

Troops are Business Schools: Military Service and Entrepreneurial Behaviors in China

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Abstract

Although research has examined the benefits of military service and the impact of military executives on business operations, the relationship between military service and entrepreneurial behavior remains poorly understood. Using the instrumental variable approach and a nationally representative male sample from the China Labor-forces Dynamic Survey, we discovered that military service significantly increased the probability of entrepreneurship in China, even after a series of robustness checks. Mechanism tests indicated that this positive effect could be explained by human and political capital accumulation, military-related social capital formation, and risk appetite traits. Our supplemental analyses demonstrated that exogenous shocks from the special military-in-business policy strengthened the positive entrepreneurial effect, whereas the higher education expansion policy and China's accession to the World Trade Organization weakened this effect. Additionally, military entrepreneurs had better business performance and more resilient, persistent, and confident traits. We found no evidence that Chinese veterans were forced to become entrepreneurs. This study enriches research on the styles and traits of military entrepreneurs and managers and provides important insights for assessing and improving veteran welfare policies in China and other developing countries.

Keywords

military service, entrepreneurial behaviors, military entrepreneurs, China

Introduction

Entrepreneurship is a vital engine of social progress and plays a crucial role in promoting innovation, employment, and economic development. Given the range of positive impacts of entrepreneurship, scholars have expressed strong interest in its antecedents and the

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mechanisms that motivate such behavior (Mmbaga et al., 2020; Xie et al., 2021; Zhao & Li, 2022). According to Djankov et al. (2006), the key motivators of entrepreneurship can be categorized into macroenvironmental, sociological, and individual characteristics. Among entrepreneurial characteristics, studies have primarily focused on demographic factors (Brown et al., 2021; Rosenthal & Strange, 2012), work experience (Chatterjee et al., 2022; Iversen et al., 2016), and personal traits such as the need for achievement, risk attitudes, and self-confidence (Johnson et al., 2018; Kraft et al., 2022; Putnins & Sauka, 2020). Some studies show that prior special experiences may also affect entrepreneurial behaviors (e.g., Cheng et al., 2021; Démurger & Xu, 2011; F. Qin et al., 2017; Zhao & Li, 2022). This study investigates the determinants of entrepreneurial behaviors by considering a particular type of personal experience: military service.

Military entrepreneurs and executives are increasingly common in China (Gao et al., 2021; Guo et al., 2020; Luo et al., 2017; Xu et al., 2022; Z. Zhang et al., 2022). Numerous famous entrepreneurs, such as Zhengfei Ren, founder of Huawei, the world's largest telecommunications equipment manufacturer, have military backgrounds. According to imprinting theory, as a special life experience, military service may significantly affect individuals' thinking patterns and behavioral decisions (Gao et al., 2021; Heinz et al., 2017; Z. Zhang et al., 2022). For instance, Gao et al. (2021) found that firms with military chief executive officers (CEOs) take on more social responsibility for environmental protection because military services instill prosocial values such as duty, self-discipline, and a sense of community. Studies have also examined the benefits of military service on physical and mental health (McLaughlin et al., 2008; Zhao et al., 2023), cognitive and non-cognitive abilities (Benmelech & Frydman, 2015; Eynde, 2016; Hou et al., 2020), and social networks (Laanapere et al., 2018; C. Zhang, 2015). Therefore, those with military service are more likely to accumulate human and social capital. Additionally, entrepreneurs tend to acquire material and non-material supports through military social networks (Hou et al., 2020; Linda, 2009). Based on the role of military service in people's decision-making and personal development, we infer that military service contributes to entrepreneurial success.

Related literature can be categorized into two streams. The first stream focuses on assessing the effect of military service on socioeconomic status, such as income, employment, health, and well-being (e.g., Angrist, 1990; Angrist & Krueger, 1994; Hou et al., 2020; Zhao & Guo, 2022). However, some scholars disagree about the welfare effects of military experience. The most representative literature emerges from scholars who found positive rewards for American youth who were enlisted during the World War II (e.g., Angrist & Krueger, 1994; De Tray, 1982; MacLean & Kleykamp, 2021). However, this changed during the Vietnam War: military service resulted in an earnings penalty (e.g., Angrist, 1990; Rosen & Taubman, 1982; Teachman & Call, 1996). Moreover, evidence from the United Kingdom and Germany suggests that the positive effects of military service are negligible (Bauer et al., 2012; Grenet et al., 2011). Imbens and van der Klaauw (1995) find that Dutch military service lowers post-discharge earnings. Recent research on Chinese veterans suggests declining socioeconomic status and life satisfaction (Diamant & O'Brien, 2015; Zhao & Guo, 2022), others reveal an income premium for military service, particularly for rural families (Hou et al., 2020; C. Zhang, 2015). Thus, we explored the living status of veterans in China, which is closely related to entrepreneurial behavior and business performance.

The second stream of the literature on military service is management, where scholars have focused on the impact of military executives on business operations (e.g., Benmelech & Frydman, 2015; Gao et al., 2021; Luo et al., 2017; Malmendier et al., 2011; Z. Zhang et al., 2022). Research focuses on the personal traits and management styles of military

executives. For instance, based on risk attitudes, military executives may tend to be aggressive (Guo et al., 2020; Malmendier et al., 2011; Wansink et al., 2008) or conservative (Bamber et al., 2010; Benmelech & Frydman, 2015). Additionally, debates continue on whether military executives are overconfident (Malmendier et al., 2011). These characteristics affect entrepreneurial behavior in various ways (de Blasio et al., 2021; Gu & Qian, 2019; Kihlstrom & Laffont, 1979; F. Zhang et al., 2021). Notwithstanding widespread scholarly interest in the impact of military executives in the unique context of entrepreneurship in China, little is known about how military service translates into entrepreneurial behavior.

Furthermore, recent studies focus on the entrepreneurial effects of military service from different perspectives (Kerrick et al., 2014; Polin & Ehrman, 2020; H. Wang et al., 2023; Xu et al., 2022). For example, Kerrick et al. (2014) evaluated the effects of an entrepreneurship training program on military veterans' entrepreneurial passion and networking frequency. Xu et al. (2022) highlighted that military entrepreneurs have a strong sense of self-sacrifice and can better participate in poverty reduction entrepreneurship. However, these studies do not provide direct evidence on whether military service influences entrepreneurial choices. Additionally, while extensive research implies that military service is likely to be associated with successful entrepreneurship (e.g., Eynde, 2016; Malmendier et al., 2011; Polin & Ehrman, 2020; Wen et al., 2023; C. Zhang, 2015), other studies suggest that military service inhibits survival entrepreneurship by increasing employment opportunities in state-owned units (H. Wang et al., 2023). Under China's current military service system, only a few retired military officers are entitled to job placement after reaching the required number of years of service. Ordinary conscripts do not work in the public sector after discharge. Local governments and the military encourage them to find jobs or engage in entrepreneurship. In addition to differences in research perspectives, the conflicting findings may be because underlying endogeneity issues are not well addressed, given the non-random nature of military service (e.g., Angrist, 1990; Bedard & Deschênes, 2006; Benmelech & Frydman, 2015). Valid causal inferences can assist us in identifying the potential entrepreneurial traits of Chinese veterans and assessing the welfare status of military entrepreneurs. This can provide more useful insights for policies to promote veterans entrepreneurship.

In China, without universal mandatory military service, two selection effects influence causality estimates: self-selection, where individuals choose military service based on personal traits, family circumstances, and societal factors.¹ The second is the troop-screening effect. Only individuals who undergo physical examinations and political screenings are likely to be enlisted in China's military (Hou et al., 2020; Zhao & Guo, 2022). Therefore, considerable heterogeneity may exist between veterans and non-veterans. Drawing on previous literature (e.g., Angrist, 1990; Bedard & Deschênes, 2006; Hou et al., 2020; Johnston et al., 2016), we utilized the instrumental variable (IV) method to identify the causal relationship between military service and entrepreneurial behavior in China. Our main IV was the childhood experience of the 1998 China Floods, one of the most significant disasters in China over the past 30 years. The Chinese military played an irreplaceable and vital role in combating such large natural disasters (Chen, 2016). The image of Chinese soldiers as fearless in fighting floods and protecting disaster victims was deeply rooted in the hearts of people, which may have inspired children to join the army.² Moreover, although natural disasters occur randomly (de Blasio et al., 2021), given their possible association with entrepreneurial behaviors (Boudreault et al., 2022; Dutta, 2017), we conducted several exclusion restriction tests to ensure the reliability of the IV (Acemoglu et al., 2001; Miguel et al., 2004).

