0.219***
		(0.071)		(0.036)
Smoke		−0.013		0.190***
		(0.177)		(0.067)
Alcohol		0.140		0.003
		(0.281)		(0.071)
Minority		−0.247		−0.095
		(0.380)		(0.122)
Asset		−0.197**		−0.093***
		(0.089)		(0.021)
GDP Growth		−2.680		2.060
		(4.295)		(3.797)
Medical Facilities		12.807*		9.614**
		(7.365)		(4.069)
Land Value-Added Tax		−0.771		−1.385***
		(0.701)		(0.214)
Fiscal Budget		4.884		−1.081
		(6.538)		(5.285)
Public Safety		5.421		4.716
		(9.414)		(5.096)
Sci and Tech		−1.982*		−0.853
		(1.129)		(0.666)
Airmail Routes		1.376**		0.470
		(0.524)		(0.279)
Railway Routes		0.657		−0.196
		(0.459)		(0.267)
Automative Routes		−0.162		−0.845*
		(1.509)		(0.426)
Controls	N	Y	Y	N
Province FEs	Y	Y	Y	Y
Year FEs	Y	Y	Y	Y
F statistics	3	4	21	72
Observations	1,205	1,075	24,547	20,927
R^2	0.065	0.155	0.027	0.145
Adjusted R^2	0.043	0.117	0.026	0.143
Residual Std. Error	3.219 (df = 1176)	3.069 (df = 1027)	3.489 (df = 24514)	3.266 (df = 20877)
Note:				*p<0.1; **p<0.05; ***p<0.01

Notes: This table is the IV regression result which shows the effect of the anti-corruption campaign on mental health. However, we use a different intensity measures of the anti-corruption campaign. To be specific, the anti-corruption campaign intensity is the total number of investigations when the subjects are surveyed in year-month. The results are still consistent with our findings in the main text. In column 1-3, the corruption investigation significantly increases depressive symptoms for Government Employees. For Citizens, however, the intensity of the anti-corruption campaign has no significant effect (Column4-6). All standard errors are clustered at the province level. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

Table A12: K6 Questionnaires in the CFPS

Here are some feelings or activities you may have experienced before.Please tell us how often you experienced them in the past month				
1= Almost everyday	2= often	3= half of the time	4= sometimes	5= never
I felt depressed.		I felt that everything I did was an effort.		
I felt anxious.		I could not get "going."		
I felt nervous.		I felt life is meaningless.		

Table A13: Effect of the Anti-corruption Campaign on Mental Health including the CFPS 2014

	Dependent Variable: Depressive Symptoms			
	Government Employees	Government Employees	Citizens	Citizens
	(1)	(2)	(3)	(4)
Anti-corruption intensity	0.001*	0.001***	0.0001	−0.0001
	(0.0003)	(0.0003)	(0.0001)	(0.0001)
Controls	N	Y	N	Y
Province and Year FEs	Y	Y	Y	Y
Observations	1,631	1,455	33,610	28,956
Adjusted R^2	0.033	0.114	0.022	0.126

Note: The dependent variable is normalized index for depression. *p<0.1; **p<0.05; ***p<0.01

Table A14: IV Estimate (the Second Stage) including the CFPS 2014

	Second Stage: Depressive Symptoms			
	Government Employees	Government Employees	Citizens	Citizens
	(1)	(2)	(3)	(4)
Anti-corruption intensity	0.001	0.001**	−0.001	−0.0002
	(0.001)	(0.0005)	(0.001)	(0.0002)
Controls	N	Y	N	Y
Province and Year FEs	Y	Y	Y	Y
Observations	1,631	1,455	33,610	28,956
Adjusted R^2	0.030	0.114	0.020	0.126

Note: The dependent variable is normalized index for depression. *p<0.1; **p<0.05; ***p<0.01

Table A15: Psychological Symptoms

	Dependent Variable: Depressive Symptoms			
	Government Employees	Government Employees	Citizens	Citizens
	(1)	(2)	(3)	(4)
Anti-corruption intensity	0.001**	0.002***	0.0004	0.0001
	(0.0005)	(0.0003)	(0.0003)	(0.0002)
Controls	N	Y	N	Y
Province and Year FEs	Y	Y	Y	Y
Observations	1,205	1,075	24,574	20,951
Adjusted R^2	0.054	0.106	0.022	0.109

