THE TRANSMISSION OF SON PREFERENCE*

Yifan Zhang†

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Abstract

This paper studies how cultures diffuse across groups and persist over time. I exploit the quasi-random settlement of Chinese migrants in Taiwan following the Kuomintang Retreat and the Legalization of Abortion to identify the transmission of son preference. I measure variation in exposure to ancestor worship, which captures variation in migrants' son preference. Using the 1990 full-count Taiwan Census and various historical archives, I show that son preference diffuses from migrants to locals and persists within migrants through paternal lineage and migrant communities. Horizontal transmission accounts for a larger aggregate impact, whereas vertical transmission exhibits a stronger marginal effect. The results highlight the central role of social interactions, beyond families, in shaping cultural change.

Keywords: Cultural Transmission, Gender, Migration, Son Preference.
JEL codes: J13, J16, N35, Z10.

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†Kellogg Global Hub, 2211 N Campus Dr, Unit 4174, Evanston, IL 60208, United States. Email address: yifan.zhang2@kellogg.northwestern.edu.

1 Introduction

Around the world, cultures often favour or discriminate against certain groups, leading to ignorance, exclusion, and sometimes violence. Understanding how such preferences persist and are transmitted is crucial. Taking the perspective of cultural transmission, this study investigates how son preference diffuses and persists, a phenomenon that contributes to millions of missing women annually.

Cultural barriers can hinder the improvement of gender equality (Jayachandran, 2015), yet culture itself is shaped by geography, institutions, and many other socioeconomic factors. Identifying the transmission of gender norms would require taking a group of people from one society, randomly assigning them to another society, and examining their behavioral outcomes or those of their descendants, which is impossible to do in either field or lab experiments. This study aims to dissect son preference culture by exploring cultural transmission from complex social environments across social groups and across generations (Bisin and Verdier, 2023). By analyzing a unique mass migration in human history, the Kuomintang (KMT) Retreat to Taiwan, I isolate son preference culture from institutions and uncover three simultaneous channels of transmission: from migrants to locals, through paternal lineage, and within migrants' communities.

The KMT Retreat provides an ideal setting for three reasons. First, son preference varied widely among migrants from different mainland provinces. Second, before 1945, local Taiwanese communities within counties were largely shaped by similar colonial institutions and by migration from Fujian and Guangdong; I further show below that pre-retreat gender outcomes and local cultural measures do not predict migrant cultural exposure. Third, migrants were forced to leave China and were assigned to locations in Taiwan by the KMT, leaving little room for cultural self-selection or subsequent relocation. About one million people, roughly 15 percent of Taiwan's population in the early 1950s, were relocated. Although many migrant soldiers lived in camps, other migrants interacted with locals on a daily basis. Over time, the share of migrants declined as fertility was lower among migrants.[1]

To measure migrants' son preference, I use ancestor worship, a cultural practice in which only men perform rites to memorize their (paternal) ancestors. In this tradition, the absence of a son jeopardizes the afterlife of parents, motivating a preference for male offspring. [2] I digitized local festival records from 2,467 county gazetteers and construct the share of local

[1]Many scholars studied the impacts of KMT Retreat by looking at the oversupply of males of the first generation migrants on female bargaining power (Francis, 2011), entrepreneurship (Chang and Zhang, 2015), and female mortality (Chang, Kan and Zhang, 2024).

[2]There are some pieces of survey evidence that ancestor worship practices positively correlate with individuals' son preference in mainland China (Li and Lavely, 2003; Murphy, Tao and Lu, 2011; Hu and Tian, 2018).

festival days of ancestor worship out of the total days with festivals. This measure captures the regional variation of ancestor worship across mainland China. When migrants settled in Taiwan, they brought these beliefs and practices with them.

The random assignment of migrants in terms of culture is crucial for identifying the horizontal transmission of son preference. To show that the allocation of migrants across towns is unrelated to their culture or to local culture, I collect several historical variables from the 1920-1956 Taiwan censuses and other data sources. I find that both the fraction of males aged 0-10 in 1920 and local ancestor worship measured in 1926 are unrelated to the ancestor worship brought by Chinese migrants throught the KMT Retreat. I also document balance across towns with different ancestor worship (migrants) for other historical variables. These balance tests support the assumption that migrants' cultural traits were randomly assigned across towns.

The impact of culture and beliefs on real-world outcomes depends on the available means. During the mid-1980s, increasing demand for safe abortions led Taiwanese lawmakers to legalize abortion for women to induce an abortion up to the 24^{th} week of pregnancy. The 1985 Legalization of Abortion and ultrasound technology combined to create an efficient and legal method for parents to choose the sex of their children at birth. Hence, it is easy to expect that areas with stronger son preference will have a more male-biased sex ratio after 1985.

Next, I show the effect of ancestor worship (migrants) on missing women and test for horizontal transmission from migrants to locals. The empirical strategy is based on a demographic regularity: the sex ratio of the first two births is biologically normal but becomes abnormally male-biased at the third and higher birth orders (Lin and Luoh, 2008). I find that, after 1985, one standard deviation (s.d) increase in ancestor worship (migrants) raises the probability that local Taiwanese parents have a male child at the third and higher birth orders by 0.52 percentage points (p.p.). Prior to 1985, I do not see trends in this sex ratio, and the same exposure does not affect sex selection in the first two births or in a 1980-census mortality placebo. The effect is stronger for local parents who did not have a son in the first two births.

These results are robust to different empirical specifications, alternative measures of ancestor worship, and to controls for a large number of confounders and competing cultures. Child mortality does not appear to drive the estimates and ancestor worship (migrants) does not affect the sex ratio at the first two births. I also find that ancestor worship (migrants) shapes fertility: parents with no son among the first two births are 20 p.p. more likely to have a third birth, and this response is significantly amplified by ancestor worship (migrants).

To enrich the analysis and to shed light on mechanisms, I conduct heterogeneity analysis.

Motivated by theories of cultural transmission, I examine whether horizontal transmission varies with migrant presence and with locals' cultural proximity to mainland China. The estimates are nearly identical across towns with below- and above-median migrant shares. The clearest heterogeneity appears where locals are culturally closer to migrants, proxied by shorter distances to historical Confucian schools and higher foot-binding rates in 1920.

To explore the persistence of son preference, I mirror the epidemiological approach introduced by Fernández (2011) to identify vertical transmission within the migrant family (hereafter family heritage channel). The epidemiological approach compares second-generation migrants whose parents were born in different places in mainland China and thus experienced different levels of ancestor worship, but who now live in the same places in Taiwan and therefore face similar social and local institutional constraints when making decisions. I find that among second-generation migrant fathers, one s.d. increase in their ancestor worship is associated with a 5.55 p.p. increase in the probability of having a boy in the 3+ birth order after 1985, which is about eight times larger than the horizontal transmission from migrants to locals in raw standard-deviation units. In contrast, the effect of mothers' ancestor worship is relatively small and insignificant, suggesting that cultural transmission operates primarily through the paternal line.

I also investigate a novel horizontal transmission within migrant communities by testing the average ancestor worship of neighbors from different origins on the second-generation migrant parents' sex selection. The marginal effect of one s.d. change in neighbors' ancestor worship is 4.57 p.p., about 0.8 times the family heritage channel in raw standard-deviation units. The effect is stronger when the fraction of migrants from other origins is larger, which suggests that group size matters for cultural persistence.

These findings are related to three main bodies of literature. First, my study is in line with a sizable literature on missing women. Many studies have shown that with the spread of ultrasound technology, sex selection sharply increases at higher birth orders in Mainland China, India, Korea, and Taiwan (Arnold, Kishor and Roy, 2002; Chen, Li and Meng, 2013; Lin, Liu and Qian, 2014). Qian (2008) identifies the income effect of mothers in reducing missing girls and improving girls' educational attainment. Almond, Li and Zhang (2019) finds that, once parents earn more income, they are more likely to have a boy if they do not already have one, because they can afford diagnostic ultrasound. Abrevaya (2009) shows that son preference is persistent: China-born and India-born mothers are more likely to have boys at birth when they live in the U.S., a country without a son preference culture. Xue (2016) examines how the cotton revolution in ancient China generated more egalitarian beliefs about women's capabilities.

Second, by identifying the contemporary effect of ancestor worship, I contribute to a

broad literature on how historical legacies shape current comparative economic conditions (Acemoglu, Johnson and Robinson, 2005). Various studies show that historical shocks alter the economic conditions of women in subsequent generations. Grosjean and Khattar (2019) shows that the male-biased sex ratio in eighteenth-century Australia, due to the arrival of a large number of British male convicts, had adverse long-run consequences for female labor force participation and gender norms. Michalopoulos, Putterman and Weil (2019) shows that pre-modern agricultural participation in Africa still influences current individuals' beliefs and economic outcomes. Teso (2019) finds that the lack of male labor generated by the transatlantic slave trade induced higher female labor force participation today. Alesina, Giuliano and Nunn (2013) find that half of the impact of plough use in agricultural societies on contemporaneous attitudes to gender roles is due to the vertical transmission of culture from ancestors to descendants rather than other institutional changes. In addition, Michalopoulos and Xue (2021) launches a dataset of oral traditions for over 1,000 societies, which allows researchers to study the effects of historical legacies broadly. By constructing a series of cultural measures and adopting a systematic cultural transmission approach, I show that cultural distance, lineage, and community are key for the transmission of son preference. This identifies a crucial dimension for analyzing how individuals generate historical and cultural persistence.

This study also contributes to a series of growing literature that decomposes how cultures emerge and persist over time (Giuliano and Nunn, 2021). Relatedly, Shiue and Keller (2024) shows a large historical shock can permanently shift elite families' investment toward more portable skills, with the resulting change transmitted within families over time. Studies in horizontal transmission examine how people's behaviors and attitudes are triggered or diffused by culture from external or internal migrants (Clingingsmith, Khwaja and Kremer, 2009; Giuliano and Tabellini, 2020; Miho, Jarotschkin and Zhuravskaya, 2024). Many studies in vertical cultural transmission employ the epidemiological approach concluded by Fernández (2011). The persistence of fertility culture and female working culture is well documented (Blau, Kahn and Papps, 2011; Fernández and Fogli, 2006; Gay, 2023). Recently, Aneja, Farina and Xu (2025) shows that a wartime labor shock shifted gender norms through both inter-generational transmission and local diffusion. As migration is typically self-selected, estimates of cultural transmission are often confounded by endogenous sorting. The quasi-random settlement of nearly one million Chinese migrants during the KMT Retreat provides plausibly exogenous cultural exposure, enabling the first within-setting comparison of horizontal and vertical transmission.

The remainder of this paper is organized as follows. Section 2 briefly introduces the historical background of ancestor worship and migration in Taiwan after WWII. Section 3

describes the data used in the empirical analysis. Section 4 shows the quasi-random variation in ancestor worship (migrants) and transmission from migrants to locals. Section 5 discusses the family heritage channel and transmission within migrant communities. Section 6 presents evidence that ancestor worship (migrants) reshapes individuals' beliefs in Taiwan. Finally, Section 7 concludes.

2 Historical Background

Taiwan is shaped by waves of migration and complex interactions between indigenous practices and imported norms, especially those from mainland China and Japanese colonial rule. Two forces are central to this study: ancestor worship and the KMT Retreat.

2.1 Ancestor Worship

2.1.1 Ancestor Worship in Mainland China

China has a long history of son preference. Son preference can be traced back to the origins of ancestor worship in the third millennium B.C. Ancestor worship emphasizes both the influence of deceased relatives on the living and the influence of the living on the welfare of the deceased soul. The living who do not practice ancestor worship will suffer misfortune and lose family and friends. One's afterlife will be uncertain without male descendants, and s/he will end up as a hungry ghost. Males who share the same patrilineal ancestors and bear their family practice their ancestor worship together in festivals or major days of their family clan to "feed" their ancestors. The communal practices include offering sacrifices to the ancestors, burning joss paper, and sweeping ancestors' graves. When people care more about their ancestors, there is no doubt that they will have more ancestor worship practices.