Considering the small proportion of women in the Chinese army (Hou et al., 2020; C. Zhang, 2015; Zhao & Guo, 2022), we used a nationally representative male sample from the China Labor-forces Dynamics Survey (CLDS) in the main specification. Military service significantly boosts entrepreneurial behavior and is driven by enhanced human and political capital, military-related social capital, and risk appetite. Exogenous shocks, like the military-in-business (MIB) policy, strengthen this effect, while policies such as higher education expansion and World Trade Organization (WTO) accession weaken it. However, no evidence exists that Chinese veterans are forced to engage in entrepreneurship. Conversely, veteran entrepreneurs are more likely to become employers, engage in formal entrepreneurship, and earn a higher business income. Together, from the perspective of entrepreneurial behavior, our estimates support the perspective that Chinese veterans have better socioeconomic status and greater risk appetite traits.

Our contributions to the literature are fourfold. First, this study expands the literature on the role of early life experiences in economic behaviors. The effect of military service on CEO behavior has been widely studied (Benmelech & Frydman, 2015; Gao et al., 2021; Guo et al., 2020; Malmendier et al., 2011; Xu et al., 2022; Z. Zhang et al., 2022). However, the effect of this special experience on career choice behaviors remains largely unexplored. Considering the imprinting effects of military service, our study contributes to the literature by investigating the relationship between military service and entrepreneurial behavior. Second, we provide new evidence on the factors influencing entrepreneurial choices. We indicate that a particular type of personal experience—military service—substantially affects entrepreneurial behaviors. Thus, we enrich an important category of the entrepreneurship literature and reveal the effect of personal experience on entrepreneurial behavior (e.g., Cheng et al., 2021; Démurger & Xu, 2011; F. Qin et al., 2017; Salvato et al., 2020; Zhao & Li, 2022). Third, we elucidate the mechanisms by which military service influences entrepreneurial participation, which has been neglected in the previous literature (Kerrick et al., 2014; Polin & Ehrman, 2020; Xu et al., 2022). Military service enhances human, social, and political capital, along with risk tolerance. This study offers fresh insights into military service's positive effects on entrepreneurship in China, highlighting mechanisms behind these effects. Last, the socioeconomic status of Chinese veterans lacks consistent findings in existing literature (e.g., Hou et al., 2020; H. Wang et al., 2023; Wen et al., 2023; C. Zhang, 2015). Based on the IV approach, we demonstrate the welfare effect and the reality that military services create more advantages for entrepreneurship in China. This study offers novel and robust evidence for this positive effect.

Theoretical Mechanisms and Hypothesis Development

Here, we explore the potential underlying mechanisms, including human capital, social capital, political capital, and risk attitude, which may explain why military service affects entrepreneurial behavior.

Human Capital

Military service boosts human capital through improved physical fitness, beneficial for entrepreneurship. Studies show it fosters healthy lifestyles among veterans, enhancing their overall well-being (MacLean & Elder, 2007). The overall physical health of veterans is generally improved by military science-based training and medical care, which is referred to as the “healthy soldier effect” (McLaughlin et al., 2008; Zhao et al., 2023). Additionally,

military members frequently have better access to social benefits and medical resources after retirement, which may enhance their health status (Angrist, 1998). Being physically fit makes it easier to engage in entrepreneurship (Hatak & Zhou, 2021; Nikolova, 2019).

Second, military service can also contribute to mental health. Under the military training system, military service imprints a strong sense of integrity, loyalty, self-sacrifice, and confidence (Benmelech & Frydman, 2015). Some psychologists have investigated personal traits associated with military service, such as self-discipline, resilience, and risk-taking (Elbogen et al., 2013; Malmendier et al., 2011). Additionally, studies have shown that early military experience shapes CEOs' psychological characteristics, such as risk appetite and overconfidence, enabling them to make judgments with ease under pressure or during crises (Benmelech & Frydman, 2015; Koch-Bayram & Wernicke, 2018). Therefore, we infer that military entrepreneurs are better prepared to manage the demanding or risky situations that arise during the entrepreneurial process.

Third, numerous scholars have emphasized the positive effects of military service on individual skills and cognitive abilities (e.g., Angrist et al., 2011; Bound & Turner, 2002; Hou et al., 2020). Although individuals are removed from the formal education system upon enlistment, they acquire a wide range of military and non-military skills through military training (Bauer et al., 2012; Eynde, 2016). These training practices provide a solid foundation for veterans to pursue entrepreneurship (Unger et al., 2011). Additionally, the military offers continuous training programs and conducive learning environments that enhance individuals' cognitive abilities (Eynde, 2016; Hou et al., 2020). Veterans have preferential access to vocational training, which may help them engage in entrepreneurial behavior. Based on this discussion, we propose the following hypothesis:

Hypothesis 1: Military service is positively associated with entrepreneurial behaviors due to enhanced human capital.

Social Capital

Social capital involves membership in a group that collectively owns resources. Entrepreneurship heavily relies on social capital, necessitating entrepreneurs to cultivate diverse social resources and maintain strong relationships (Estrin et al., 2013). In relational societies like China, social capital derived from networks and trust is vital (C. Wang et al., 2015), enhancing entrepreneurs' success rates (Klyver & Arenius, 2022). Notably, overcoming credit constraints is a significant challenge in entrepreneurship (Hurst & Lusardi, 2004). The informal credit offered by social networks alleviates credit constraints in entrepreneurship, a vital aspect in China, where formal financial exclusion is prevalent (Kinnan & Townsend, 2012). In addition to financial support, social networks aid information- and knowledge-sharing, which can reduce information asymmetry and provide entrepreneurs with access to additional market information and opportunities (Gu & Qian, 2019; Kinnan & Townsend, 2012).

In addition to civilian social capital, veterans have ample military social capital (Laanepere & Kasearu, 2021). Military units offer great potential for creating high-value and easily convertible military-related social capital. Thus, individuals with military service tend to have better access to high-quality and plentiful military-related social capital than civilian-related social capital (Laanapere et al., 2018). Veterans can form close ties with their comrades, officers, and fellow veterans, thereby creating military social networks (Hou et al., 2020). These networks offer veterans crucial information channels and

practical experience in entrepreneurship (Linda, 2009). Lengthy collective experiences in military service foster strong emotional bonds among service members, reinforcing veterans' military-related social networks and signaling positively in the entrepreneurial market (De Tray, 1982; Hou et al., 2020). However, extended military engagement can diminish connections to local social networks, potentially reducing civilian-related social capital, including support from family, friends, and colleagues (Zhao & Guo, 2022). Several studies have demonstrated that military service may negatively affect family relationships and marriage (e.g., Heerwig & Conley, 2013; Zhao & Guo, 2022). Therefore, we derived the second hypothesis as follows:

***Hypothesis 2:** Military service is positively associated with entrepreneurial behaviors because of sufficient military-related social capital rather than civilian-related social capital.*

Political Capital

Political capital is another route to entrepreneurship, in addition to human and social capital. Evidence suggests that political capital can affect individuals' entrepreneurial actions in transitional countries (Brown et al., 2021; Zhou, 2009). Entrepreneurs leveraging political capital gain advantages beyond monetary returns, accessing policy insights, public resources, and social connections (Z. Liu, 2003). They excel in building networks facilitating information and resource acquisition. The institutional environment crucially supports the utilization and sustainability of political capital in entrepreneurial endeavors (Wei, 2022). Owing to China's ongoing market imperfections and the prevalence of government interference in business operations, entrepreneurs frequently spend considerable time and effort dealing with the government (Jia et al., 2021). Importantly, the cost of financing through official channels is high in China's underdeveloped capital markets (J. Zhang & Wong, 2008). However, those with political influence tend to acquire credit (Shi, 2022), which increases the likelihood of entrepreneurship.

Numerous studies have emphasized that the military has strong political attributes and that military service helps veterans accumulate political capital. Increasing political consciousness among military personnel and providing them with political training are particularly important for some recruits (Leal, 1999). In China, military personnel are educated extensively in military political knowledge, developing political literacy to cultivate their loyalty to the country and army and to create a sense of service to the party, country, and people. Thus, military service is frequently considered a quasi-political credential in China (Hou et al., 2020). Veterans receive additional political resources because of their military status, which in turn translates political capital into commercial advantages (Li et al., 2007). Additionally, the Chinese government has encouraged veterans to engage in entrepreneurship to reduce resettlement pressures. Government-led special support programs, such as credit support, tax incentives, and entrepreneurial training, are integral components of veterans' political capital (Zhao & Guo, 2022). Based on this discussion, we propose the following hypothesis.