Note: *p<0.1; **p<0.05; ***p<0.01

Table A16: Physical Symptoms of Body

	Dependent Variable: Body Symptoms			
	Government Employees	Government Employees	Citizens	Citizens
	(1)	(2)	(3)	(4)
Anti-corruption intensity	0.0003	0.001***	0.0005**	0.0002
	(0.0004)	(0.0002)	(0.0002)	(0.0002)
Controls	N	Y	N	Y
Province and Year FEs	Y	Y	Y	Y
Observations	1,209	1,078	24,579	20,954
Adjusted R^2	0.037	0.115	0.016	0.115

Note: *p<0.1; **p<0.05; ***p<0.01

Table A17: Positve Emotions

	Dependent Variable: Positive Emotion			
	Government Employees	Government Employees	Citizens	Citizens
	(1)	(2)	(3)	(4)
Anti-corruption intensity	0.001	0.002*	−0.0005*	−0.0002
	(0.001)	(0.001)	(0.0003)	(0.0002)
Controls	N	Y	N	Y
Province and Year FEs	Y	Y	Y	Y
Observations	1,209	1,078	24,575	20,951
Adjusted R^2	0.037	0.058	0.024	0.075

Note: *p<0.1; **p<0.05; ***p<0.01

Table A18: Attrition Table

	Government Employees			Citizens		
Province	Number 2012	Dropout 2016	Dropout Rate	Number 2012	Dropout 2016	Dropout Rate
Beijing	4	2	0.50	83	40	0.48
Shanghai	69	39	0.57	1098	529	0.48
Hebei	24	12	0.50	749	253	0.34
Neimeng	0	0	0.00	0	0	0.00
Tianjin	3	2	0.67	118	52	0.44
Henan	79	55	0.70	1693	771	0.46
Shaanxi	17	11	0.65	209	96	0.46
Shanxi	26	16	0.62	504	231	0.46
Jiangsu	11	5	0.45	365	142	0.39
Liaoning	64	39	0.61	1082	454	0.42
Gansu	54	34	0.63	1146	602	0.53
Chongqing	7	3	0.42	106	50	0.47
Fujian	2	2	1.00	162	67	0.41
Hainan	0	0	0.00	0	0	0.00
Xinjiang	0	0	0.00	1	1	1.00
Hubei	15	7	0.47	215	116	0.54
Guangdong	51	30	0.59	1270	616	0.49
Jilin	5	1	0.20	229	117	0.51
Sichuan	29	23	0.79	481	226	0.47
Shandong	21	9	0.43	591	229	0.39
Yunnan	16	13	0.81	214	120	0.56
Guangxi	3	0	0.33	243	82	0.34
Heilongjiang	25	15	0.60	356	186	0.52
Anhui	6	5	0.83	302	130	0.43
Zhejiang	15	7	0.47	297	98	0.33
Guizhou	13	6	0.46	299	173	0.58
Jiangxi	10	6	0.60	323	133	0.41
Qinghai	0	0	0.00	0	0	0.00
Hunan	22	8	0.36	380	135	0.36
Xizang	0	0	0.00	0	0	0.00
Ningxia	0	0	0.00	0	0	0.00
Total	591	351	0.59	12516	5649	0.45
Cor. Investigation			0.14			0.10
Cor. Tiger			0.45			0.21

Notes: The table shows the attrition rate in our data set. "Dropout 2016" denote the number of survey objects, who were in 2012 survey but dropped out in the 2016 survey. The last two rows that Cor.Investigation denotes the correlation between the dropout rate and the average number of corruption investigation, Cor.Tiger denotes the correlation between the dropout rate and the number of corrupted high ranking officials.