The practice of ancestor worship is not only about venerating deceased relatives; it also requires family obligations, such as bearing sons to carry the family name and caring for elderly family members (Twitchett, Fairbank and Feuerwerker, 1978). Men generally carry family names to the next generation and are added to family genealogies. In ancient China, when women married, their names were replaced by their husbands' names. Men and their wives were mainly responsible for caring for elders in the men's families. Women played a limited role in caring for their own parents, but after marriage they cared for their husbands' parents. Daughters, therefore, were not only considered culturally inferior, they were also perceived by many families as a net economic and emotional loss.[3] Today, even

[3]The common saying is that "a married daughter is like water spilled on the ground" — one you cannot retrieve.

though women can keep their original family names when they marry and have a duty to support their own parents, their offspring still usually carry their husband's family name.[4] Ancestor worship still influences parents' gender selection mainly through the importance of patrilineal family continuation. Ancestor worship can therefore be seen as an important cultural feature of son preference.

After 1949, the founding of the People's Republic of China, ancestor worship was severely damaged in mainland China. Especially, during the Cultural Revolution, ancestor worship was regarded as an "Old Custom". The practice of ancestor worship was strictly forbidden and thousands of ancestral halls were destroyed during this period. After the Cultural Revolution, ancestor worship was gradually revived. Two of the traditional national festivals related to ancestor worship, Chinese New Year's Eve and Tomb Sweeping Festival, were designated as official festivals by the central government. Nowadays, the practices of ancestor worship still widely exist in mainland China; there are 182 million Chinese adults who embrace ancestor worship practices and beliefs (Yang and Hu, 2012).

2.1.2 Ancestor Worship and Confucianism

Many scholars suggest that ancestor worship in China is related to Confucianism (Baker, 1979; Yang, 1967; Zhuo, 2012). Therefore, it is not surprising that the many moral requirements in Confucianism are similar to those of ancestor worship. Although Confucius himself did not express his views on the subject of the afterlife, he did emphasize the importance of sacrificing ancestors "as if present" and maintaining patrilineal family continuity. Jia and Kung (2025) also discusses the relationship between Confucianism and gender inequality in China.

The Confucian scholars share similar attitudes towards patrilineal family continuity and ancestor worship. Mencius, a well-known Confucian philosopher, emphasized the importance of having sons, stating that "There are three things which are 'unfilial', and to have no posterity is the greatest of them". The term "posterity" is usually interpreted as sons, as they will be the primary labor force for families in the future and they can continue the patrilineal family line. Where "posterity" is interpreted similarly in ancestor worship.[5] Furthermore, the presence of son preference in Confucianism is evident in the three cardinal guides and

[4]According to the Chinese Names Report: 2020, only 1 out of 13 newborns in 2020 will carry their mothers' surname; others carry their fathers' surname. http://www.gov.cn/fuwu/2021-02/08/content_5585906.htm, last access: 20/09/2021.

[5]An analysis by Baker (1979) in discussing ancestor worship for the living: "The living individual knew that he had a continued existence after death only if he could ensure his own posterity. Hence, the desire for a 'hundred sons and a thousand grandsons' may be seen to be a very understandable one".

the three obediences for women.[6] It is important to note that these guides and obediences reflect the patriarchal nature of Confucianism. Ancestor worship, which was also influenced by Confucianism, underwent significant evolution as a result. It is clear that Confucianism had a significant impact on these cultural practices.

2.1.3 Ancestor Worship in Taiwan

Because most local Taiwanese traced their ancestry to Fujian and Guangdong in mainland China, ancestor worship was widely practiced in Taiwanese society.[7] Following the First Sino-Japanese War in 1895, Taiwan was colonized by Japan until 1945. During this period, the colonial government restricted the practice of ancestor worship in order to promote Shinto, the Japanese national religion. Ancestor worship was considered a "vulgar culture," and many ancestor tablets were burned in a series of cultural campaigns (Tsai, 1991). As a result of forced assimilation, Taiwanese people replaced ancestor tablets with *Jingu Taima* at home and participated in Shinto activities rather than ancestor worship practices.[8]

After World War II, forced assimilation ended with the departure of the Japanese colonizers. Migrants from mainland China revived ancestor worship among local Taiwanese and transmitted ancestor worship from many parts of mainland China, not only from Fujian and Guangdong. According to Yang and Hu (2012), 87.4% of adults in Taiwan are ancestor worshippers. Cultural transmission by migrants from mainland China after World War II may have played an important role in the re-emergence of ancestor worship in Taiwan.

2.2 Chinese Migrants in Taiwan

2.2.1 Three Major Waves of Migrants in Taiwan

There have been three major waves of migration to Taiwan since the 17$^{\text{th}}$ century. The first wave occurred under Qing rule (1683-1895). Many peasants from Fujian and Guangdong migrated to Taiwan to work in agriculture. Today, over 95% of local Taiwanese are descendants of first-wave migrants.[9] The second wave occurred under Japanese colonial rule (1895-1945). During this period, migration from mainland China was strictly restricted and controlled. Most migrants were from Japan and Korea, making up about 7% of the total

[6] The three cardinal guides are: ruler guides subject, father guides son, and husband guides wife. The three obediences for a woman: she is required to obey her father before marriage, her husband during married life, and her sons in widowhood.

[7] People who or whose ancestors lived in Taiwan before 1945 are classified as local Taiwanese.

[8] There are no precise historical statistics on the prevalence of ancestor worship or Shinto. According to the *Taiwan Governor-General's Archives*, in 1944, 71% of Taiwanese were able to speak Japanese, which suggests that forced assimilation was effective.

[9] The remaining 5% of local Taiwanese are indigenous peoples.

population. After World War II and the surrender of Japan, most Japanese and Koreans left Taiwan. The third wave was the 1945-54 KMT Retreat to Taiwan. The KMT brought over one million migrants from mainland China to Taiwan within 10 years. These migrants represented about 15% of Taiwan's total population and are the focus of this research.

2.2.2 The KMT Retreat

Immediately after the end of World War II, the KMT and the Chinese Communist Party (CCP) fought a civil war from 1945 to 1949. The former was defeated and retreated to Taiwan. Various studies have suggested that the number of civil war migrants to Taiwan is around one million, while the local population of Taiwan in the 1950s was only 6 million (Barclay, 1954; Jacoby, 1966; Lin, 2002). After 1954, the last retreat of the KMT army in Thailand and Myanmar, there was virtually no immigration to or emigration between the island and mainland China until the late 1980s.

After the migrants arrived on the island, they were assigned to places based on their occupations or the occupations of their relatives. Many migrants were soldiers, government administrators, or their relatives; their settlements were determined by the KMT. The distribution of migrants may have been guided by the KMT's goal of reforming both economic and political institutions. Military dependents' villages and their surrounding neighborhoods became important places for migrants to live. Although many migrants were free to choose their residences after their initial settlement, there was little movement. With the outbreak of the Korean War in 1950, many migrants believed they would soon return to China with the help of the American army, and paid limited attention to their long-term settlement in Taiwan (Lin, 2009).

2.2.3 Cultural Transmission between Locals and Migrants

In the 1950s, many local Taiwanese could not speak Mandarin Chinese, but they could speak some dialects of Fujian and Guangdong. Because of language barriers, first-generation migrants had more social interactions with other migrants than with local Taiwanese. Historical documents suggest the importance of linguistic and cultural similarity in the transmission of son preference. For second-generation migrants, however, there is no clear separation between them and their local cohorts, as both groups study and work together. This creates opportunities for the transmission of son preference between migrants and locals.

Consistent with the historical narrative, Figure I documents that migrants consistently exhibit a higher fraction of males among children aged 0-4 than locals. Over time, however, locals exhibit a rising male share among children aged 0-4, gradually converging toward

the migrant level after the KMT Retreat. This descriptive convergence is consistent with increased inter-group contact as language barriers weakened.

3 Data

3.1 Ancestor Worship in China

Ancestor worship practices are common in ancient China. To construct a proxy for ancestor worship prevalence, I digitized the local festivals from 2,467 county gazetteers which were published in the 1980s.[10] I treat the festival practices involving the contents of tombs and ancestors as ancestor worship practices. The construction of the ancestor worship density at the county level is as follows:

$$AW_Density_c = \frac{\#\ of\ days\ of\ ancestor\ worship\ practices}{total\ days\ of\ local\ festivals}$$

As shown in Figure II, $AW_Density$ exhibits substantial regional variation across mainland China, with higher prevalence in the South. While the historical determinants of ancestor worship are complex and not fully settled in the literature, scholars widely recognize that ancestor worship emphasizes lineage continuity through male descendants. Consistent with this interpretation, Figure A.1 validates $AW_Density$ as a proxy for son preference: it is positively correlated with the sex ratio at birth, number of genealogy and with survey-based measures of patrilineal and son-preferring norms.

3.2 Ancestor Worship in Taiwan

To construct the town-level ancestor worship introduced by Chinese migrants after 1945, I collected the geographic distribution of migrants' origins in each town from the 1956 Taiwan Census. There are 48 province-level origins in mainland China and 354 towns in Taiwan. Accordingly, I construct ancestor worship (migrants) as follows:

$$AW_Migrants_a = \frac{\sum_p (Migrant_{a,p} * AW_Density_p)}{Migrant_{a,p}}$$

[10] Many local festivals have the same name but the practices associated with them vary widely by region. For example, within Fujian Province, people in Fuqing County sacrifice deceased ancestors on the winter solstice, but people in Wuping County only make rice wine on the same festival.

where $Migrant_{a,p}$ is the number of migrants from province p in mainland China living in town a in Taiwan, and $AW_Density_p$ is the ancestor worship density of the province.[11] Figure III shows the geographic distribution of ancestor worship (migrants). There is no clear geographic pattern in the map.

Since over 95% of local Taiwanese are originally from mainland China, they might bring their ancestor worship and other pre-1945 cultures to Taiwan. I construct ancestor worship (locals) to represent the local ancestor worship. *Investigation of Han Ancestral Home in Taiwan*, a survey conducted by Ogawa Naoyoshi in 1926, documents the origins of local Taiwanese from 10 prefectures in China and their corresponding residents at the town level of Taiwan.[12] The construction process of ancestor worship (locals) is similar to the previous construction for ancestor worship (migrants).

Figure IV shows the geographic distribution of ancestor worship (locals), which is higher in the western of Taiwan, where local Taiwanese families with ancestral origins in Fujian and Guangdong were historically more concentrated. By contrast, central and eastern Taiwan are more mountainous and had fewer local Taiwanese communities with such ancestral origins; many residents in these areas were indigenous Taiwanese and therefore less connected to the ancestor worship traditions measured here.

I use this pre-1945 local measure as a validation exercise for the ancestor worship (locals). Figure A.5 shows a strong positive correlation between ancestor worship (locals) and the fraction of males aged 0–10 in 1920. Since both variables are measured before the KMT Retreat, this relationship is not driven by the post-1945 settlement of Chinese migrants. Instead, it shows that ancestor worship measure captures historical variation in son preference norms in Taiwan. This supports the interpretation of ancestor worship (migrants), the main treatment variable in the analysis, as a measure of the son preference brought by mainland Chinese migrants after 1945.

3.3 Taiwan Population Census

1980 and 1990 Censuses. The full-count microdata from the 1980 and 1990 censuses naturally avoid measurement bias due to stratification. The two samples include about 18 million and 20 million individuals, respectively. Figure A.2 shows the trend of the fraction of males by birthyear from the 1980 and 1990 censuses. The fraction of males is higher than the biological normal fraction of males at birth (51 p.p.) in 90% of the birth cohorts.

[11] I aggregate the original ancestor worship density from the county level to the province level in mainland China.

[12] The ten prefectures are Quanzhou, Zhangzhou, Tingzhou, Longyan, Fuzhou, Xinghua, and Yongchun in Fujian Province; and Chaozhou, Jiaying, and Huizhou in Guangdong Province.

This indicates a persistent male-biased sex ratio pattern in Taiwan.[13] Figure A.2 further motivates my focus on the cultural transmission of ancestor worship: since the fertility policy environment was stable in 1970-84 Taiwan, the gradual increase in the fraction of males by birthyear could be attributed to the gradual cultural transmission of ancestor worship. The sharp increase in the fraction of males after 1985 is consistent with the sharp increase in the share of abortions after 1985 plotted in Figure V.[14]

In the 1990 census, I match parents and children based on their family relationships and construct birth order based on the ages of children. Figure VI shows the trend of the fraction of males from the 1990 census. I compare this data pattern with Lin, Liu and Qian (2014), which uses Taiwan's National Birth Registries, as presented in Figure A.3. Both figures show that sex selection after the Legalization of Abortion is concentrated in the third and higher birth orders.