***Hypothesis 3:** Military service is conducive to entrepreneurial behaviors because of the advantages of political capital.*

Risk Attitude

We also examined the mechanisms of risk attitudes. The imprinting theory indicates that experiences in a sensitive period, such as military service during youth, may shape individuals' personality traits, values, and behaviors (Benmelech & Frydman, 2015; Guo et al., 2020; Luo et al., 2017). Under the influence of long-term strict training and education in the army, soldiers have gradually developed qualities suitable for thriving in the army environment (H. Wang et al., 2023). Generally, people tend to exhibit a high level of risk-taking and can handle high-risk situations after experiencing military life (Malmendier et al., 2011; Wen et al., 2023). The high degree of heroism cultivated by the army leads to veterans' risk-seeking characteristics. They are confident in addressing highly stressful situations because of the military's promotion of risk-taking and hustle-loving attitudes (Guo et al., 2020; Wen et al., 2023). Thus, veterans typically have a good spirit of risk-taking amidst the uncertainty related to entrepreneurship (Heinz et al., 2017). Several management studies support the notion that ex-military CEOs frequently exhibit a high appetite for risk when making decisions and that their enterprises are more likely to have greater financial leverage (Guo et al., 2020; Malmendier et al., 2011). Thus, military service and risk appetite formation may be strongly associated.

Post-retirement, the risk tolerance developed during military service persists and shapes entrepreneurial behavior. Entrepreneurship demands risk acceptance due to market uncertainties. Studies consistently link entrepreneurship with risk-taking; Kihlstrom and Laffont (1979) suggested risk-averse individuals opt for employment, while those less risk-averse pursue entrepreneurship. Subsequent research has shown that a risk-taking mindset can promote entrepreneurial zeal (e.g., de Blasio et al., 2021; Moss et al., 2015; Vereshchagina & Hopenhayn, 2009). Other studies emphasize the benefits of entrepreneurial risk-taking, such as scale expansion, enhanced innovation, and long-term performance (Putnins & Sauka, 2020; Rank & Strenge, 2018). Similarly, we believe that the risk-seeking characteristics of individuals trained by the army encourage entrepreneurial behavior. Therefore, we propose the following hypotheses:

Hypothesis 4: Individuals with military service are likely to be entrepreneurs because they tend to have higher risk preferences.

Data and Variables

Data Source

Data were sourced from two waves of the CLDS. This large, nationally representative micro-survey was conducted by the Center for Social Survey at Sun Yat-sen University in 2016 and 2018.³ In the 2016 wave, the sample covered 29 provinces in China, including 401 villages and communities, 14,226 households, and 21,086 individuals (10,022 males). The 2018 wave included 7,864 male respondents. In addition to its main focus on the status and transition of the Chinese labor force, this database offers comprehensive information on entrepreneurial behaviors (C. Y. Liu et al., 2019; F. Zhang et al., 2021) and military service.⁴ Specifically, the CLDS provides the specific year of veteran enlistment and retirement, allowing us to use exogenous shocks to observe changes in the entrepreneurial effect of military service. Thus, the CLDS offers the advantage of analyzing the effect of military service on entrepreneurial behaviors in China. Moreover, the military is predominantly male,⁵ and female observations are typically disregarded in prior literature (e.g., Angrist,

1990; Johnston et al., 2016; C. Zhang, 2015; Zhao & Guo, 2022); therefore, we considered only the male sample in the main results.

Variables

Entrepreneurial Behaviors. In the CLDS database, respondents' employment status was divided into five categories: employee, self-employed, employer, farming, and jobless. Following previous literature (e.g., Cheng et al., 2021; C. Y. Liu et al., 2019; F. Zhang et al., 2021; Zhao & Li, 2022), we considered those who are currently self-employed and employers as entrepreneurs and set the explained variable *Entrepreneurship* to 1. All other statuses were regarded as non-entrepreneurship and set to 0. Additionally, the CLDS database provides information on past entrepreneurial behavior. We analyzed the entrepreneurial effects of military service, which should not be limited to entrepreneurial behavior during the survey period. Therefore, *Past entrepreneurial behaviors* was considered the main alternative explained variable. Supplementary data on entrepreneurial outcomes, including income, startup frequency, and intentions, are analyzed to enhance our understanding of how military service influences entrepreneurial outcomes in China.

Military Service. The explanatory variable, *Military*, was measured by whether the respondent had military service. Following previous literature (e.g., Angrist, 1998; Bedard & Deschênes, 2006; Benmelech & Frydman, 2015; Wen et al., 2023), if the respondent had been in the military, *Military* was set to 1 and 0 otherwise. Since 1949, China has experienced disarmament and small-scale conflict. Such changes in nationally induced military requirements imply that the likelihood of individuals enlisting differs across the years. Supplemental Figure A1 depicts the proportion of military service for different birth cohorts, based on the CLDS database.

As aforementioned, the CLDS surveys veterans' years of enlistment and discharge. This information allowed us to determine the age at enlistment and discharge and the number of years of service. Considering that length of service is closely associated with the job placement benefits received by veterans in China, we can distinguish between the potential heterogeneous effects of the job placement policy on veteran entrepreneurship. This information also facilitated our analysis of the moderating effects of exogenous shocks on veterans' entrepreneurial behavior. Supplemental Figures A2 and A3 illustrate the military service ratio and male military entrepreneurs by years of enlistment and retirement, respectively.

Instrumental Variable. As mentioned above, the IV was the childhood experience of the Chinese floods in 1998. In contrast to infancy (0–5 years), childhood and adolescence are critical periods for the retention of permanent memories and character formation (Usher & Neisser, 1993). Thus, childhood is defined as the period between the ages of 6 and 17. Although 29 provinces were affected by the floods, Jiangxi, Hunan, Hubei, and Heilongjiang were the most affected provinces. Therefore, the assignment rules for our IV, *China Floods in 1998*, were as follows. A value of 1 was assigned if the respondent resided in one of the four disaster-affected provinces and was between the ages of 6 and 17 years during the floods, and 0 otherwise.

Control Variables. Controlling for individual and family characteristics helps mitigate the selective bias of military service, particularly concerning pre-enlistment exogenous variables (Hou et al., 2020; Zhao & Guo, 2022). Specifically, we controlled for age, schooling,⁶ *hukou* at birth,⁷ parents' education and occupation (e.g., farmers or military personnel), parental marital status during childhood, and siblings. These variables may be related to individuals' decisions to join the military. For example, a parent's military service is likely to influence their child's military intentions and current entrepreneurial behaviors. Intergenerational career transmission is particularly prevalent in China. Controlling for these factors would help us accurately determine the causal effects between military service and entrepreneurial behavior. Supplemental Table A1 provides pertinent definitions of the above variables.

Mediating Variables. Several mediating variables were selected from the CLDS database. First, based on the health and skills dimensions, we selected six human capital variables: *self-rated health*, *hurt*, *chronic diseases*, *mental health impairment*, *professional certificates*, and *entrepreneurial training*. The second category measured social capital and included *local friends with lending money*, *social interaction*, and *introducing business from comrades-in-arms*. The first two measured civilian-related social capital, while the third served as a proxy for military-related social capital. Third, three variables were used to measure political capital: *party membership*, *previous employment in government sectors*, and *policy support*. Finally, *commercial insurance* and *risky financial assets* were constructed as proxy variables for risk preference. Specific definitions and descriptions are presented in Supplemental Table A2.

Descriptive Statistics

Supplemental Table A3 presents the descriptive statistics for the main variables. After cleaning and screening, the final sample consisted of 12,889 male observations. Approximately 6.20% of the respondents had military service experience, and 15.05% were currently engaged in entrepreneurship. Standard *t*-tests suggested differences between veterans and non-veterans. A total of 18.40% of veterans and 14.83% of non-veterans engaged in entrepreneurship, with significantly different mean values. This preliminarily suggests that veterans are more likely than non-veterans to engage in entrepreneurship, implying the positive entrepreneurial effects of military service in China. Subsequently, veterans' past entrepreneurial behaviors and future entrepreneurial intentions were greater than those of their non-veteran counterparts. The average age of veterans who joined the military was 18.8197 years, the average age of service was 5.0814 years, and the average years of enlistment and discharge were 1986 and 1989, respectively. The *t*-test statistics for most of the control variables are statistically significant, further indicating that controlling for these variables is necessary to mitigate potential endogeneity.