Table A19: Heterogeneous Effect: Rank of the investigated officials on the Depressive Symptoms for Government Employees

	Dependent variable:						
	Depression (for Government Employees)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Level 3	0.422**						
	(0.180)						
Level 4		−0.054					
		(0.049)					
Level 5			0.028***				
			(0.006)				
Level 6				0.014***			
				(0.003)			
Level 7					0.007***		
					(0.001)		
Level 8						0.005***	
						(0.001)	
Level 9							0.001***
							(0.0003)
Province and Year FEs	Y	Y	Y	Y	Y	Y	Y
Observations	1,076	1,076	1,076	1,076	1,076	1,076	1,076
Adjusted R^2	0.105	0.104	0.106	0.106	0.107	0.107	0.106
Note:							*p<0.1; **p<0.05; ***p<0.01

Notes: The table shows the regression results of how the Anti-Corruption investigations on each levels affect Government Employees' mental health. Level 3 is Provincial-Ministerial (Sheng) level; Level 4 is Deputy-Provincial (Fu-Sheng) level; Level 5 is Prefecture (Shi) level; Level 6 is Deputy-Prefecture (Fu-Shi) level; Level 7 is Division-Head (Chu) level; Level 8 is Deputy-Division-Head (Fu-Chu) level; Level 9 is Section-Head (Ke) level. Because most Government Employees in our survey are lower ranks. Therefore, Government Employees are mainly affected by Level 5-9 officials. This confirms the change of the pressure and the atmosphere in the working places is more relevant to them. All standard errors are clustered at the province level. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

Table A20: Heterogeneous Effect: Rank of the investigated officials on the Depressive Symptoms for Citizens

	Dependent variable:						
	Depression (for Citizens)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Level 3	−0.049						
	(0.096)						
Level 4		−0.068**					
		(0.030)					
Level 5			0.007				
			(0.006)				
Level 6				0.003			
				(0.003)			
Level 7					0.0004		
					(0.001)		
Level 8						0.0003	
						(0.001)	
Level 9							−0.0002
							(0.0002)
Province and Year FEs	Y	Y	Y	Y	Y	Y	Y
Observations	20,966	20,966	20,966	20,966	20,966	20,966	20,966
Adjusted R^2	0.071	0.071	0.071	0.071	0.071	0.071	0.071
Note:							*p<0.1; **p<0.05; ***p<0.01

Notes: The table shows the regression results of how the Anti-Corruption investigations on each levels affect Citizens' mental health. Level 3 is Provincial-Ministerial level; Level 4 is Sub-Provincial (Sub-Ministerial) level; Level 5 is Bureau-Director level; Level 6 is Deputy-Bureau-Director level; Level 7 is Division-Head level; Level 8 is Deputy-Division-Head level; Level 9 is Section-Head level. Citizens are mainly affected by higher level officials. All standard errors are clustered at the province level. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

Table A21: Effect of Anti-Corruption Campaign on individuals' lives

	Dependent Variable					
	Physical Health		Divorce		Asset	
	Government Employees	Citizens	Government Employees	Citizens	Government Employees	Citizens
	(1)	(2)	(3)	(4)	(5)	(6)
Anti-corruption intensity	−0.0003	0.00003	0.00002	0.00002**	0.001*	0.001**
	(0.0002)	(0.00005)	(0.00004)	(0.00001)	(0.0004)	(0.0003)
Controls	Y	Y	Y	Y	Y	Y
Province and Year FEs	Y	Y	Y	Y	Y	Y
Observations	1,078	20,980	1,078	20,980	1,078	20,980
Adjusted R^2	0.091	0.098	0.001	0.009	0.246	0.193
Note:						*p<0.1; **p<0.05; ***p<0.01

Notes: The table shows the regression results of how the Anti-Corruption investigations on individuals lives from three perspectives: physical health, marriage status, and wealth. All standard errors are clustered at the province level. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

Table A22: Government Employees' Family Assets

Year	Asset (Yuan)
2012	86,989.04
2014	163,240.82
2016	179,614.68
2018	224,459.29

Table A23: Corruption Investigation from 2012-2015

Level	Total	Proportion
Rank 3	7	0.00
Rank 4	77	0.01
Rank 5	397	0.02
Rank 6	849	0.05
Rank 7	2074	0.12
Rank 8	2808	0.17
Rank 9	10677	0.63

Notes: The table decomposes the Anti-Corruption investigations on different levels of officials. Level 3 is Provincial-Ministerial (Sheng) level; Level 4 is Deputy-Provincial (Fu-Sheng) level; Level 5 is Prefecture (Shi) level; Level 6 is Deputy-Prefecture (Fu-Shi) level; Level 7 is Division-Head (Chu) level; Level 8 is Deputy-Division-Head (Fu-Chu) level; Level 9 is Section-Head (Ke) level.