The 1990 census also provides rich information about individual identities, which helps identify different channels of cultural transmission. According to the Taiwan government, an individual is regarded as a *migrant* if two conditions are satisfied: (1) the individual's paternal family is originally from mainland China; and (2) the individual or the individual's paternal ancestor arrived in Taiwan after 1945. Otherwise, the individual is classified as *local* Taiwanese.[15]

1920 - 1956 Censuses. To construct explanatory variables and historical controls, I digitize the 1920, 1930, 1940, and 1956 Taiwan censuses. From 1920, 1930, and 1940 censuses, I extract information on ethnic distribution, the fraction of males, and population density. The 1956 census records the residence of migrants at the town level with their origin at the province level in mainland China. It also includes other migrant characteristics such as the migrant rate and the fraction of males among migrants.

3.4 Other Controls

In this section, I list the data sources for the set of covariates used in the empirical analysis. I control for factors that may be correlated with son preference.

Proxies for Confucianism. I constructed two historical variables, Confucian schol-

[13] Infanticide of female children was widespread in ancient China, including Taiwan (Chen, 1989; Lee et al., 1994). Taiwanese people apparently have not practiced infanticide since the twentieth century (Lee, 1981). However, parents may neglect their daughters or allocate more resources to sons given son preference, so the fraction of males could be higher than the biological normal.

[14] The share of abortions is constructed from the 1986 Knowledge, Attitudes, and Practice of Contraception (KAP), the only survey with abortion statistics at the individual-pregnancy level in the 1980s.

[15] For example, former Taiwanese leader Tsai Ing-wen is local Taiwanese, even though her paternal ancestor was from Mainland China, because her paternal ancestor arrived in Taiwan before 1945.

ars (*jinshi*) density and Confucian clan density, to capture the influence of Confucianism.[16] Information on Confucian scholars comes from the China Biographical Database Project created by Harvard University.[17] Confucian clan data come from the Comprehensive Catalogue of Chinese Genealogies collected by Yuhua Wang.[18] Historical population data are extracted from Ge (2000). Combining these data sources, I construct Confucian scholars density and Confucian clan density in ancient China.

Geographic Characteristics. I collected a broad set of geographic characteristics. I use these variables to test the exogeneity of ancestor worship (migrants) and as controls in regressions. Data on the soil suitability index of wheat, wet rice, maize, white potato, cotton, and tea are from FAO GAEZ (v4.0).[19] I also constructed the logarithmic distance to Taipei (the capital of Taiwan) and the logarithmic distance to the seashore based on the Taiwan administrative map.[20]

Family Characteristics. I include a number of family characteristics to control for the family heterogeneity in sex selection. The controls include the years of schooling of the parents, the age of parents at the birth of the child, and the birth order.

I report summary statistics of town-level characteristics in Table A.1 and individual characteristics from the 1990 census in Table A.2.

4 Cultural Transmission from Migrants to Locals

In this section, I first present the main specification of horizontal transmission from migrants to locals, discuss identification assumptions, and present estimation results.

4.1 Empirical Strategy

To examine the impact of ancestor worship (migrants) on the sex ratio, I implement a difference-in-differences empirical strategy on the sex of children aged 0-9 in the third and higher birth orders from the 1990 census:

$$\begin{aligned} Male_{ifat} =& \alpha + \beta AW_Migrants_a \times Post_t + \boldsymbol{\omega} \boldsymbol{X_a'} \times Post_t \\ &+ \boldsymbol{\phi} \boldsymbol{X_f'} \times Post_t + \lambda_a + \theta_t + \epsilon_{ifat} \end{aligned} \tag{1}$$

[16] *Jinshi* are people who passed national-level bureaucratic examinations. Most political elites in ancient China held the title of *jinshi*.

[17] link:https://projects.iq.harvard.edu/cbdb/home. Last access: 05/08/2022.

[18] link:https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/POOVF6. Last access: 05/08/2022.

[19] link:https://gaez.fao.org/. Last access: 23/01/2022.

[20] link:https://data.gov.tw/dataset/7441. Last access: 23/01/2022.

where $Male_{ifat}$ equals one if child i, born in year t to family f in town a, is male, and zero otherwise. $Post_t$ equals one if the child is born in or after 1985. $\boldsymbol{X}_{\boldsymbol{a}}^{\prime}$ is a matrix of town characteristics, including historical controls and geographic characteristics.[21] $\boldsymbol{X}_{\boldsymbol{f}}^{\prime}$ is a matrix of family characteristics, including parents' years of schooling, parents' ages at childbirth, and the child's birth order. λ_a and θ_t are town fixed effects and birthyear fixed effects, which capture unobserved town-specific variation and year shocks. Standard errors are clustered at the town level.

4.2 Identification Assumptions

The main identification assumption to establish the causal effects of ancestor worship (migrants) is that the destination choices of migrants with different cultures are not affected by local culture and gender norms. In other words, ancestor worship (migrants) should be orthogonal to all observed and unobserved determinants of local son preference. Both the historical narrative and the regression analysis presented below provide strong support for this assumption.

I address the identification challenge in three ways: (1) by presenting the trend of the fraction of males at birth before KMT Retreat by the three groups of towns with low, medium, and high levels of ancestor worship (migrants); (2) by regressing ancestor worship (migrants) on a number of cultural and demographic characteristics before KMT Retreat, as well as some migrant characteristics and geographic characteristics; (3) by reporting a balance test of the estimation of historical characteristics with ancestor worship (migrants).

In addition, I show that the number of people who migrated to Taiwan is strongly related to total population and population density of their home provinces in mainland China. The total population and population density of the home province jointly explain 68.9% of the variance in migrant population in Table A.4. However, it does not exihibt a strong correlation between migrant population and ancestor worship and any other historical controls in migrants' home provinces. This evidence supports the argument that migrants were not selected on their origin cultures, as most of them were forced to move to Taiwan under strict military and political orders.

[21] *Historical Controls:* All the variables listed in Table I, including fraction of males aged 0-10, (ln)distance to Confucian school, foot-binding rate, ancestor worship (locals), fraction of males of locals, population density, fraction of Japanese, fraction of migrants, and fraction of males of migrants. *Geographic characteristics:* the suitability index of cotton, maize, wet rice, white potato, wheat, and tea; (ln)distance to seashore, (ln)distance to Taipei.

4.2.1 Historical Narratives

The assignment of migrants to their destinations was designed by the KMT and guided by the goal of political control over Taiwan. For example, healthy and strong migrant men were assigned to military service or manual labor, and educated individuals were sent to teach Mandarin Chinese. Since Taiwan was under martial law from 1949 to 1987, both the occupations and destinations of migrants were strongly determined by the KMT authority. Historians also argue that, under KMT propaganda and at the beginning of the Korean War, migrants generally believed that KMT will retake the mainland China soon with the help of the U.S. army. As a result, many migrants initially paid little attention to where they settled in Taiwan, only to find themselves unable to return to mainland China for more than four decades.

Before 1945, local Taiwanese settlement patterns were largely shaped by earlier migration waves, Japanese colonial rule, and indigenous settlement. In 1940, about 5% of the population was Japanese, most of whom lived in urban or suburban areas in Taiwan's western plain.\footnote{Following Japan's defeat in World War II, most Japanese residents left Taiwan after 1945.} About 91% of the population traced their ancestry to Guangdong and Fujian in mainland China, and they were also concentrated in the western plain. The remaining population consisted mainly of indigenous groups living in the eastern mountainous areas. This pre-1945 settlement structure suggests that local demographic and cultural conditions were formed before the arrival of mainland migrants. The key concern is therefore whether migrants from different origins were systematically assigned to towns with different pre-existing demographic, economic, or cultural characteristics. The balance tests below directly examine this possibility.

4.2.2 Balance Tests

First, in Figure A.4, I show the relative trends of the fraction of males for local Taiwanese across three groups that experienced high, medium, and low ancestor worship (migrants). Towns with different levels of ancestor worship (migrants) have similar pre-KMT Retreat trends in the fraction of males. This suggests that ancestor worship (migrants) has little correlation with changes in local gender norms prior to the KMT Retreat.

To assess whether the allocation of migrant origins across destinations is correlated with pre-existing local son preference, I regress ancestor worship (migrants) on a set of historical cultural and demographic characteristics, as well as geographic characteristics, and report the estimates in Table I. In the first two columns, the pre-KMT Retreat measure of son preference, the fraction of males aged 0-10 in 1920, has no predictive power. After adding

observable historical and geographic characteristics in columns 3 to 6, no observable variable strongly predicts ancestor worship (migrants). Moreover, all controls together explain about 6.5% of the variance in ancestor worship (migrants).[22] Overall, the analysis supports the assumption that variation in ancestor worship (migrants) is largely orthogonal to pre-existing local characteristics, including those related to gender norms and son preference.

I next conduct a within-county balance test to further examine whether ancestor worship (migrants) is systematically correlated with pre-existing local characteristics. Figure VII shows the estimates for this exercise. The estimates suggest that, within-county, towns that happen to have higher ancestor worship (migrants) are generally not significantly different from towns that have lower ancestor worship (migrants). These results provide additional support for treating ancestor worship (migrants) as plausibly exogenous to pre-existing local son preference.

4.3 Baseline Results

I now examine the horizontal transmission from migrants to locals by looking at the sex selection of local parents who were both born after 1954, the end of the KMT Retreat.[23]

Table II presents the results from estimating Specification 1. The difference-in-differences specification allows the probability of having a son at each birth to follow different trends over time across towns with different historical and geographic characteristics. In column 1, I include town fixed effects and birthyear fixed effects to account for time-invariant differences across towns and common shocks across birth cohorts. In column 2, I add historical controls interacted with $Post_t$.allowing towns with different historical legacies, including more conservative gender norms, to experience different changes in sex selection after the Legalization of Abortion. In column 3, I further include geographic characteristics interacted with $Post_t$. Although migrant self-selection was limited, the KMT partly allocated migrants across towns to meet local social, geographic, and land reform needs in the 1950s. This specification therefore allows sex selection to evolve differently after Legalization of Abortion across towns with different local conditions. Finally, in column 4, I add the child's birth order, parents' ages at childbirth, and parents' years of schooling, interacted with $Post_t$. These interactions flexibly account for the possibility that sex selection behavior changed differently after Legalization of Abortion across families with different demographic and socioeconomic backgrounds.

[22] Noteably, the countt fixed itself explains over 4% of the variance in the ancestor wroship (migrants). All the listed observables together only explans around 2% of the variance.

[23] This restriction ensures that the parents in the sample were exposed from birth to the post-KMT Retreat migrant environment. It also reduces measurement error in the census, since older parents are more likely to have adult children who no longer live in the same household, making birth order and the sex composition of previous births less accurately observed.

The estimates of interest are stable across different specifications. The estimates in columns 1-4 show that one s.d. increase in ancestor worship (migrants), , equivalent to 0.018, increases the probability of having a male child by 0.52 p.p. This corresponds to approximately 270 missing girls per year. This accounts for about 5% of the missing girls after 1985.

A natural implication of son preference is that the effect should depend on the sex composition of previous births. As ancestor worship emphasizes the importance of having at least one son, parents without a son in the first two births should have stronger incentives to select for a son in subsequent births. Consistent with this mechanism, column 5 shows a larger and highly significant effect among births to parents who had no son in their first two births. In contrast, among parents who already had at least one son, the estimated effect is smaller but remains statistically significant, as shown in column 6. This heterogeneity by the sex composition of previous births suggests that parental incentives to have a son are an important channel through which ancestor worship (migrants) increases the probability of having a male child.

4.4 Robustness Check

In this section, I report estimates from a series of exercises that I perform to assess the robustness of the estimated results.