Supplemental Table A2 compares the differences in means of the mediating variables between veterans and non-veterans. Regarding human capital, veterans have better physical and mental health and higher rates of professional certification and entrepreneurial training. *T*-test statistics revealed that, compared to non-veterans, veterans had a higher average self-rated health score of 0.2781 points, lower mean mental health impairment index of 0.7844 points, and higher percentage points of 6.91 and 6.90 in professional certificates and entrepreneurial training experience, respectively. The results in Panel B show that veterans have better military-related social capital but are not at a disadvantage concerning civilian-related social capital. Regarding political capital, the proportion of

veterans with party membership was 43.80 percentage points higher, the proportion of those with government sector employment experience was 7.49 percentage points higher, and the proportion of those enjoying entrepreneurial policy support was 26.29 percentage points greater. These observations strongly support the political capital accumulation effect of military service. Finally, the *t*-tests implied that the veterans had a stronger risk appetite. Additionally, supplemental Table A4 presents the correlation coefficients of the explained, explanatory, and control variables. We discovered that the coefficient between *Military* and *Entrepreneurship* is positive and significant, providing preliminary evidence for our inferences.

Endogeneity and Methodology

To accurately capture the causal relationship between military service and entrepreneurial behavior, sufficient attention must be paid to potential endogeneity issues. Military service has two selection effects. On the one hand, because military enlistment is not mandatory for all male citizens in China (unlike South Korea and Singapore), joining the military is self-selective for individuals (Zhao & Guo, 2022; Zhao et al., 2023). Enlistment decisions were related to physical fitness, family economic status, and personality traits. For instance, previous literature suggests that, in China, rural individuals with poorer family economic status are more likely to enlist access to more social resources (Hou et al., 2020; C. Zhang, 2015). Additionally, individuals with aggressive personalities and risk preferences may have a greater willingness to join the military (Callen et al., 2014). Both initial family economic status and risk preferences are closely related to current entrepreneurial behaviors (Kihlstrom & Laffont, 1979; Kraft et al., 2022; Zhao & Li, 2022).

On the other hand, troop selection behavior may also interfere with our estimates because of strict screening mechanisms for military personnel (Hou et al., 2020). Generally, conscripts with better physical conditions, higher political literacy, and who fulfill special military requirements are more likely to pass medical examinations and tests (Hou et al., 2020; McLaughlin et al., 2008; C. Zhang, 2015). Consequently, they are more likely to successfully enter the military as soldiers. If individuals who meet the enlistment criteria have greater entrepreneurial intentions and capabilities (e.g., greater risk appetite, better physical fitness, and better political literacy), using the ordinary least squares (OLS) approach may lead to a bias in the estimates.

To mitigate the bias introduced by these selection effects, we attempted to control for some individual and family factors before joining the military, as shown in Supplemental Table A1. However, we could not fully control these variables because of the availability of data and information. Thus, we used an IV approach to further mitigate these endogeneity issues. Some related studies have focused on quasi-natural experiments of draft lotteries to select IVs (e.g., Angrist, 1990; Angrist & Krueger, 1994; Bauer et al., 2012; Card & Lemieux, 2001; Johnston et al., 2016), whereas others have captured exogenous variations in military service at the birth cohort level (Bedard & Deschênes, 2006; Hou et al., 2020; Imbens & van der Klaauw, 1995; Zhao & Guo, 2022). However, similar quasi-natural experiments in the Chinese context are lacking. Studies have implied that birth cohorts are closely related to entrepreneurial behavior (Cheng et al., 2021; Marquis & Qiao, 2020). By contrast, we considered natural disasters as a direction for selecting potentially plausible IVs (de Blasio et al., 2021).

During peacetime, the military assumed a role in maintaining social stability. In China, the military is an indispensable force in the fight against natural disasters (Chen, 2016).

Thus, natural disaster experiences and individual enlistment decisions may be related to the unique Chinese context. Specifically, the main IV was the childhood experience of flooding in China in 1998. Regarding correlation, individuals who experienced the floods during childhood were likely to have been rescued by the military during the disaster, which may have inspired them to join the military. As emphasized earlier, the Chinese floods of 1998 were one of the most widespread natural disasters in China, and Chinese soldiers sacrificed their lives to save people's lives and property. Military heroes involved in flood relief have earned widespread respect and emulation, particularly among children. Childhood and adolescence represent critical stages for recognizing and understanding the world, preserving permanent memories, and forming character (Usher & Neisser, 1993). Consequently, individuals at these stages are more likely to join the military in adulthood to help disaster victims because of their role-modeling and recognition effects.

Under the assumption of exclusion, natural disasters occur naturally and randomly. The 1998 China Floods were a force majeure event for individuals. However, floods unexpectedly create exogenous shocks to children's decisions to join the military during adulthood. Nevertheless, as noted in the literature, one potential threat is the link between natural disasters and entrepreneurship (Boudreux et al., 2022; Dutta, 2017; Salvato et al., 2020), which may result in the IV being insufficiently exogenous. This concern was ruled out in two ways. First, some scholars have found that the entrepreneurial effects of natural disasters are short-term (e.g., 1–2 or 1–3 years) and do not exist in the long run (Boudreux et al., 2023; Oh & Oetzel, 2011). Additionally, some studies have argued that this effect relies on other external characteristics or conditions, such as foreign aid or the quality of governance (Boudreux et al., 2022, 2023). This implies that childhood experiences of natural disasters may not exert a lasting influence on entrepreneurial behaviors in adulthood. Thus, theoretically, these studies support our conclusions regarding the exogenous nature of IV.

Second, we attempt to eliminate the possibility that IV influences entrepreneurial behavior through other paths. As shown in column (1) of Supplemental Table A5 in the Appendix, the coefficient of IV *China Floods in 1998* is statistically insignificant, implying that this IV is likely to affect entrepreneurial behavior only through military service after adding baseline controls. Moreover, following Acemoglu et al. (2001) and Miguel et al. (2004), we excluded other potential paths for this IV to affect entrepreneurial behaviors and satisfy the exclusion restriction constraint. Considering that studies have shown that natural disasters may indirectly affect entrepreneurial behaviors through three main channels—human capital, physical capital, and risk preferences (Bernile et al., 2017; Boudreux et al., 2022; de Blasio et al., 2021), we further regressed IV on these variables based on the CLDS database. Columns (2) to (9) of Supplemental Table A5 reveal that the coefficients of IV remain non-significant, except for column (2). This suggests that, apart from education, the childhood experience of the Chinese floods in 1998 was also statistically uncorrelated with other variables related to human capital, physical capital, and risk appetite. As shown in Supplemental Table A2, education was adequately controlled for in this study. Based on theoretical and statistical evidence, we proved that this IV satisfies the exclusion restriction constraints. Thus, we are confident in the reliability of causal identification within the framework of IV estimations, as evident in the empirical results (Young, 2022).

Another potential threat is selectivity in reporting military service information. As shown in Supplemental Table A3, not all veterans reported their years of enlistment or retirement. Thus, we are concerned about whether an incentive exists for selective

disclosure. Therefore, self-reported military information may be influenced by the respondents' current occupation and income status, particularly their entrepreneurial behavior. This adverse selection process may have led to endogeneity. To address this potential threat, we empirically tested whether current entrepreneurial status and income affect self-reported military service information using a military subsample. As shown in Supplemental Table A6, none of the coefficients of the main variables are significant in either panel. These results ensured data quality and ruled out the special self-selection problem.

To clarify the causal relationship between military service and entrepreneurial behavior, we employ an endogenous bivariate probit model (EBPM) with the IV in the baseline results. This is because our primary explanatory and explained variables are dummies in the main specifications (Han & Vytlacil, 2017). Consequently, we generated the mixed-process recursive model shown below, which incorporates probits for both entrepreneurship and military service.

$$\text{Entrepreneurship}_{it}^* = \alpha_0 + \alpha_1 \text{Military}_{it} + \alpha_2 X_{it} + \lambda_p + \theta_t + \mu_{it} \quad (1)$$

$$\text{Entrepreneurship}_{it} = \begin{cases} 1 & \text{if } \text{Entrepreneurship}_{it}^* > 0; \\ 0 & \text{otherwise} \end{cases} \quad (2)$$

$$\text{Military}_{it}^* = \beta_0 + \beta_1 Z_{ip} + \beta_2 X_{it} + \lambda_p + \theta_t + \varepsilon_{it} \quad (3)$$

$$\text{Military}_{it} = \begin{cases} 1 & \text{if } \text{Military}_{it}^* > 0; \\ 0 & \text{otherwise} \end{cases} \quad (4)$$

where $\text{Entrepreneurship}_{it}^*$ is a latent variable representing whether respondent i engaged in entrepreneurship in survey year t , and whether respondent i in year t had military service experience, which is indicated by the dummy variable Military_{it} . We refer to this group of control variables as X_{it} . As mentioned, the inclusion of some exogenous pre-enlistment control variables helps reduce potential endogeneity. λ_p and θ_t denote the province and year fixed effects, respectively. Military_{it}^* is a latent variable that depicts the continuously changing inclination of person i to join the military. Childhood experience of the 1998 China flood is IV, as expressed by Z_{ip} in equation (3). μ_{it} and ε_{it} are the random disturbance terms.