Appendix B. Mechanism

In addition to the channels discussed in our primary analysis that may affect people's mental health, the anti-corruption campaign might also have an impact through people's beliefs and attitudes.

First, the initiation of the anti-corruption campaign, by revealing related information, could shift people's beliefs about the political regime's status. For instance, an individual who previously believed in the integrity of their country might be shocked to learn about the corruption of political leaders or the widespread corruption among officials. Such a shift in belief could undermine not only their support for the regime but also impact their mental health, particularly when initial beliefs are shattered by the revelation of negative information.

Second, if an individual supports the campaign, they may feel optimistic and positive about it. This could stem from the belief that the anti-corruption campaign will enhance government efficiency and integrity by rooting out corrupt officials. Such approval of the campaign could lead to improved mental health, as people anticipate living in a well-governed society.

Table 5 shows a slight improvement in government employees' perceptions of corruption due to the anti-corruption campaign, as well as ordinary Chinese citizens. As indicated in that table, the anti-corruption campaign has improved the public perception of corruption in China. Our explanation of how mental health can be influenced through beliefs and attitudes about the anti-corruption campaign suggests that the intense scrutiny and public exposure of corruption, particularly involving high-profile officials, may have played a significant role. The exposure of these "big tigers", who are more likely to attract public attention, potentially heightens people's belief in the effectiveness of the anti-corruption measures, which in turn could positively impact their mental health as indicated in Figure 3.

On the flip side, while government employees' perceptions of corruption have improved, this positive effect might be overshadowed by the negative impacts stemming from a stressful working environment within government sectors. As a result, the overall effect of the anti-corruption campaign on government employees' mental health appears to be negative.

References

Anderson, C.J., Tverdova, Y.V., 2003. Corruption, political allegiances, and attitudes toward government in contemporary democracies. American Journal of Political Science 47, 91–109.

Chang, E.C., Chu, Y.h., 2006. Corruption and trust: exceptionalism in asian democracies? The Journal of Politics 68, 259–271.

Chen, T., Kung, J.K.s., 2019. Busting the "princelings": The campaign against corruption in china's primary land market. The Quarterly Journal of Economics 134, 185–226.

Ferrie, J.E., Shipley, M.J., Marmot, M.G., Stansfeld, S.A., Smith, G.D., 1998. An uncertain future: the health effects of threats to employment security in white-collar men and women. American Journal of Public Health 88, 1030–1036.

Ferrie, J.E., Shipley, M.J., Stansfeld, S.A., Marmot, M.G., 2002. Effects of chronic job insecurity and change in job security on self reported health, minor psychiatric morbidity, physiological measures, and health related behaviours in british civil servants: the whitehall ii study. Journal of Epidemiology & Community Health 56, 450–454.

Gillanders, R., 2016. Corruption and anxiety in sub-saharan africa. Economics of Governance 17, 47–69.

Gingerich, D.W., 2009. Corruption and political decay: Evidence from bolivia. Quarterly Journal of Political Science 4, 1–34.

Jia, R., Kudamatsu, M., Seim, D., 2016. Complementary roles of connections and performance in political selection in china. Comparative Political Studies 49, 600–634.

Jiang, J., 2018. Making bureaucracy work: Patronage networks, performance incentives, and economic development in china. American Journal of Political Science 62, 982–999.

Jiang, J., Yang, D.L., 2016. Lying or believing? measuring preference falsification from a political purge in china. Comparative Political Studies 49, 600–634.

Karasek, R., Theorell, T., 1990. Healthy Work: Stress, Productivity, and the Reconstruction Of Working Life. New York: Basic Books, Inc.

Karasek, R.A., 1979. Job demands, job decision latitude, and mental strain: Implications for job redesign. Administrative Science Quarterly , 285–308.

Karim, J., Weisz, R., Bibi, Z., et al., 2015. Validation of the eight-item center for epidemiologic studies depression scale (ces-d) among older adults. Current Psychology 34, 681–692.

Li, H., Zhou, L.A., 2005. Political turnover and economic performance: the incentive role of personnel control in china. Journal of Public Economics 89, 1743–1762.

Li, Q., An, L., 2020. Corruption takes away happiness: Evidence from a cross-national study. Journal of Happiness Studies 21, 485–504.