Parallel Trend Assumption. As discussed before, ancestor worship (migrants) correlates little with pre-KMT Retreat trends in sex ratio at birth. However, sex selection could have been affected by the family planning policies introduced in Taiwan in the 1950s and 1970s. The parallel trend assumption would be violated if these policies induced differential changes in sex selection across towns with different levels of ancestor worship (migrants). To examine this possibility, I reproduce the estimate in column 4 of Table II, allowing the effect of ancestor worship (migrants) to vary flexibly by children's birthyear. Figure VIII shows little pre-trend before the Legalization of Abortion. After 1984, the dynamic effects of ancestor worship (migrants) are positive and persistent across birthyears.

Selection in the First Two Births. Although prior studies argue that sex selection is largely absent at the first two birth orders, it remains important to verify that this pattern holds in this study. The robustness test in Figure A.6 shows no clear evidence of sex selection driven by ancestor worship (migrants) in the first two births. Estimated effects on the probability of having a male birth fluctuate around zero across birthyear, and all corresponding confidence intervals include zero. Descriptively, the graph suggests that first two births are not influenced by active prenatal sex selection.

Heterogeneous Child Mortality across Ages. Another important concern for the baseline results is that heterogeneous child mortality, rather than differential selection at birth, may drive the baseline effects. If boys and girls faced systematically different survival probabilities across cohorts, especially at young ages, observed sex ratios in later data could mechanically reflect mortality differences. While such a channel is theoretically possible, it would require large and cohort-specific sex differences in child survival. To assess this possibility, I exploit the 1980 census and re-estimate the event study for children born between 1971 and 1980. Figure A.7 shows no systematic differences in boys' survival across cohorts associated with exposure to ancestor worship (migrants), and all estimates are statistically indistinguishable from zero. These patterns suggest that selective child mortality is unlikely to explain the baseline results.

Alternative Specifications. I re-run the baseline specification with several alternative specifications and report them in Table A.5. In column 1, I cluster the standard errors at the county level with 21 clusters. The standard errors change little and the coefficient of interest remains statistically significant at the 1 percent level. In column 2, I cluster standard errors over two dimensions, as suggested in Cameron, Gelbach and Miller (2011): town and county-birthyear. Similar to column 1, the coefficient of interest remains statistically significant at the 1 percent level.

In column 3, I eliminate the heterogeneity in family culture by adding the parents' origin-birthyear fixed effects. The estimated coefficient of interest remains quantitatively unchanged and statistically significant at the 1 percent level. To validate that the interpretations of the empirical results are not sensitive to the choice of policy time, I change *Post* to 0 for the 1985 cohort and report the estimate in column 4. The estimate decreases by 0.06 units and the standard error increases somewhat, but the coefficient of interest remains statistically significant at the 1 percent level. In columns 5 and 6, estimates are robust to the choice of regression models. The estimates from Logit model and Probit model are both statistically significant at the 1 percent level. Besides, the marginal coefficients of Logit and Probit model evaluated at the mean of the covariates are similar to OLS coefficients in Table II.

Alternative Measures. A potential measurement issue comes from aggregating ancestor worship from the county level to the province level. In the main analysis, migrants' mainland origins are observed at the province level, so I construct ancestor worship (migrants) using the simple provincial average of county-level ancestor worship density. If migrants from a province were concentrated in particular counties, this aggregation could measure their cultural exposure with error. To address this concern, I first use county population from the 1953 China Population Census and county area to proxy the relative number of

potential migrants from each county within a province. I then construct province-level ancestor worship density with population and area weights and use these weighted measures to construct two alternative versions of ancestor worship (migrants). Another concern is that the denominator of ancestor worship density may matter if the total number of local festivals, other than ancestor worship, is correlated with local son preference. Therefore, I also use the number of ancestor worship festivals with and without weights as alternative measures of ancestor worship in mainland China.

Table A.6 shows the correlation of the original ancestor worship (migrants) measure with alternative measures of migrants' ancestor worship. The original measure is positively and significantly correlated with all alternative measures. Moreover, ancestor worship (migrants) is highly robust to alternative weights. The adjusted R-squared in columns 1 and 2 suggests that over 90% of the variance of ancestor worship is unchanged by the weighted methods. Although the adjusted R-squared drops in columns 3-5, the lowest adjusted R-squared is still 0.235 in column 5. Overall, the estimates collectively support the original ancestor worship (migrants) measure.

In Table A.7, I replace the original ancestor worship (migrants) measure with the alternative measures described above. For comparability across variables, I report standardized coefficients in square brackets. The estimates are consistent across columns 1-3 and columns 4-6. Compared with columns 4-6, the lower standardized coefficients in columns 1-3 suggest that the estimated effect of ancestor worship (migrants) is a lower bound of the ancestor worship culture in the analysis.

Table A.8 addresses a related form of measurement error in the same spirit. The baseline measure averages ancestor worship across all counties within a province, but the migrants who followed the KMT to Taiwan likely came disproportionately from KMT-controlled areas before the Civil War. If so, the province-level average may mix the relevant source counties with counties that contributed fewer retreat migrants. I therefore construct alternative ancestor worship measures separately from counties in KMT- and CCP-controlled areas on the eve of the Civil War. The KMT-based measure remains positive, close to the baseline magnitude, and statistically significant. In contrast, the CCP-based measure is small and statistically indistinguishable from zero. When both measures are included in the same specification, only ancestor worship from KMT-controlled areas predicts post-1985 male births. These results suggest that the baseline findings are not driven by attenuation or mismeasurement from county-to-province aggregation; the relevant cultural exposure is the ancestor worship carried by migrants from areas linked to the KMT retreat.

Contents of County Gazetteers. A potential concern is that the ancestor worship measure proxies for broader features of county gazetteers. In particular, it may capture

overall local cultural activity, rather than ancestor worship per se. Table A.9 addresses this concern by conducting a horse-race test: I replicate the baseline specification while replacing ancestor worship (migrants) with measures of other festival categories recorded in the same gazetteers (religious, marketplace, and agricultural festivals). These placebo measures do not predict son preference and do not replicate the baseline magnitude. When all festival measures are included jointly, the estimated effect of ancestor worship (migrants) remains large and statistically significant. The estimates suggest that the main results reflect norm-specific content rather than broader gazetteer characteristics.

Alternative Cultures. In addition to ancestor worship, other cultures may also be transmitted and affect Taiwanese son preference. If these cultures are correlated with ancestor worship, the previous estimates could be biased. To validate the effect of ancestor worship, I conduct a horse-race test with three types of alternative cultures: Confucian culture (clans and Confucian scholars), tea culture, and rice versus wheat culture. Table A.10 shows that some alternative cultures may affect sex selection, but they do not explain away the effect of ancestor worship (migrants).

4.5 Parents' Fertility Decisions

This section examines the relationship between the sex composition of the first two births and the decision to have a third birth. The sample is comprised of local parents who have at least two births. Overall, parents with fewer sons in the first two births are more likely to continue to a third birth, and ancestor worship (migrants) amplifies this relationship. In columns 1 and 2 of Table III, I estimate the effect of having no son in the first two births on having a third birth with and without town fixed effects and parents' birth-year fixed effects. Parents without any son in the first two births are about 20 p.p. more likely to have a third child than parents with two sons. The effect persists in column 3 after adding parents' years of schooling. Columns 1-3 also show that parents with only one son in the first two births are 5-6 p.p. more likely to continue fertility than parents with two sons. These two estimates jointly rule out the possibility that the fertility decision is driven by a general preference for mixed sibling-sex composition; instead, the pattern is consistent with son preference.

To empirically test the role of culturally transmitted son preference in fertility, in column 4, I interact the sex composition of the first two births with ancestor worship (migrants). After adding the interactions, the coefficient on having no son in the first two births falls from 0.20 to 0.07, while the interaction between no son and ancestor worship (migrants) is positive and statistically significant. The interaction between having one son and ancestor worship (migrants) is also positive and statistically significant. These estimates suggest

that ancestor worship (migrants) strengthens the extensive-margin fertility response among two-child parents, especially when the first two births leave stronger incentives to seek an additional son.

Columns 5 and 6 split the sample by whether the second child was born before or after 1985. This comparison asks whether the post-1985 policy environment itself sharply changed two-child parents' fertility behavior, or whether the third-birth decision remains primarily shaped by culturally transmitted son preference. The interactions between ancestor worship (migrants) and the sex composition of the first two births remain positive in both subsamples. Thus, both parents who reached the two-child margin before 1985 and parents who reached it after 1985 show culturally patterned continuation to a third birth. The policy environment does not appear to generate a strong independent behavioral change on this extensive fertility margin; rather, it made prenatal sex selection available in a setting where ancestor worship (migrants) already shaped fertility decisions.[24]

4.6 Mechanisms: Migrant Share and Cultural Distance

The behavior of locals can be affected by migrants' culture for several reasons. Bisin and Verdier (2011) emphasize that cultural transmission is expected to be stronger when the benefits of adopting a culture are high or the costs of adoption are low. The costs of adopting another culture are lower when there are more individuals with that culture nearby or when groups are culturally closer, both of which increase the possibility of contact and communication across groups. It is therefore reasonable to hypothesize that migrant share and cultural distance may affect cultural transmission.[25]

To assess the cultural distance between local society and Chinese migrants before the KMT Retreat, I employ two distinct cultural variables: distance to Confucian schools and the foot-binding rate in 1920. These two variables offer two advantages. First, they capture recognition and similarity. Many Confucian scholars espouse ancestor worship, and ancestor worship emphasizes the importance of sons. Foot binding has also been identified as a practice that harmed women, particularly through its role in fostering female beauty competition and marital prosperity (Fan and Wu, 2023). Second, Confucian schools and foot binding were prohibited throughout much of the period before 1945. Most Confucian schools were banned and replaced by Japanese schools after 1895. Since 1915, women had been prohibited from binding their feet except for elders.

[24] Chen et al. (2025) study female political leadership in Taiwan's local councils and also document related patterns in sex selection and fertility outcomes.

[25] Miho, Jarotschkin and Zhuravskaya (2024) highlights that the size of migrants relative to locals promotes horizontal cultural transmission. Spolaore and Wacziarg (2022) and Beach and Hanlon (2023) together show that cultural transmission is more effective in groups with closer cultural distance.

I estimate the heterogeneous effects of ancestor worship (migrants) by applying Specification 1 to different subsamples separated by town-level migrant share in 1956, distance to Confucian schools in 1895, and foot-binding rate in 1920. The results are shown in Table A.11. Each subsample contains 177 towns, split by the median fraction of migrants, median distance to Confucian schools, or median foot-binding rate. The estimates are nearly identical across low- and high-migrant-share towns in columns 1 and 2, suggesting that migrant share alone is not the main dimension of heterogeneity. The clearest heterogeneity appears along measures of cultural distance. The estimates are significant at the 1% level and larger in towns closer to Confucian schools or with higher foot-binding rates, as shown in columns 3 and 6. Conversely, the effects of ancestor worship (migrants) are smaller and insignificant at the 10% level in columns 4 and 5. The differences in the estimates between columns 3 and 4, and between columns 5 and 6 jointly suggest that horizontal transmission depends strongly on the cultural distance between migrants and local society.

4.7 Reverse Transmission: from Locals to Migrants

I also test whether the relationship runs in the opposite direction, from locals to migrants. Table A.12 replaces ancestor worship (migrants) with ancestor worship (locals) and estimates the same baseline specification on the sample of children whose parents are both migrants and born after 1954. Across all four specifications, the coefficients on ancestor worship (locals) interacted with the post-1985 indicator are small and statistically insignificant. The null result suggests that local ancestor worship did not measurably shape migrants' sex selection after the legalization of abortion. This asymmetry supports the interpretation that the main results capture cultural transmission from migrants to locals, rather than a general town-level tendency toward son preference.

5 Cultural Transmissions within Migrants

In this section, I identify cultural transmission within migrant groups. I focus on second-generation migrants and consider both vertical transmission within migrant families (family heritage channel) and horizontal transmission within migrant communities (community channel).

5.1 Epidemiological Approach

I use empirical strategies that mirror the epidemiological approach to cultural transmission proposed by Fernández (2011). Given that the relationship between inherited beliefs

and behaviors may be co-determined by institutional factors and the socioeconomic environment, this approach identifies cultural transmission through the behaviors of individuals with different places of origin but who grow up and live in the same environment and thus face similar constraints in their decision-making.