Results

Effect of Military Service on Entrepreneurial Behaviors

Using a male sample from the CLDS, we examined the effect of military service on entrepreneurial behavior in China. Table 1 presents the baseline results of this study. In columns (1) and (2), the results obtained using the linear probability model (LPM) and probit methods show a positive association between military service and entrepreneurial behaviors. Although these results are consistent with our theoretical expectations, the potential endogeneity issues cannot be ignored.

The last two columns in Table 1 report the results of EBPM with an IV. In column (3), the first-stage results show that our IV *China Floods in 1998* is positively correlated with military service at 1% significance level. This suggests that the correlation assumptions of the IV estimation are satisfied and that no weak IV problem exists (Hou et al., 2020). Additionally, the correlation coefficient $\rho_{\varepsilon\mu}$ is statistically significant, indicating selectivity

Table I. The Effect of Military Service on Entrepreneurial Behaviors.

Variables	(1)		(2)		(3)		(4)	
	LPM	Entrepreneurship	Probit	Entrepreneurship	Military (probit)	IV (EBPM estimates)	Entrepreneurship (probit)	
Military	0.0467*** (0.0147)		0.0464*** (0.0128)					
China Floods in 1998					0.0298*** (0.0096)			
Age	-0.0026*** (0.0003)		-0.0027*** (0.0003)		0.0019*** (0.0003)		-0.0030*** (0.0003)	
Schooling	0.0615*** (0.0100)		0.0096*** (0.0190)		0.0510*** (0.0136)		0.094*** (0.0192)	
Hukou at birth	0.0440*** (0.0121)		0.0381*** (0.0115)		-0.0203*** (0.0077)		0.0414*** (0.0114)	
Education of father	0.0163* (0.0086)		0.0199** (0.0092)		0.0054 (0.0059)		0.0181** (0.0091)	
Education of mother	-0.0054 (0.0087)		-0.0057 (0.0086)		0.0025 (0.0055)		-0.0060 (0.0085)	
Father farming	-0.0078 (0.0100)		-0.0070 (0.0092)		-0.0140** (0.0062)		-0.0042 (0.0091)	
Mother farming	-0.0120 (0.0113)		-0.0101 (0.0102)		-0.0004 (0.0070)		-0.0099 (0.0100)	
Father military	-0.0154 (0.0213)		-0.0105 (0.0216)		0.0293** (0.0115)		-0.0209 (0.0211)	
Mother military	-0.0004 (0.0630)		-0.0015 (0.0648)		0.0813*** (0.0301)		-0.0417 (0.0610)	
Parental divorce in childhood	0.0000 (0.0160)		0.0001 (0.0161)		-0.0034 (0.0106)		0.0010 (0.0158)	
Siblings	0.0037** (0.0018)		0.0044** (0.0019)		0.0020* (0.0012)		0.0041** (0.0018)	
ρ_{L1}					-0.5794* (0.2791)			
Year FE	Yes		Yes		Yes		Yes	
Province FE	Yes		Yes		Yes		Yes	
Observations	12,889		12,889		12,889		12,889	

Note. The last three columns report the marginal effects for probit regressions. Column (3) shows the first-stage results, and column (4) shows the second-stage results. The standard errors clustered at the individual level are shown in parentheses. LPM = linear probability model; IV = instrumental variable; EBPM = endogenous bivariate probit model; FE = fixed effect.

***, **, and * denote significance levels of 1%, 5%, and 10%, respectively.

Table 2. Military Service and Past Entrepreneurial Behaviors.

Variables	(1)	(2)	(3)
	LPM	Probit	IV (EBPM estimates)
Military	0.0524*** (0.0154)	0.0538*** (0.0138)	0.2455* (0.1264)
Baseline controls	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Province FE	Yes	Yes	Yes
Observations	12,889	12,889	12,889

Note. Columns (2) and (3) report the marginal effects for probit regressions. Column (3) shows the second-stage results. The standard errors clustered at the individual level are shown in parentheses. LPM = linear probability model; IV = instrumental variable; EBPM = endogenous bivariate probit model; FE = fixed effect.

***, **, and * denote significance levels of 1%, 5%, and 10%, respectively.

bias from unobserved factors affecting military service. Thus, adopting the EBPM is more appropriate. Column (4) reports the second-stage results. The coefficient of *Military* remains significantly positive, suggesting that military service increases the likelihood of entrepreneurship by 30.20 percentage points or increases entrepreneurship by 0.2036 standard deviations. Compared with studies exploring the factors influencing entrepreneurship in China (e.g., Cheng et al., 2021; N. Qin & Kong, 2021; F. Zhang et al., 2021; Zhao & Li, 2022), we believe that our baseline results are relatively compelling regarding both economic and statistical significance.

Moreover, the absolute values of the coefficient of *Military* in the IV estimates are greater than those in columns (1) and (2) of Table 1, and the intergroup differences are presented in Supplemental Table A3. One possible reason for this is the local average treatment effect specific to the IV approach (Angrist & Pischke, 2008; Zhao et al., 2022), which may cause an overestimation of the effect of military service on entrepreneurial behavior. However, the use of IV methods did not affect the causal inferences. Nevertheless, our baseline results imply that military service helps promote entrepreneurial behavior in China.

Military Service and Past Entrepreneurial Behaviors

As emphasized earlier, our baseline results focus only on current entrepreneurial behaviors and may ignore past entrepreneurial behaviors.⁸ For instance, there may be a temporal gap between military experience and entrepreneurship. Here, we replaced the core explained variable *Entrepreneurship* with *Past entrepreneurial behaviors*. We employed three methods—LPM, Probit, and IV estimates—to explore whether military service promotes past entrepreneurial behavior. As Table 2 shows, the estimated coefficients for *Military* are significantly positive in all columns,⁹ indicating that the entrepreneurial effects of military service are not affected by changes in how the explained variable is measured. Notably, these results suggest that military imprinting has a persistent effect on entrepreneurial behavior, further supporting our initial findings.

Table 3. Military Service, Human Capital, and Entrepreneurial Behaviors (IV Estimations).

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Self-rated health	Hurt	Chronic diseases	Mental health impairment	Professional certificate	Entrepreneurial training
Panel A. The effect of military service on human capital						
Military	0.3019*** (0.0636)	-0.1394 (0.3752)	-0.2092*** (0.0609)	-0.0345** (0.0153)	-0.1226 (0.1425)	0.0131* (0.0079)
Observations	12,884	12,881	7,398	12,882	14,884	14,887
Panel B. Mediation effects of human capital variables						
Military	0.2902** (0.1141)	0.3034*** (0.1129)	0.3862*** (0.1110)	0.2575** (0.1132)	0.3071*** (0.1128)	0.1793** (0.0887)
Human capital variables	0.0143*** (0.0035)	-0.0075 (0.0109)	-0.0257 (0.0173)	-0.0330*** (0.0077)	-0.0126 (0.0089)	0.0947*** (0.0090)
Observations	12,884	12,881	7,398	12,882	14,884	14,887

Note. In Panel A, the explained variables in columns (1) through (6) are, in order, the human capital variables shown in the header of Table 5. In Panel B, these variables, in turn, serve as mediation variables and are written as *Human capital variables* (the explained variable is *Entrepreneurship* in all columns). In columns (1) and (4), the endogenous treatment effects model (ETEM) is used in Panel A, as *self-rated health* and *mental health impairment* are regarded as continuous variables. In columns (2), (3), (5), and (6), the EBPM is employed in Panel A, which reports the marginal effects for second-stage results, as these four human capital variables are binary. The EBPM is employed in all columns in Panel B, reporting the marginal effects for second-stage results. The baseline control variables and year and province FEs are added in all regressions. The standard errors clustered at the individual level are shown in parentheses.

IV = instrumental variable; EBPM = endogenous bivariate probit model; FE = fixed effect.

***, **, and * denote significance levels of 1%, 5%, and 10%, respectively.

Robustness Checks

To illustrate the reliability of our baseline results, we conducted several robustness tests, including using alternative identifications, adding additional control variables, removing special observations, and subsample analysis by region prone to floods. In Supplemental Tables A7 to A11 in the Appendix, we find that most of the robustness test results support our baseline estimates, except for column (4) of Supplemental Table A10. This is primarily because the proportion of female veterans in China is small, which interferes with our statistical inferences after adding the female sample.