Li, X., Pan, W., Xu, G., 2024. A "leaner" government? the effect of china's anti-corruption campaign on the body weight and health of public sector employees. Journal of Economic Behavior & Organization 217, 141–169.

Li, Z., Manion, M., 2022. The decline of factions: The impact of a broad purge on political appointments in china. British Journal of Political Science (forthcoming) .

Link, B.G., Phelan, J., 1995. Social conditions as fundamental causes of disease. Journal of Health and Social Behavior , 80–94.

Lorentzen, P., Lu, X., 2018. Personal ties, meritocracy, and china's anti-corruption campaign. Meritocracy, and China's Anti-Corruption Campaign (November 21, 2018) .

Manion, M., 2016. Taking china's anticorruption campaign seriously. Economic and Political Studies 4, 3–18.

Mavisakalyan, A., Otrachshenko, V., Popova, O., 2021. Can bribery buy health? evidence from post-communist countries. Journal of Comparative Economics 49, 991–1007.

McDermott, R., 2007. Presidential leadership, illness, and decision making. Cambridge University Press.

Mirowsky, J., Ross, C.E., 1986. Social patterns of distress. Annual Review of Sociology 12, 23–45.

Morris, S.D., Klesner, J.L., 2010. Corruption and trust: Theoretical considerations and evidence from mexico. Comparative Political Studies 43, 1258–1285.

Nikolova, M., 2016. Minding the happiness gap: Political institutions and perceived quality of life in transition. European Journal of Political Economy 45, 129–148.

Pedigo, K.L., Marshall, V., 2009. Bribery: Australian managers' experiences and responses when operating in international markets. Journal of Business Ethics 87, 59–74.

Peterson, S.A., 2021. Health status and political corruption: a comparative study. Reality of Politics. Estimates-Comments-Forecasts 18, 147–162.

Putnam, S., Galea, S., 2008. Epidemiology and the macrosocial determinants of health. Journal of Public Health Policy 29, 275–289.

Radloff, L.S., 1977. The ces-d scale: A self-report depression scale for research in the general population. Applied Psychological Measurement 1, 385–401.

Seligson, M.A., 2002. The impact of corruption on regime legitimacy: A comparative study of four latin american countries. The Journal of Politics 64, 408–433.

Shi, T., 2014. The cultural logic of politics in mainland China and Taiwan. Cambridge University Press.

Shih, V., Adolph, C., Liu, M., 2012. Getting ahead in the communist party: explaining the advancement of central committee members in china. American Political Science Review 106, 166–187.

Smith, R.H., Parrott, W.G., Ozer, D., Moniz, A., 1994. Subjective injustice and inferiority as predictors of hostile and depressive feelings in envy. Personality and Social Psychology Bulletin 20, 705–711.

Van Deurzen, I., 2017. And justice for all: examining corruption as a contextual source of mental illness. Social Science & Medicine 173, 26–34.

Wang, E.H., 2022. Frightened mandarins: the adverse effects of fighting corruption on local bureaucracy. Comparative Political Studies 55, 1807–1843.

Wang, Y., Dickson, B.J., 2022. How corruption investigations undermine regime support: evidence from china. Political Science Research and Methods 10, 33–48.

Wedeman, A., 2016. Four years on: Where is xi jinping's anti-corruption drive headed?'. CPI Analysis 19.

Woo, J.M., Postolache, T.T., 2008. The impact of work environment on mood disorders and suicide: Evidence and implications. International Journal on Disability and Human Development 7, 185–200.

Xi, T., Yao, Y., Zhang, Q., 2018. Dilemmas of autocratic governance: Theory and evidence from the anti-corruption campaign in China. Technical Report. Working paper.

Xie, Y., Lu, P., 2015. The sampling design of the china family panel studies (cfps). Chinese Journal of Sociology 1, 471–484.

Yamamura, E., Andrés, A.R., Katsaiti, M.S., 2012. Does corruption affect suicide? econometric evidence from oecd countries. Atlantic Economic Journal 40, 133–145.

Yuen, S., 2014. Disciplining the party. xi jinping's anti-corruption campaign and its limits. China Perspectives 2014, 41–47.

Zhu, B., 2017. Mncs, rents, and corruption: Evidence from china. American Journal of Political Science 61, 84–99.