Ancestor worship is a cultural feature of son preference, which historically involved a dispreference for girls in Chinese society. This dispreference could interact with marriage-market institutions, such as bride price, and create systematically different incentives for parents in places with different levels of son preference. Because ancestor worship may be mixed with local marriage-market institutions, I use migrant variation to identify the portable component of son preference. Specifically, I exploit variation in sex selection among migrant parents who make decisions under similar local conditions but whose places of origin differ, and whose migrant neighbors differ in their exposure to ancestor worship.

5.2 Family Heritage Channel

In the 1990 census, an individual's origin is recorded through the patrilineal line. Thus, the family heritage of ancestor worship identified by the epidemiological approach originates from the paternal line. I first explore the role of fathers' origins by looking at second-generation migrant fathers. The empirical specification is as follows:

$$\begin{aligned} Male_{i,j,a,t} =& \beta AW_Density_j \times Post_t + \boldsymbol{\omega_1} \boldsymbol{X_j'} \times Post_t \\ &+ \boldsymbol{\omega_2} \boldsymbol{X_f'} \times Post_t + \sigma_j + \lambda_{k,t} + \delta_{a,t} + \epsilon_{i,j,a,t} \end{aligned} \tag{2}$$

where $AW_Density$ is ancestor worship in father j's mainland origin. $\boldsymbol{X_j'}$ contains historical controls from the father's origin: Confucian scholar density, Confucian clan density, and the suitability index of tea, wet rice, and wheat. $\boldsymbol{X_f'}$ is a matrix of family controls containing parents' years of schooling, parents' ages at the birth of the child, birth order, and whether parents are from the same origin. σ_j and $\lambda_{k,t}$ are fathers' origin fixed effects and mothers' origin-birthyear fixed effects, which absorb unobserved effects from the fathers' origin and control for the potential channel of mothers' original culture. $\delta_{a,t}$ is town-birthyear fixed effects, which absorb time-varying shocks at the town level, including the impact of horizontal cultural transmission estimated in Section 4. Standard errors are two-way clustered at the fathers' origin level and resident town level.

In Table IV, I report the results for the family heritage channel of fathers. In columns 1-3, the sample is the children of second-generation fathers. The coefficient of interest in column 3 is 1.79 and is statistically significant at the 5 percent level. It implies that migrant fathers with one s.d. (0.031) higher ancestor worship will be 5.55 p.p. more likely to have

a boy when prenatal sex selection is available. The migrant fathers' family heritage channel is about eight times larger than the horizontal cultural transmission from migrants to locals in Section 4.

In column 4, I restrict the sample to children whose parents are both migrants. The resulting estimate is larger and statistically significant at the 5 percent level. Cultural assortative marriage may strengthen the family heritage channel. Given that fertility is jointly determined by parents, local mothers may weaken the transmission of son preference from migrant fathers, making the impact of fathers' origins less influential in the broader sample.

Next, I reproduce the above analysis with the mother's ancestor worship from her origin. The estimates in Table A.13 are negative, small in magnitude, and not significant at the 10 percent level. The family heritage channel has no clear effect through second-generation migrant mothers. This contrast between fathers and mothers suggests that family-heritage transmission of ancestor worship operates primarily through the paternal line, the lineage that directly benefits from the unequal norm.

5.3 Community Channel

When the first-generation migrants moved to Taiwan, many settled in military dependents' villages composed of migrants from different places. Living in these villages created opportunities for migrants to socialize and transmit cultures. Combining this feature of migrant communities with the theory raised by Panebianco and Verdier (2017), which emphasizes the importance of social networks in cultural transmission, I examine horizontal transmission within migrant networks (community channel).

I construct a variable indicating that migrants are influenced by their migrant neighbors from other origins within the migrant community. The variable is similar to the previous ancestor worship (migrants) but captures the variation at the individuals' origin-residential town level. The variable is constructed:

$$AW_Neighbors_{pi,a} = \frac{\sum_{a,p\neq pi}(Migrant_{a,p\neq pi} * AW_Density_{p\neq pi})}{Migrant_{a,p\neq pi}}$$

where the migrant from origin pi is influenced by the culture of other migrants from other origins $p \neq pi$ within the migrant community of town a in Taiwan.

The estimation function is similar to Specification 2. To estimate horizontal cultural transmission within the migrant community, I pool migrant fathers of different origins in the same town:

$$Male_{i,j,a,t} = \alpha + \beta AW_Neighbors_{j,pi,a} \times Post_t + \boldsymbol{\omega_2 X_f'} \times Post_y + \phi_{f,t} + \delta_{a,t} + \epsilon_{i,j,a,t} \quad (3)$$

where $\phi_{f,t}$ absorbs parents' origin-birthyear fixed effects, so the family heritage channel of ancestor worship is absorbed. Standard errors are three-way clustered by fathers' origin, mothers' origin, and resident town. β is identified from variation in sex selection among migrant fathers from the same origin but surrounded by migrant neighbors from different origins. I also show that the effect of β is mainly driven by the relative size of the migrant community, proxied by the fraction of migrants from other origins.

I identify the community channel with the sample in which both parents are migrants and fathers are second-generation migrants. The estimates in columns 1 and 2 of Table V imply that migrant fathers living in migrant communities surrounded by neighbors with one s.d. (0.006) higher ancestor worship will be 4.57 p.p. more likely to have a boy when prenatal sex selection is available. This is about 0.8 times the family heritage channel in raw standard-deviation units. After rescaling the coefficient to account for the group size of migrants with different origins, the magnitude is about 8.8 percent of the coefficient in column 4 of Table IV.[26] The estimate in column 3 suggests that the effect of the community channel is driven by the possibility of interacting with migrants from other origins. In other words, one p.p. increase in the fraction of migrants from other origins generates about a 4.1 percent increase in the effect of the community channel.

I reproduce the above analysis for mothers. The estimates in Table A.14 are smaller in magnitude and not significant at the 10 percent level. The community channel for mothers is imprecise. Similar to the family heritage channel above, horizontal transmission within the community is insignificant for mothers. One interpretation is that ancestor worship requires sons to worship paternal-line ancestors, so mothers are excluded from this lineage after one generation. Another is that women may have little incentive to accept and transmit a patrilineal culture that disadvantages them.

5.4 Comparisons across transmission channels

In order to evaluate the findings of this study on male-biased sex selection and contextualize their magnitudes and impacts, I present the estimates from three distinct cultural transmission channels in Table VI. It is challenging to establish a common framework for comparing the estimated effects across cultural transmission channels, as the samples and sources of variation vary considerably. One potential approach is to compare the estimated effects with a change in one residual standard deviation to compute residual magnitudes.

[26] On average, the group size of migrants with different origins in a town is 36 times the group size of migrants with the same origin. Accordingly, when rescaling the community diffusion channel by the average relative size of migrant groups from different origins, the marginal effect of an increase in the population exposed to higher ancestor worship among migrants from different origins is $7.61/36 = 0.21$, which is about 8.8 percent of the increase in the same level of ancestor worship in the family heritage channel.

In other words, one should rely on the effective variation in the treatment variable used for identification once fixed effects are taken into account, and then multiply the raw estimates by these residual standard deviations and relevant sample sizes (Mummolo and Peterson, 2018).[27] To facilitate a more comprehensive comparison of the effects of horizontal and vertical transmission, I compare both estimated coefficients and estimated missing girls, while taking into account the varying group sizes across samples.

The initial focus is on the estimated result, which is based on local parents born after 1954. In comparison to the estimates identified by migrant fathers' origin and migrant fathers' origin-residential town, the magnitude of the estimate identified on local parents is lower. It appears that the transmission of ancestor worship brought by migrants is more likely to occur horizontally and vertically among migrants than from migrants to locals at the margin. When interpreting estimates with residual standard deviation, the estimate identified by the migrant father's origin has the highest marginal effect, which is consistent with findings in numerous studies indicating that vertical transmission is the most important channel in persisting culture. However, horizontal transmission from migrants to locals has the highest aggregate impact on missing girls because the local population is much larger. One residualized standard deviation increase in ancestor worship (migrants) will lead to 1,122 missing girls, or 3.8 percent of the total missing girls in 1985-90 Taiwan. The comparison between horizontal and vertical transmission indicates that cultural transmission within lineage is the most significant channel in persistence, whereas horizontal transmission is the most significant channel in diffusion. In total, one s.d. increase in the three cultural transmission channels will result in a joint increase of 1,403 missing girls, or 4.7 percent of the total missing girls in 1985-90 Taiwan.

6 Changes in Preferences toward Sons and Ancestors

To account for the above results on sex selection, I argue that Chinese migrants shaped attitudes toward sons and ancestors through family and social relationships. These changes translated into sex selection in subsequent generations. Since individuals form preferences early in life by learning and socializing with parents, peers, and neighbors (Bisin and Verdier, 2023), people who grew up with gender-biased parents or in environments with stronger son preference should form more conservative attitudes toward sons and ancestors. To explore this argument, I analyze the long-run implications of ancestor worship brought by Chinese migrants for attitudes toward sons and ancestors.

[27] Gay (2023) applies a similar method with computing standardized estimates to compare different channels of vertical transmission of female working culture.

6.1 Data and Empirical Strategy

The 1994 and 1999 Taiwan Social Change Surveys asked respondents to evaluate three statements related to attitudes toward sons and ancestors: (1) "To carry on the ancestral line, you should have at least one son"; (2) "You should bring honor to your family clan"; and (3) "After death, people should be memorized and worshiped by their descendants." Response options range from "not important at all" to "really important." I assign 0 to "not important at all" and 1 to "really important," and use 0.25-point increments for responses in between, so that higher values indicate more conservative attitudes toward sons and ancestors. To ensure that respondents had opportunities to interact with migrants early in life, I restrict the sample to people who were born after 1954. Summary statistics for attitudes toward sons and ancestors are shown in Table A.3. The male subsample has higher values for these attitudes than the full sample.

I test horizontal transmission by comparing respondents who live in towns with different levels of ancestor worship (migrants):

$$Y_{ia} = \alpha + \beta AW_Migrants_a + \boldsymbol{\omega} \boldsymbol{X}_{\boldsymbol{a}}^{\prime} + \boldsymbol{\delta} \boldsymbol{X}_{\boldsymbol{i}}^{\prime} + \theta_c + \sigma_t + \phi_s + \epsilon_{ia} \tag{4}$$

where Y_{ia} denotes the one-point scale value of interest for respondent i living in town a. $\boldsymbol{X}_{\boldsymbol{a}}^{\prime}$ is a set of historical controls and geographic characteristics assigned at the town level. I also include a set of individual controls, $\boldsymbol{X}_{\boldsymbol{i}}^{\prime}$: gender, number of children, marital status, and years of schooling. I include county fixed effects θ_c, birthyear fixed effects σ_t, and survey fixed effects ϕ_s. I cluster standard errors at the town level. β is identified from variation in attitudes among respondents of the same cohort who live in towns that experienced different levels of ancestor worship (migrants).

6.2 Results

I report results in Table VII. The coefficients for son preference, ancestor worship, and family honor are separately presented in Panels A, B, and C. With and without controls, the coefficients of interest are significant at the 1% or 5% level. Column 1 implies that respondents who live in towns that experienced one s.d. higher ancestor worship (migrants) hold more conservative attitudes toward son preference, ancestor worship, and family honor: the values of interest are 2.2 pp, 1.3 pp, and 0.8 pp higher, corresponding to 5.2%, 1.8%, and 1.3% of the mean. The fully controlled specification in column 4 remains statistically significant across all three outcomes. A one s.d. increase in ancestor worship (migrants) is associated with 2.3 pp higher son preference, 1.5 pp higher ancestor-worship attitudes,

and 2.0 pp higher family-honor attitudes. Thus, exposure to ancestor worship (migrants) translates into more conservative attitudes toward sons and ancestors.

7 Conclusion

Leveraging the unique historical setting of Taiwan, this paper provides the first empirical evidence on identifying and comparing both horizontal and vertical cultural transmission within the same context. Exploiting the quasi-random assignment of migrants during the KMT Retreat and the Legalization of Abortion as a policy shock, I identify the causal effect of ancestor worship on sex selection and son preference. The results demonstrate that cultural norms operate through multiple channels: horizontal transmission from migrants to locals, vertical transmission within the (paternal) lineage, and horizontal transmission within migrant communities.