Mechanism Tests

To test our theoretical assumptions, we further examined the following mechanisms: human capital, social capital, political capital, and risk preferences. These mechanisms are consistent with the primary specifications and are based on a male sample.

Human Capital. According to Hypothesis 1, military service may influence two major aspects of human capital: physical and mental health and entrepreneurial skills. Based on the CLDS questionnaire and prior research (e.g., Johnston et al., 2016; L. Liu & Zhang, 2018), we constructed six variables to measure human capital. The four health variables were *self-rated health*, *hurt*, *chronic diseases*, and *mental health impairment*. Additionally,

two variables—*professional certificates* and *entrepreneurship training*—were used to measure the respondents' entrepreneurial skills.

As shown in Table 3, the results obtained using the IV method suggest that military service was significantly associated with self-rated health, chronic diseases, and mental health. In Panel A of column (1), the self-rated health scores increased by 0.3019 points. These results are consistent with those of previous studies highlighting the “healthy soldier effect” (MacLean & Elder, 2007; McLaughlin et al., 2008; Zhao et al., 2023). However, no significant correlation was observed for *Military* in column (2). This may be because the CLDS database provides information only on work-related injuries. The results in column (3) suggest that military service reduces the likelihood of chronic diseases, re-emphasizing the positive effects of military service on physical health. Additionally, the coefficient of *Military* in column (4) is significantly negative, indicating that veterans may have better mental health status in China. This estimate is similar to the findings of previous studies (Elbogen et al., 2013), indicating that military services contribute to enhancing mental health.

Regarding the effects of military service on entrepreneurial skills, we present the IV estimation results in columns (5) and (6) of Table 3. We discovered that although no association existed between military service and occupational credentials, individuals with military service experience were more likely to receive entrepreneurial training. Given the potential social disconnection during military service, local governments and troops often organize vocational and entrepreneurial training to assist veterans in better adapting to civilian society in China.

To rigorously test the mediating effects, we included these mediating variables in the baseline regression. Panel B of Table 3 presents the results obtained using EBPM. Our findings indicate that self-rated health contributed to entrepreneurship and that chronic diseases and mental health impairments were negatively associated with entrepreneurial behaviors. These findings are consistent with those of several previous studies exploring physical and mental health and entrepreneurial behaviors (e.g., L. Liu & Zhang, 2018; Zhao & Li, 2022). Notably, when compared with the baseline result in Table 1 (0.3020), the coefficient of *Military* decreases by 3.91% and 14.74% in columns (1) and (4), respectively. This indicates that the mediating effect of physical and mental health holds.¹⁰ Furthermore, the results in the last column provide evidence for the positive and significant impact of entrepreneurial training on entrepreneurship, consistent with existing literature (e.g., Cheng et al., 2021; Djankov et al., 2006; Marvel et al., 2016). With the inclusion of *Entrepreneurial training*, the coefficient of *Military* became 0.1793, a decrease of 40.62%. This finding strongly supports the conclusion that military service promotes entrepreneurship through training channels.

In summary, our results provide supportive evidence for Hypothesis 1 that military service is likely to increase the possibility of entrepreneurship because of improvements in human capital. Particularly, joining the military boosts men's mental health and increases the probability of receiving entrepreneurial training, which further explains the entrepreneurial effects of military service in China.

Social Capital. As discussed in Hypothesis 2, there may be two opposing intermediating mechanisms between military service and entrepreneurial behaviors: a relative disadvantage for veterans in civilian-related social capital and a relative advantage in military-related social capital. Based on the CLDS and previous studies (Estrin et al., 2013; F. Zhang et al., 2021), we selected two variables to measure respondents' civilian-related social capital: *local*

Table 4. Military Service, Social Capital, and Entrepreneurial Behaviors (IV Estimations).

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Civil-related social capital				Military-related social capital	
	Local friends with lending money	Entrepreneurship	Social interaction	Entrepreneurship	Introducing business from comrades-in-arms	Entrepreneurship
Military	-0.3017** (0.1527)	0.3005*** (0.1123)	-0.0027 (0.0055)	0.3020*** (0.1129)	0.0138*** (0.0027)	0.2560* (0.1378)
Social capital variables		0.0119* (0.0070)		0.00005 (0.0069)		0.1491** (0.0614)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12,889	12,889	12,889	12,889	12,889	12,889

Note. Except for column (3), the EBPM is used in other columns to report the marginal effects of second-stage results. The ETEM is used in column (3), as *Social interaction* is a continuous variable. The standard errors clustered at the individual level are shown in parentheses. IV = instrumental variable; FE = fixed effect; EBPM = endogenous bivariate probit model; ETEM = endogenous treatment effects model.

***, **, and * denote significance levels of 1%, 5%, and 10%, respectively.

friends with lending money and *social interactions*. Moreover, concerning military-related social capital, we constructed a proxy variable *Introducing business from comrades-in-arms*.

Table 4 presents the IV results for testing the social capital channel. In columns (1) and (3), we discovered that the coefficient on *Military* is negative and statistically significant in the former column. This aligns with our hypothesis that Chinese veterans may face challenges regarding civilian-related social capital. To further test this negative effect, we selected two other social capital variables related to entrepreneurship: *entrepreneurial opportunities from friends* and *start-up capital from relatives or friends*,¹¹ using the CLDS database. The results in Supplemental Table A12 further illustrate that military service weakens the accumulation of entrepreneurship-related civilian social capital.

Moreover, in column (2), the coefficient of *Military* decreases slightly to 0.3005 after the addition of the mediating variable, suggesting that although Chinese veterans have not accumulated sufficient civil society capital, it has a small mediating effect on entrepreneurship. The results in column (5) indicate that military service is significantly and positively related to introducing businesses from comrades-in-arms, offering preliminary evidence of the enhancement of military-related social capital through military service (Hou et al., 2020). Furthermore, as shown in column (6), the explanatory power of military-related social capital for veteran entrepreneurship in China is approximately 15.23% as the coefficient of *Military* shifts from 0.3020 to 0.2560. Therefore, our estimates provide suggestive evidence for Hypothesis 2, that higher entrepreneurial motivation among Chinese veterans may be influenced by military-related social capital.

Political Capital. Subsequently, we explored whether political capital promotes entrepreneurial behavior among Chinese veterans. Several variables were selected to measure political capital. First, from the perspective of political identity, the dummy variable *Party membership* was included (C. Zhang, 2015). Second, a binary variable—*Previous employment in*

Table 5. Military Service, Political Capital, and Entrepreneurial Behaviors (IV Estimations).

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Party membership	Entrepreneurship	Previous employment in government sectors	Entrepreneurship	Policy support	Entrepreneurship
Military	0.1684*** (0.0084)	0.3001*** (0.1138)	0.0288*** (0.0041)	0.2439*** (0.0057)	0.2298*** (0.0443)	0.2835** (0.1158)
Political capital variables		0.0017 (0.0101)		0.0337** (0.0145)		0.0694*** (0.0096)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12,889	12,889	12,889	12,889	12,889	12,889

Note. The EBPM is employed in all columns, reporting the marginal effects of second-stage results. The standard errors clustered at the individual level are shown in parentheses. IV = instrumental variable; FE = fixed effect; EBPM = endogenous bivariate probit model.

***, **, and * denote significance levels of 1%, 5%, and 10%, respectively.

government sectors, representing a strong political association for individuals (Burt & Opper, 2020)—was constructed. Third, regarding supportive policies for entrepreneurship, the continuous variable *Policy support* was included.

Table 5 shows the regression results for the political capital mechanisms. The IV estimations in column (1) suggest that military service is positively and significantly related to respondents' party membership, consistent with previous research in Chinese settings (Hou et al., 2020; C. Zhang, 2015). As column (3) shows, military service significantly increases the probability of employment in the government sector. Chinese veterans have advantages in public-sector hiring because of their preferential national treatment. Some veterans are placed directly in government sectors (Zhao et al., 2023); however, even if they do not meet job placement requirements, they are more likely to work in government sectors by relying on their military service's quasi-political credentials (Hou et al., 2020). Moreover, column (5) shows that military service enables individuals to utilize policy support for entrepreneurial behavior.

Consistent with the results of the previous mediating effect tests, we added each of these mediating variables to the baseline regression. The results from the IV method are reported in columns (2), (4), and (6) of Table 5. Party membership was not significantly associated with entrepreneurship, and the mediating effect was negligible. Party membership is a political identity that represents weak political capital and has little relevance to commercial behavior in China (Chen et al., 2012). Additionally, previous employment in the government sector and policy support were significantly related to entrepreneurship—which is consistent with previous research (Román et al., 2013)—with mediating effects of 19.24% and 6.13%, respectively. In summary, our estimates offer supportive evidence for Hypothesis 3, that military service contributes to entrepreneurship by enhancing political capital.

Risk Attitude. The last mechanism tested was risk appetite. Hypothesis 4 proposes that military service is likely to increase veterans' risk preferences, which in turn helps promote

Table 6. Military Service, Risk Preference, and Entrepreneurial Behaviors (IV Estimations).

Variables	(1)	(2)	(3)	(4)
	Commercial insurance	Entrepreneurship	Risky financial assets	Entrepreneurship
Military	-0.3684*** (0.0511)	0.2907** (0.1177)	0.1617*** (0.0365)	0.3008*** (0.1108)
Risk preference variables		-0.0238** (0.0095)		0.0284** (0.0141)
Baseline controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes
Observations	12,809	12,809	12,741	12,741

Note. The EBPM is employed in all columns, reporting the marginal effects of second-stage results. The standard errors clustered at the individual level are shown in parentheses. IV = instrumental variable; FE = fixed effect; EBPM = endogenous bivariate probit model.

***, **, and * denote significance levels of 1%, 5%, and 10%, respectively.

entrepreneurship. However, risk appetite is not appropriately measured in the CLDS database. Based on data availability, we select two risk-appetite-related proxy variables: *commercial insurance* and *risky financial assets*. Social, medical, and pension insurances are ubiquitous in China. Thus, respondents may be more risk-averse if they purchase commercial medical and pension insurance (Cutler et al., 2008). Moreover, purchasing risky financial assets entails the risk of losing money, indicating a greater risk preference (Wen et al., 2023; Zhao & Li, 2022).

Table 6 reports the results for risk preference using the IV method. The estimated coefficient on *Military* is significantly negative in column (1), while it is significantly positive in column (3). These results imply that Chinese veterans have a greater risk appetite, consistent with previous research (Guo et al., 2020; Malmendier et al., 2011; Wen et al., 2023). We also analyzed the mediating effect of risk appetite. Columns (2) and (4) show that commercial insurance is significantly negatively associated with entrepreneurship and that risky financial assets are positively associated with entrepreneurial behaviors. These results emphasize the positive role of risk appetite in entrepreneurial behaviors (de Blasio et al., 2021; Kihlstrom & Laffont, 1979; Moss et al., 2015; Vereshchagina & Hopenhayn, 2009). Furthermore, although the estimates imply that the mediating effect of risk preferences exists, this effect does not seem to be evident. Specifically, the coefficients on *Military* decrease by only 3.74% and 0.40%, respectively, suggesting that risk preference may not be the core channel for stimulating entrepreneurial enthusiasm among Chinese veterans.

In summary, individuals with military service tend to take risks and thus have a greater possibility of engaging in entrepreneurial behaviors than non-veterans. However, in the Chinese setting, our estimates also show that the risk-appetite characteristics of military service do not dominate entrepreneurial behavior.

Heterogeneity Effects

In Supplemental Table A13 of the Appendix, we explore the heterogeneous effects of military service on entrepreneurship in several ways. First, regarding the types of veterans, we found a

positive entrepreneurial effect of military service in the group of non-placement veterans and conscripts. As they are not directly placed in the public sector after discharge, they may prefer entrepreneurship over finding a job and becoming entrepreneurs (Hou et al., 2020). Second, regarding entrepreneurship types, military service is more conducive to stimulating employer-based and informal entrepreneurship in China. Third, from the perspectives of *hukou* and age, similar to previous literature (Card & Lemieux, 2001; C. Zhang, 2015), the entrepreneurial dividend of military service is more visible among rural and older age groups. Additional details are provided in Supplemental Appendix C.

Supplemental Analysis

Supplemental analyses were performed. First, we investigated whether exogenous shocks influence the entrepreneurial effects of military service in China. Specifically, we selected three exogenous events: the MIB policy, higher education expansion, and WTO accession. The results in Supplemental Tables A14 to A16 in the Appendix show that the MIB policy strengthens the positive entrepreneurial effect of military service, whereas the exogenous shocks of the higher education expansion policy and WTO accession weaken this effect. Second, regarding entrepreneurial performance, Supplemental Table A17 reveals that military entrepreneurs have a higher entrepreneurial income, entrepreneurial frequency, and propensity to engage in entrepreneurship in the future. Moreover, veterans are not forced to engage in entrepreneurial behavior in China. Finally, as prior research has found an income premium effect for Chinese veterans (Hou et al., 2020; C. Zhang, 2015), we sought to explain whether entrepreneurial behavior could account for this premium. In Supplemental Table A18, the IV estimates provided supporting evidence, suggesting that entrepreneurship is one way to improve the socioeconomic status of Chinese veterans. Further details on the supplemental analysis are provided in Supplemental Appendix D.

Conclusions

Main Findings

We explored the impact of military service on entrepreneurial behavior using a sample of men from the CLDS database. Considering the potential endogeneity issues arising from the self-selection and troop screening effects of military service in China, we selected childhood experiences of the 1998 China Floods as the IV to identify the causal effect. To safeguard the exogeneity of the IV, we rigorously tested the exclusion restrictions. Additionally, we excluded the problem of reverse self-selection of self-reported military-related information from the CLDS database.

Our primary findings are summarized as follows. First, our baseline results indicate that military service promotes entrepreneurial behaviors in China. Based on the IV estimates, we argue that military service increases the likelihood of engaging in entrepreneurship by 30.20 percentage points, equivalent to a 0.2036 standard deviation increase. The primary effect remained unchanged when the explained variable was replaced with past entrepreneurial behavior. Our baseline results were obtained through a series of robustness checks, including the use of alternative identifications and databases, the addition of additional control variables, and the exclusion of special observations. By employing an alternative to natural disasters, we discovered that military service contributes to entrepreneurial behavior.

Second, we explore the impact of military service on participation in entrepreneurship. Mechanistic analyses revealed that the positive entrepreneurial effect of military service could be explained by human and political capital accumulation, military-related social capital formation, and risk-averse attitudes. Enhanced mental health, entrepreneurial training, military-related social capital, and prior employment in the government sector predominantly account for this positive entrepreneurial effect, with the mediating effect of risk preference being negligible. Moreover, although male Chinese veterans have deficiencies in civilian-related social capital, this does not lead to entrepreneurial disadvantages.

Third, heterogeneity analyses revealed that non-placed, compulsory, rural-born, and older veterans exhibit higher motivation to pursue entrepreneurship in China. Moreover, military service helped promote employer-based entrepreneurship as well as formal and informal entrepreneurship. By contrast, the positive impact of military service on formal entrepreneurship is even more pronounced.

Finally, through analyses of exogenous shock effects, we found that the special MIB policy strengthened the positive entrepreneurial effect of military service, whereas the higher education expansion policy and WTO accession weakened this effect. Additionally, military entrepreneurs have better business performance and are more resilient and confident about re-entrepreneurship after a failure. This may explain the income premium effect among male veterans. Finally, we found no evidence that Chinese veterans are compelled to engage in entrepreneurship because of insufficient job opportunities.

Theoretical Implications

First, this study contributes to the theory of entrepreneurship and imprinting by linking prior military service experience with individuals' participation in entrepreneurship. Some studies have discussed the impact of the imprinting effect of past experiences on entrepreneurial behaviors, such as adverse childhood (Cheng et al., 2021; Zhao & Li, 2022), immigration (Démurger & Xu, 2011), and overseas experiences (F. Qin et al., 2017). Scholars have focused on how specific conditions and experiences shape an individual's personality as a predictor of the propensity for entrepreneurship. For example, Cheng et al. (2021) suggested that children experiencing adversity often develop self-reliance, resilience, resourcefulness, and risk-taking, which correlate to entrepreneurial tendencies. By exploring early life experiences within the military context, we indicated that the propensity for entrepreneurship is related not only to the human and political capital accumulated by veterans in military life but also to the excellent traits of risk appetite, perseverance, and self-confidence developed by military imprints. Our findings provide novel insights regarding the entrepreneurial effects of particular experiences and advance imprinting theory.