One residualized s.d. increase in ancestor worship (migrants) explains 3.8 percent of missing girls through horizontal transmission to locals alone, highlighting that culture is one of the first-order determinants of son preference and gender inequality. Consistent with recent work emphasizing the role of cultural proximity in diffusion, I show that horizontal transmission is stronger when migrants and locals are culturally similar. At the same time, vertical transmission within families is substantially larger in marginal magnitude, in line with theoretical models and many empirical works predicting that inter-generational transmission is the most persistent channel for cultural reproduction. I further document a distinct mechanism of transmission within migrant communities and provide suggestive evidence that group size plays a critical role in sustaining and propagating cultural norms. Taken together, one s.d. increase across the three transmission channels implies 1,403 missing girls, or 4.7 percent of all missing girls in 1985-90 Taiwan.

These findings motivate several directions for future work. A first step is to pin down the micro-foundations of diffusion, how family-based transmission interacts with local social networks, schools, and marriage markets in shaping son preference. Second, the role of migrant group size suggests studying how demographic concentration and residential clustering affect the persistence of cultural traits and the speed of convergence across groups. Finally, applying the same empirical framework to other migration episodes or institutional changes would help assess external validity and clarify when cultural transmission amplifies, attenuates, or reshapes the effects of policy shocks.

KELLOGG SCHOOL OF MANAGEMENT, NORTHWESTERN UNIVERSITY, UNITED STATES

Appendix

The Appendix contains supplementary figures and tables and is presented at the end of the manuscript.

References

Abrevaya, Jason (2009) "Are there missing girls in the United States? Evidence from birth data," *American Economic Journal: Applied Economics*, 1 (2), 1–34.

Acemoglu, Daron, Simon Johnson, and James A Robinson (2005) "Institutions as a fundamental cause of long-run growth," *Handbook of Economic Growth*, 1, 385–472.

Alesina, Alberto, Paola Giuliano, and Nathan Nunn (2013) "On the origins of gender roles: Women and the plough," *The Quarterly Journal of Economics*, 128 (2), 469–530.

Almond, Douglas, Hongbin Li, and Shuang Zhang (2019) "Land reform and sex selection in China," *Journal of Political Economy*, 127 (2), 560–585.

Aneja, Abhay, Silvia Farina, and Guo Xu (2025) "Closing Gender Gaps Through Workplace Diversity: The Intergenerational Effects of World War I."

Arnold, Fred, Sunita Kishor, and Tarun K Roy (2002) "Sex-selective abortions in India," *Population and Development Review*, 28 (4), 759–785.

Baker, Hugh DR (1979) *Chinese family and kinship*, Columbia University Press.

Barclay, George Watson (1954) *Colonial development and population in Taiwan*, Vol. 2149: Princeton University Press.

Beach, Brian and W Walker Hanlon (2023) "Culture and the historical fertility transition," *The Review of Economic Studies*, 90 (4), 1669–1700.

Bisin, Alberto and Thierry Verdier (2011) "The economics of cultural transmission and socialization," in *Handbook of social economics*, Vol. 1, 339–416: Elsevier.

——— (2023) "Advances in the economic theory of cultural transmission," *Annual Review of Economics*, 15.

Blau, Francine D, Lawrence M Kahn, and Kerry L Papps (2011) "Gender, source country characteristics, and labor market assimilation among immigrants," *The Review of Economics and Statistics*, 93 (1), 43–58.

Cameron, A Colin, Jonah B Gelbach, and Douglas L Miller (2011) "Robust inference with multiway clustering," *Journal of Business & Economic Statistics*, 29 (2), 238–249.

Chang, Simon, Kamhon Kan, and Xiaobo Zhang (2024) "Too many men, too-short lives: The effect of the male-biased sex ratio on mortality," *Journal of Human Resources*, 59 (2), 604–626.

Chang, Simon and Xiaobo Zhang (2015) "Mating competition and entrepreneurship," *Journal of Economic Behavior & Organization*, 116, 292–309.

Chen, Guangsheng (1989) "Songdai shengzi buyu fengsu de shengxing jiqi yuanyi," *The reasons for the rise of infanticide during the Song), Zhongguo shi yanjiu (Research in Chinese history)*, 1, 138–143.

Chen, Yen-Chien, Elliott Fan, Yu-Hsin Ho, Matthew Yi-Hsiu Lee, and Jin-Tan Liu (2025) "The impact of female political leadership on gender attitudes: Evidence from Taiwan's local councils," *Journal of Development Economics*, 174, 103451.

Chen, Yuyu, Hongbin Li, and Lingsheng Meng (2013) "Prenatal sex selection and missing girls in China: Evidence from the diffusion of diagnostic ultrasound," *Journal of Human Resources*, 48 (1), 36–70.

Clingingsmith, David, Asim Ijaz Khwaja, and Michael Kremer (2009) "Estimating the impact of the Hajj: religion and tolerance in Islam's global gathering," *The Quarterly Journal of Economics*, 124 (3), 1133–1170.

Fan, Xinyu and Lingwei Wu (2023) "The Shaping Of A Gender Norm: Marriage, Labor, And Foot-Binding In Historical China," *International Economic Review*, 64 (4), 1819–1850.

Fernández, Raquel (2011) "Does culture matter?" *Handbook of Social Economics*, 1, 481–510.

Fernández, Raquel and Alessandra Fogli (2006) "Fertility: The role of culture and family experience," *Journal of the European Economic Association*, 4 (2-3), 552–561.

Francis, Andrew M (2011) "Sex ratios and the red dragon: using the Chinese Communist Revolution to explore the effect of the sex ratio on women and children in Taiwan," *Journal of Population Economics*, 24 (3), 813–837.

Gay, Victor (2023) "The intergenerational transmission of World War I on female labour," *The Economic Journal*, 133 (654), 2303–2333.

Ge, Jianxiong (2000) "Zhongguo renkoushi (China Population History)," *Shanghai: Fudan University Press.*

Giuliano, Paola and Nathan Nunn (2021) "Understanding cultural persistence and change," *The Review of Economic Studies*, 88 (4), 1541–1581.

Giuliano, Paola and Marco Tabellini (2020) "The Seeds of Ideology: Historical Immigration and Political Preferences in the United States," *NBER Working Papers* (w27238).

Grosjean, Pauline and Rose Khattar (2019) "It's raining men! Hallelujah? The long-run consequences of male-biased sex ratios," *The Review of Economic Studies*, 86 (2), 723–754.

Hu, Anning and Felicia F. Tian (2018) "Still under the ancestors' shadow? Ancestor worship and family formation in contemporary China," *Demographic Research*, 38, 1–36.

Jacoby, Neil H. (1966) "US Aid to Taiwan; A Study of Foreign Aid, Self-help, and Development."

Jayachandran, Seema (2015) "The Roots of Gender Inequality in Developing Countries," *Annu. Rev. Econ*, 7, 63–88.

Jia, Ruixue and James Kai-sing Kung (2025) "The Culture and Institutions of Confucianism."

Lee, Bernice J (1981) "Female infanticide in China," *Historical Reflections/Réflexions Historiques*, 163–177.

Lee, James, Wang Feng, and Cameron Campbell (1994) "Infant and child mortality among the Qing nobility: Implications for two types of positive check," *Population Studies*, 48 (3), 395–411.

Li, Jianghong and William Lavely (2003) "Village context, women's status, and son preference among rural Chinese women," *Rural Sociology*, 68 (1), 87–106.

Lin, Ming-Jen, Jin-Tan Liu, and Nancy Qian (2014) "More missing women, fewer dying girls: The impact of sex-selective abortion on sex at birth and relative female mortality in Taiwan," *Journal of the European Economic Association*, 12 (4), 899–926.

Lin, Ming-Jen and Ming-Ching Luoh (2008) "Can hepatitis B mothers account for the number of missing women? Evidence from three million newborns in Taiwan," *American Economic Review*, 98 (5), 2259–2273.

Lin, Sheng-Wei (2002) "The transition of demographic sexual structure in Taiwan: 1905–2000," *National Chengchi University Journal of Sociology*, 33 (2002), 91–131.

Lin, Tung-Fa (2009) *The 1949 Great Retreat of Kuomingtang*, Linking Publishing Company.

Michalopoulos, Stelios, Louis Putterman, and David N Weil (2019) "The influence of ancestral lifeways on individual economic outcomes in Sub-Saharan Africa," *Journal of the European Economic Association*, 17 (4), 1186–1231.

Michalopoulos, Stelios and Melanie Meng Xue (2021) "Folklore," *The Quarterly Journal of Economics*, 136 (4), 1993–2046.

Miho, Antonela, Alexandra Jarotschkin, and Ekaterina Zhuravskaya (2024) "Diffusion of gender norms: Evidence from Stalin's ethnic deportations," *Journal of the European Economic Association*, 22 (2), 475–527.

Mummolo, Jonathan and Erik Peterson (2018) "Improving the interpretation of fixed effects regression results," *Political Science Research and Methods*, 6 (4), 829–835.

Murphy, Rachel, Ran Tao, and Xi Lu (2011) "Son preference in rural China: Patrilineal families and socioeconomic change," *Population and Development Review*, 37 (4), 665–690.

Panebianco, Fabrizio and Thierry Verdier (2017) "Paternalism, homophily and cultural transmission in random networks," *Games and Economic Behavior*, 105, 155–176.

Qian, Nancy (2008) "Missing women and the price of tea in China: The effect of sex-specific earnings on sex imbalance," *The Quarterly Journal of Economics*, 123 (3), 1251–1285.

Shiue, Carol H and Wolfgang Keller (2024) "Elite Strategies for Big Shocks: The Case of the Fall of the Ming," technical report, National Bureau of Economic Research.

Spolaore, Enrico and Romain Wacziarg (2022) "Fertility and modernity," *The Economic Journal*, 132 (642), 796–833.

Teso, Edoardo (2019) "The long-term effect of demographic shocks on the evolution of gender roles: Evidence from the transatlantic slave trade," *Journal of the European Economic Association*, 17 (2), 497–534.

Tsai, Chin-Tang (1991) "The Taiwanese religious beliefs in the late of Japanese Colonization."

Twitchett, Denis Crispin, John King Fairbank, and Albert Feuerwerker (1978) *The Cambridge History of China*, Vol. 1991: Cambridge University Press Cambridge.

Xue, Melanie Meng (2016) "High-value work and the rise of women: The cotton revolution and gender equality in China," *Available at SSRN 2389218*.

Yang, Ching Kun (1967) *Religion in Chinese society: A study of contemporary social functions of religion and some of their historical factors*, Univ of California Press.

Yang, Fenggang and Anning Hu (2012) "Mapping Chinese folk religion in mainland China and Taiwan," *Journal for the Scientific Study of Religion*, 51 (3), 505–521.

Zhuo, Xinping (2012) "Spiritual Accomplishment in Confucianism and Spiritual Transcendence in Christianity," in *Confucianism and Spiritual Traditions in Modern China and Beyond*, 277–292: Brill.

Table I: Ancestor Worship (Migrants) and Historical Characteristics

Dependent variable	Ancestor worship (migrants)					
	(1)	(2)	(3)	(4)	(5)	(6)
Fraction of males aged 0-10 in 1920	-0.00	0.04	0.03	0.01	0.05	0.05
	(0.05)	(0.06)	(0.05)	(0.05)	(0.05)	(0.05)
(Ln)distance to Confucian school in 1895			-0.10	-0.07	-0.04	-0.06
			(0.08)	(0.07)	(0.06)	(0.06)
Foot-binding rate in 1920			0.04	0.03	-0.03	-0.02
			(0.06)	(0.07)	(0.06)	(0.06)
Ancestor worship (locals) in 1926				0.18	0.08	0.08
				(0.11)	(0.10)	(0.10)
Fraction of males of locals in 1940						-0.08
						(0.08)
Population density in 1940						0.03
						(0.03)
Fraction of Japanese in 1940						-0.05
						(0.06)
Fraction of migrants in 1956						0.06
						(0.07)
Fraction of males of migrants in 1956						0.06
						(0.07)
County FEs	No	Yes	Yes	Yes	Yes	Yes
Geographic characteristics	No	No	No	No	Yes	Yes
# of Towns	354	354	354	354	354	354
Adj. R^2	-0.003	0.043	0.043	0.062	0.064	0.065

Notes: This table reports standardized coefficients from regressing ancestor worship (migrants) on various demographic characteristics before 1945, migrant characteristics measured in 1956, and geographic characteristics. *Geographic characteristics:* the suitability index of cotton, maize, wet rice, white potato, wheat, and tea; (ln)distance to seashore, (ln)distance to Taipei. Robust standard errors are all clustered at the county level.

Table II: The Effect of Ancestor Worship (Migrants) on 3+ Birth Order Children's Sex

Dependent Variable	Male = 1					
Have boy(s) in 1^{st}&2^{nd} birth	All				No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)
Ancestor worship (migrants) X Post	0.29***	0.31***	0.28***	0.29***	0.40***	0.24**
	(0.10)	(0.08)	(0.08)	(0.08)	(0.12)	(0.11)
Birthyear FEs	Yes	Yes	Yes	Yes	Yes	Yes
Town FEs	Yes	Yes	Yes	Yes	Yes	Yes
Historical controls X Post	No	Yes	Yes	Yes	Yes	Yes
Geographic characteristics X Post	No	No	Yes	Yes	Yes	Yes
Family controls X Post	No	No	No	Yes	Yes	Yes
# of Towns	354	354	354	354	354	354
# of Observations	358,287	358,287	358,287	358,287	117,230	241,057
Outcome mean	0.527	0.527	0.527	0.527	0.537	0.523
Ancestor worship (migrants) s.d.	0.018	0.018	0.018	0.018	0.018	0.018

Notes: This table reports OLS coefficients from estimating Specification (1) on the sample of 3^{rd}+ birth order aged 0-9 children whose parents are both locals and born after 1954. The results from regressing male indicator on birthyear fixed effects, town fixed effects, and a set of historical controls, as well as a series of geographic characteristics and family controls. *Geographic characteristics:* the suitability index of cotton, maize, wet rice, white potato, wheat, and tea; (ln)distance to seashore, (ln)distance to Taipei. *Family controls:* birth order of the child, age of parents at child's birth, and years of schooling of parents. Standard errors are all clustered at the town level.

*** Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.

Table III: Children's Sex Composition and Fertility Decisions for Two-child Parents

Dependent variable	Third child = 1					
2^{nd} birth born after 1985	All				No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)
No son in 1^{st}&2^{nd} birth	0.21***	0.20***	0.20***	0.07*	0.13*	0.04
	(0.00)	(0.00)	(0.00)	(0.04)	(0.07)	(0.03)
One son in 1^{st}&2^{nd} birth	0.06***	0.06***	0.05***	-0.03	-0.08***	-0.02
	(0.00)	(0.00)	(0.00)	(0.03)	(0.03)	(0.03)
No son in 1^{st}&2^{nd} birth				0.43***	0.52**	0.36***
X Ancestor worship (migrants)				(0.14)	(0.24)	(0.11)
One son in 1^{st}&2^{nd} birth				0.29***	0.53***	0.19*
X Ancestor worship (migrants)				(0.10)	(0.09)	(0.11)
Town FEs	No	Yes	Yes	Yes	Yes	Yes
Parents' birthyear FEs	No	Yes	Yes	Yes	Yes	Yes
Parents' education	No	No	Yes	Yes	Yes	Yes
# of Towns	354	354	354	354	354	354
# of Observations	565,324	565,324	565,324	565,324	183,463	381,861
Outcome mean	0.383	0.383	0.383	0.383	0.638	0.260

Notes: This table reports OLS coefficients from regressing the indicator of whether parents had a third child on the indicators of having no son and one son in the 1^{st}&2^{nd} birth, their interactions with ancestor worship (migrants), and years of schooling of parents, with town and parents' birthyear fixed effects. Columns 5 and 6 split the sample by whether the second child was born after 1985. The sample is local parents who had at least two children and were both born after 1954. Standard errors are all clustered at the town level.
*** Significant at the 1 percent level. ** 5 percent level. * 10 percent level.

Table IV: The Effect of Migrant Father's Ancestor Worship on the Sex of 3+ Birth Order Children

Dependent variable	Male = 1			
	(1)	(2)	(3)	(4)
Ancestor worship (father) X Post	1.22*	1.71**	1.79**	2.40**
	(0.69)	(0.79)	(0.79)	(1.07)
Town-birthyear FEs	Yes	Yes	Yes	Yes
Father's origin FEs	Yes	Yes	Yes	Yes
Mother's origin-birthyear FEs	Yes	Yes	Yes	Yes
Origin controls (father) X Post	No	Yes	Yes	Yes
Family controls X Post	No	No	Yes	Yes
# of Father's origin	39	39	39	34
# of Towns	231	231	231	194
# of Observations	10,380	10,380	10,380	6,025
Outcome mean	0.532	0.532	0.532	0.530
Ancestor worship (father) s.d.	0.031	0.031	0.031	0.032

Notes: This table reports coefficients from estimating Specification (2) on the sample of 3^{rd}+ birth order aged 0-9 children whose father is a second-generation migrant in column 1-3. The sample is restricted to parents who are both migrants in column 4. The results from regressing male indicator on town-birthyear fixed effects, father's origin fixed effects, mother's origin-birthyear fixed effects, and origin controls (father) as well as a series of family controls. *Origin controls (father):* Imperial scholars density, Confucian clan density, and suitability index of wheat, wet rice, and tea of father's origin. *Family controls:* birth order of the child, age of parents at child's birth, and years of schooling of parents, as well as whether parents are from the same origin. Standard errors are all clustered at the town level and migrant father's origin level.
*** Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.

Table V: The Effect of Ancestor Worship of Migrant Neighbors from Other Origins than Father on the Sex of 3+ Birth Order Children

Dependent variable	Male = 1		
	(1)	(2)	(3)
Ancestor worship (neighbors, father) X Post	7.63**	7.61**	8.62**
	(3.63)	(3.69)	(3.57)
Ancestor worship (neighbors, father) X Post			35.41*
X Fraction of migrants from other origins			(18.96)
Town-birthyear FEs	Yes	Yes	Yes
Parents' origins-birthyear FEs	Yes	Yes	Yes
Family controls X Post	No	Yes	Yes
# of Father's origin	33	33	33
# of Towns	193	193	193
# of Observations	5,976	5,976	5,976
Outcome mean	0.529	0.529	0.529
Ancestor worship (neighbors, father) s.d.	0.006	0.006	0.006

Notes: This table reports coefficients from estimating Specification (3) on the sample of 3^{rd}+ birth order aged 0-9 children whose parents are both migrants and father is a second-generation migrant. The results from regressing male indicator on town-birthyear fixed effects, parents' origins-birthyear fixed effects, and a series of family controls. *Family controls:* birth order of the child, age of parents at child's birth, and years of schooling of parents, as well as whether parents are from the same origin. Standard errors are three-way clustered at the town level, migrant father's origin level, and migrant mother's origin level.
*** Significant at the 1 percent level. ** Significant at the 5 percent level.
* Significant at the 10 percent level.

Table VI: Estimates' Magnitudes and Estimated Impacts

		Ancestor worship ↑ one s.d.			
Analysis	Source of variation	Raw s.d.	Residual s.d.	Missing girls	Reference
Local parents	town-cohort	0.52 p.p.	0.43 p.p.	1122	Column 4, Table II
Migrant fathers	father's origin-cohort	5.55 p.p.	2.60 p.p.	217	Column 3, Table IV
Migrant communities	father's origin-town-cohort	4.57 p.p.	1.37 p.p.	64	Column 2, Table V

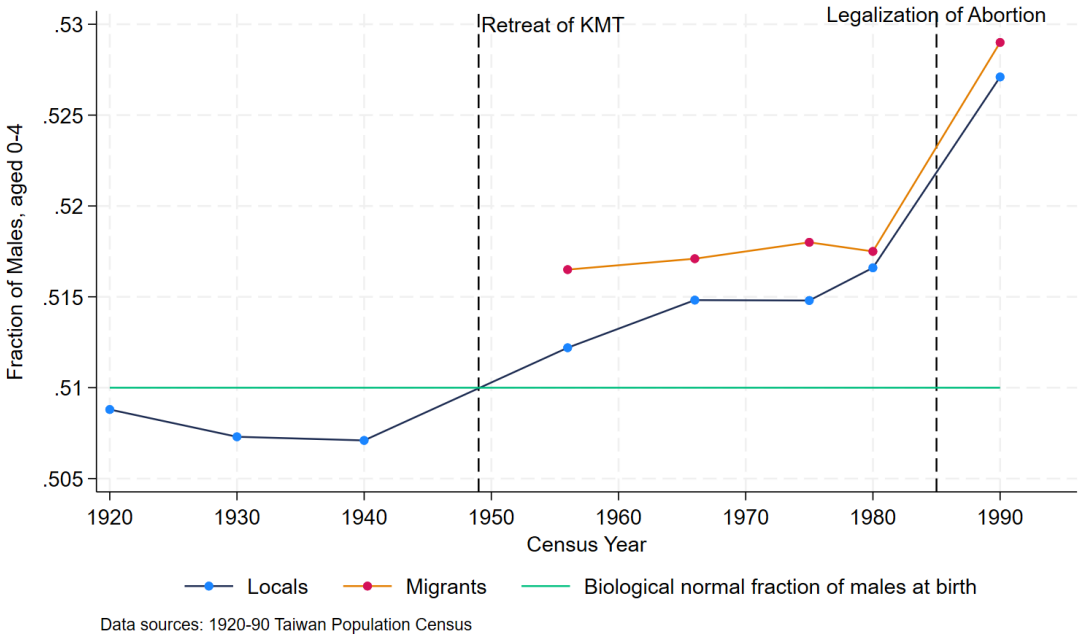
Notes: This table reports the main estimates in this research. *Raw s.d.* is the sample standard deviation of the independent variable. *Residual s.d.* is the residualised standard deviation of the independent variable with respect to specification-specific fixed effects and control variables. *Missing girls* is the estimated number of missing girls by one residual s.d. of the independent variables X size of birth in 1985-1990 of the corresponding sample.

Table VII: The Effect of Ancestor Worship (Migrants) on Preferences on Son and Ancestor

	(1)	(2)	(3)	(4)
Panel A: *Son Preference*				
Dependent variable	The importance of having at least one son			
Ancestor worship (migrants)	1.51***	1.19***	1.17***	1.54**
	(0.55)	(0.36)	(0.34)	(0.59)
# of Towns	73	73	73	73
# of Observations	2,263	2,263	2,263	2,263
Panel B: *Ancestor Worship*				
Dependent variable	The importance of being memorized and worshiping after death			
Ancestor worship (migrants)	0.84***	1.13***	1.13***	1.01**
	(0.29)	(0.35)	(0.34)	(0.43)
# of Towns	78	78	78	78
# of Observations	2,315	2,315	2,315	2,315
Panel C: *Family Honor*				
Dependent variable	The importance of bringing honor to your family clan			
Ancestor worship (migrants)	0.51**	0.59**	0.65**	1.33**
	(0.19)	(0.29)	(0.28)	(0.64)
# of Towns	73	73	73	73
# of Observations	2,263	2,263	2,263	2,263
County FEs	No	Yes	Yes	Yes
Birthyear FEs	No	Yes	Yes	Yes
Survey FEs	No	Yes	Yes	Yes
Individual controls	No	No	Yes	Yes
Historical controls	No	No	No	Yes
Geographic characteristics	No	No	No	Yes
Ancestor worship (migrants) s.d.	0.015	0.015	0.015	0.015

Notes: This table reports OLS coefficients from estimating Specification (4) on the sample of respondents born after 1954 in the Taiwan Social Change Survey (1994 & 1999). The results from regressing attitudes of interest on county fixed effects, birthyear fixed effects, survey fixed effects, and a set of historical controls, as well as a series of geographic characteristics and indivudal controls. *Geographic characteristics:* the suitability index of cotton, maize, wet rice, white potato, wheat, and tea; (ln)distance to seashore, (ln)distance to Taipei. *Individual controls:* gender, marriage, number of children, years of schooling. Due to the missing information of survey sample, the number of children and years of schooling are neither controlled in Panel B.
*** Significant at the 1 percent level. ** Significant at the 5 percent level.