Second, we supplemented the literature on the economic behavior and welfare effects of military services. Our findings question prior research suggesting that military service leads to impaired welfare and life difficulties for Chinese veterans (e.g., Diamant, 2011; Diamant & O'Brien, 2015; H. Wang et al., 2023). Specifically, our findings suggest that, in China, the military is a lucrative status symbol that can offer various unique resources to veterans, such as political and military-related social capital (Wen et al., 2023; C. Zhang, 2015; Zhao et al., 2023). Based on entrepreneurial behaviors, we also provide a new explanation for the income premiums received by Chinese veterans. Moreover, considering the significant influence of informal institutions and social networks on entrepreneurial behaviors in developing countries (Audretsch et al., 2022), our research provides valuable insights into incentives for entrepreneurship in China and other developing countries.

Third, several management studies have focused on the impact of military executives on business operations. However, debates continue on the risk attitudes of military executives regarding whether they are aggressive (Guo et al., 2020; Malmendier et al., 2011; Wansink et al., 2008) or conservative (Bamber et al., 2010; Benmelech & Frydman, 2015). Using the IV method, we discovered that military service lays a solid foundation for entrepreneurship in China, supporting the idea that it makes individuals more aggressive and willing to take risks (Guo et al., 2020; Malmendier et al., 2011; Wen et al., 2023). Additionally, the behavior of veterans who re-enter business after failure shows that they may be more resilient and confident and have richer psychological capital. From a psychological perspective, an early military career can shape and reinforce several excellent traits such as risk-taking, hard work, a fearless spirit, and self-confidence (Gao et al., 2021; Xu et al., 2022), which further translate into entrepreneurial behaviors.

Practical Implications

We found that the positive effects of military service can be explained primarily by human and political capital accumulation and the formation of military-related social capital. Therefore, enhancing relevant policies and measures may encourage more veterans to become entrepreneurs. Feasible measures include strengthening entrepreneurship training, enhancing political literacy, and establishing more official veteran organizations to strengthen ties between comrades in arms.

We discovered that civilian-related social capital cannot explain the favorable effects of military service on entrepreneurship in China. Some veterans made important contributions to the country's independence and democratic revival; however, they lost their local social networks owing to military service. Moreover, unemployed veterans and regular conscripts are more likely to be entrepreneurs. Thus, more policy support should be provided to veterans to compensate for their social capital and encourage entrepreneurship. Specific support could be considered, such as providing more entrepreneurial information, more favorable interest rates on business loans, and tax breaks for veteran entrepreneurs.

Furthermore, this study revealed that only the special MIB policy reinforced the positive relationship between military service and entrepreneurial behavior, while both the higher education expansion policy and WTO accession weakened this positive effect. This finding implies that the entrepreneurial effect of joining the military in China may decrease with higher education and socioeconomic development. Hence, from an entrepreneurial perspective, the benefits of military service are relatively disadvantageous compared with those of higher education. Thus, additional support from the military, local governments, and society is necessary for entrepreneurship. For example, more soldiers should have access to military higher education institutions, and the curricula should be enhanced in terms of civilian-military integration, knowledge, and skills.

Limitations and Future Research

First, information on military service was limited to a database. We cannot distinguish between the type and place of service, as well as ascertain the type, rank, or mode of discharge (Hou et al., 2020; Z. Zhang et al., 2022). However, although this concerns the employment placement of veterans, we identified it from the perspective of length of service. Conducting a rigorous analysis of the differences in veterans' entrepreneurial behaviors may be challenging because employment placement policies vary across China.

Overall, our estimates are average treatment effects that cannot be extended to a specific type (e.g., volunteers) or service members from a specific military branch (e.g., artillery or armed police forces). Scholars could construct a more complete database through a special social survey of Chinese veterans to supplement and extend our findings.

Second, further studies on the underlying mechanisms are required. First, the measurement of certain mechanism variables should be optimized. For instance, a potential problem with the two proxy variables for risk attitude is that a particular group of veterans may enjoy additional social security measures (Zhao et al., 2023), which may decrease their incentives to purchase additional commercial insurance. Moreover, owing to database limitations, some mechanism variables, such as military-related social capital, were not adequately measured. Moreover, some channels, such as physical capital and liquid assets, were not fully reflected. As mentioned in section “Institutional Background” in Supplemental Appendix A, military personnel in China receive monetary compensation upon retirement depending on their performance, military rank, and length of service. Some veterans receive a one-time allowance. Military service may also contribute to the accumulation of physical capital (Angrist & Krueger, 1994; Maclean & Kleykamp, 2021). Physical capital is the foundational element of entrepreneurship. Thus, future research could design, administer, and survey more detailed information on key concepts to examine their roles in military entrepreneurial behavior.

Third, our IV may have limitations because flood regions are conditional and selective, and individuals may have different exposures to floods. Thus, the IV group was not randomized. We ruled out exclusion restriction constraints in multiple directions, and some major pathways were statistically represented as non-disturbing in our study design. However, we acknowledge that we cannot fundamentally and completely eliminate other channels through which childhood experiences of the 1998 China Floods influenced entrepreneurial behaviors in theory. Nonetheless, we believe that these channels are less disruptive. In addition, we should pay more attention to the validity of IV estimates under the high leverage regression and the statistical significance of excluded instruments (Young, 2022). Subsequent research could design a theoretically and statistically exogenous IV to identify the causal effects of military service on entrepreneurship.

Fourth, we used only a male sample, and some conclusions may not hold true for females. However, this does not imply that the entrepreneurial effects of military service do not apply to women. Theoretically, women and men do not differ in their accumulation of human, social, or political capital. Therefore, to a certain extent, our theoretical analysis had no gender preferences and applies to all veterans. As more surveys focusing on veterans (particularly female veterans) are being conducted, our theoretical assertions may be validated using female samples.

Finally, this study employed the traditional empirical method within the current ex-ante hypothesis framework rather than utilizing an abductive approach (King et al., 2021). As the general theory and evidence for both military service and entrepreneurial behavior are already well established, developing, and defining new hypotheses is challenging. Additionally, it is important to explain the variations in the dependent variable from multiple theoretical perspectives. Therefore, our hypotheses do not follow a single mechanism. Future studies involving similar topics may adopt a question-driven approach (Berry et al., 2021). For instance, an abductive approach can present a causal relationship and explain why a plausible relationship exists. Subsequent studies might attempt to use an inductive approach to explore the entrepreneurial effects of military imprinting.

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Supplemental Material

Supplemental material for this article is available online.

Notes

1. See Supplemental Appendix A for relevant institutional background on China's military service.
2. A summary of the China Floods in 1998 is also presented in Supplemental Appendix A.
3. We used the third and fourth waves of CLDS data in 2016 and 2018 because some key variables and information were missing in the first two waves, especially some core mediating variables in the mechanism tests.
4. Although other databases, such as China Family Panel Studies (CFPS), China Health and Retirement Longitudinal Study (CHARLS), China Household Finance Survey (CHFS), or Chinese General Social Survey (CGSS), provide information on military service, they do not include detailed or complete information on entrepreneurship.
5. In the raw data from the CLDS 2016 and 2018 waves, only 26 female observations had military service, representing 0.14% of the female sample and 0.07% of the full sample. Nevertheless, we would include female observations in the robustness tests (as shown in Supplemental Table A10 in the Appendix).
6. Note that it is difficult to tell whether educational experience precedes or follows military service. Realistically, some veterans have already completed their education when they joined the military and no longer receive regular education even after discharge (Hou et al., 2020). However, some members of the military may obtain higher education while serving, particularly by attending a military academy (Zhao et al., 2023). In China, attending military schools is one of the most important ways for soldiers to be promoted. Therefore, we included *Schooling* in the control variable set to ensure that the education-related variable is a pre-enlistment variable.
7. In China, the *hukou* is a public certificate book in which natural persons are registered and certified by households. The recorded information includes name, date of birth, kinship, and marital

- status. It is the basic legal document that determines the legal status of a natural person as a civil subject in China. In this study, *hukou* is classified as rural and non-rural *hukou*.
8. Past entrepreneurial behaviors were not considered within the main specification because we could not determine the specific past years of entrepreneurship of the respondents using the CLDS database. Therefore, using this explained variable in the baseline regressions may challenge our mechanism testing.
 9. The first stage of the EBPM is consistent with column (3) of Table 1 and is not shown in Table 2.
 10. The mediating variable *Chronic diseases* has a high number of missing values. We found a coefficient of 0.4111 ($p < .01$) for military service in the baseline results after excluding these missing values. Thus, even though the coefficient of *Chronic diseases* is insignificant in column (3) of Panel B, there could be a potential mediating effect as the coefficient of *Military* decreases.
 11. These two variables target entrepreneurs in the CLDS questionnaire, implying that they are fully covariant with the core explained variable *Entrepreneurship*. Therefore, they cannot be used as mediating variables. Here, we provided only indirect evidence.

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