Figure I: Trends of Fraction of Males, aged 0-4



Data sources: 1920-90 Taiwan Population Census

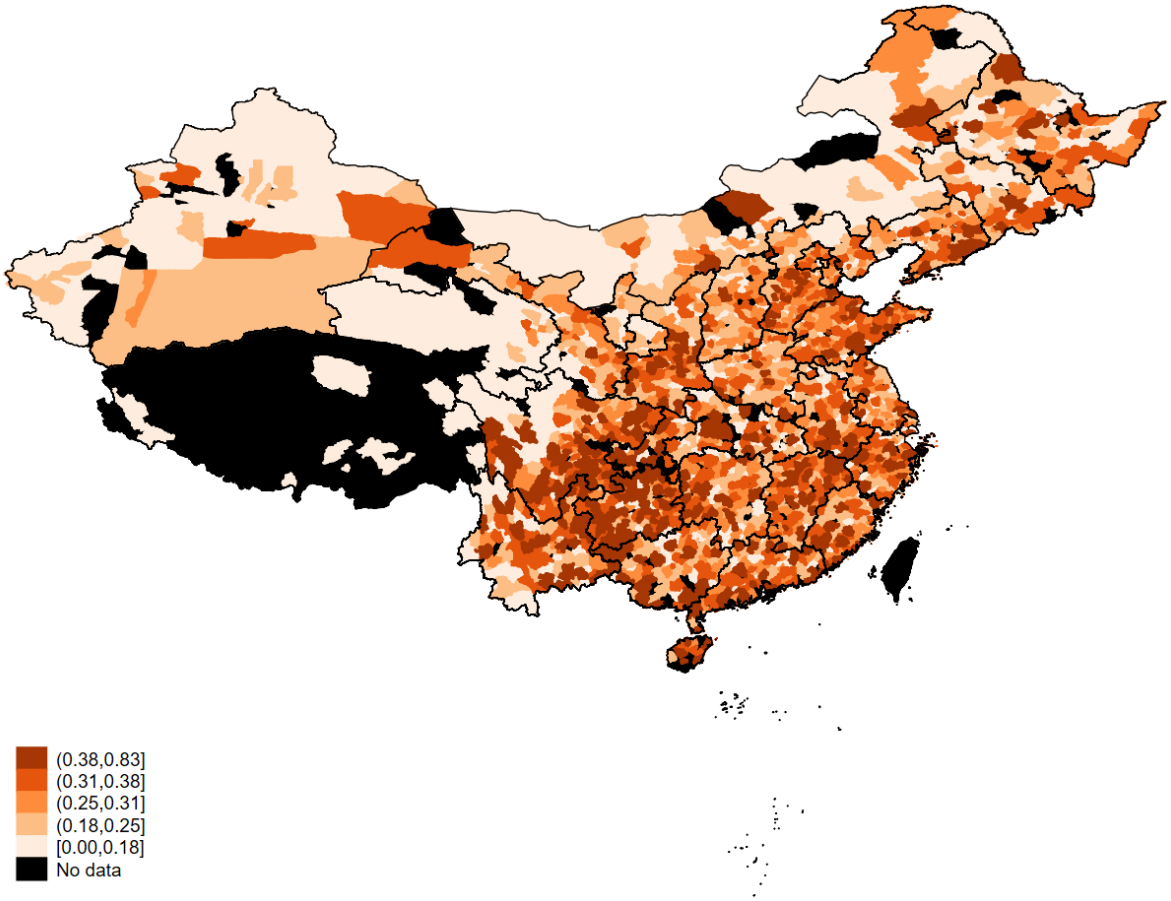


Figure II: The Map of Ancestor Worship Density in China

Figure III: The Map of Standardized Ancestor Worship (Migrants)



Figure IV: The Map of Standardized Ancestor Worship (Locals)

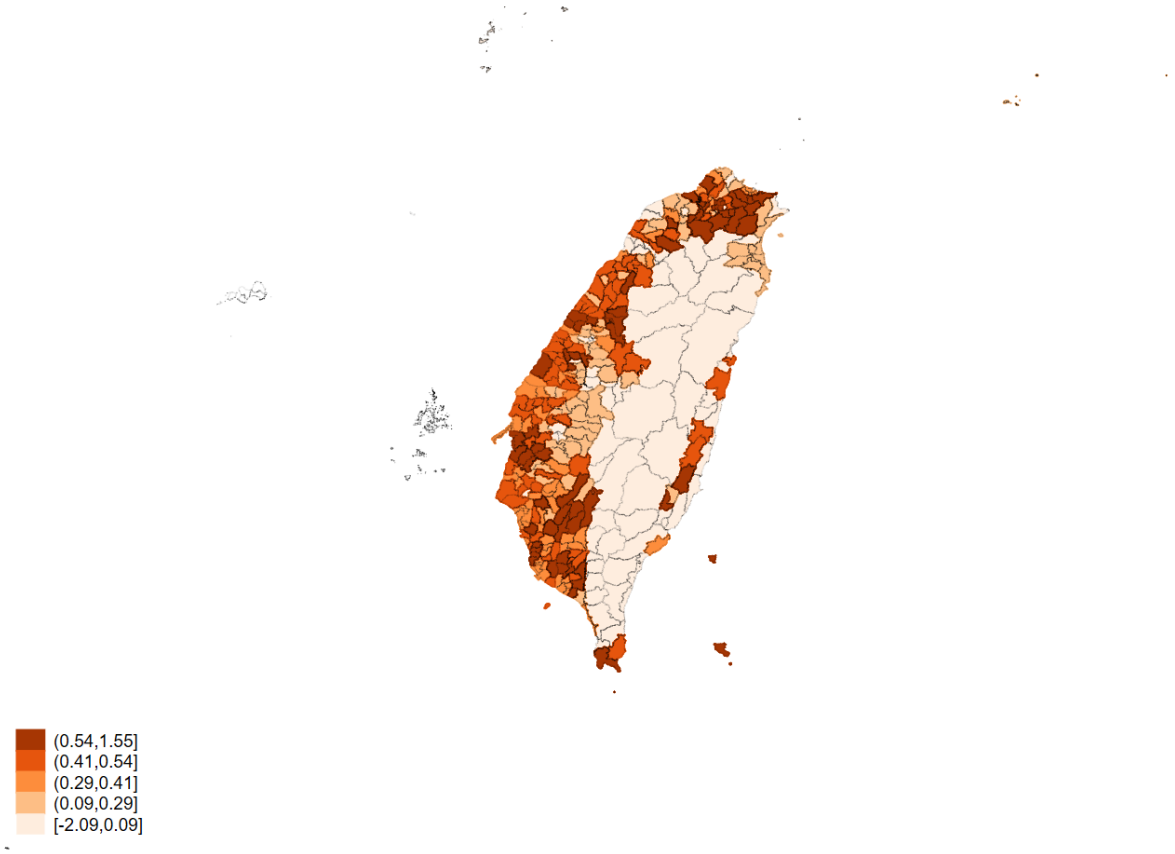
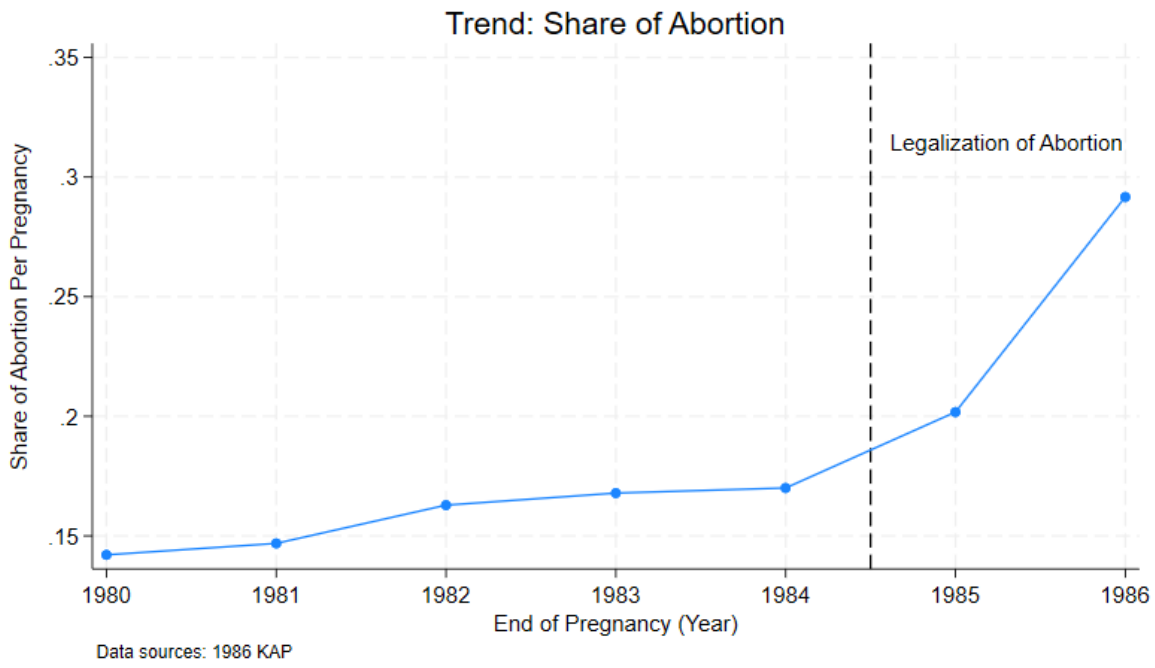
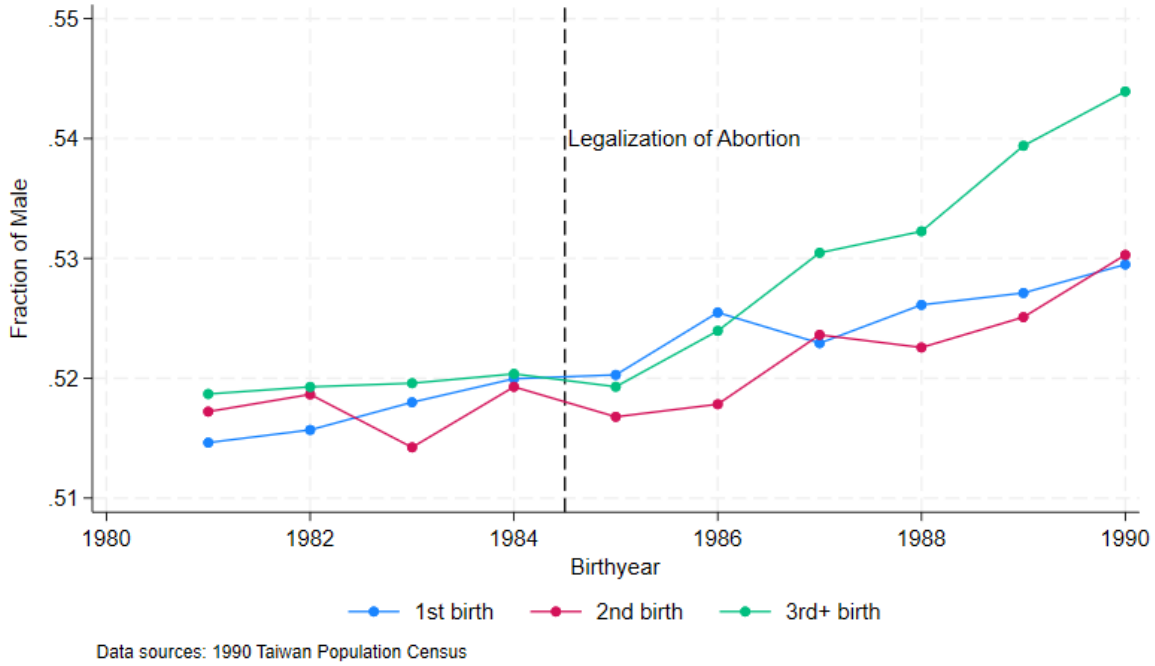


Figure V: Share of Abortion per Pregnancy (1980-1986)



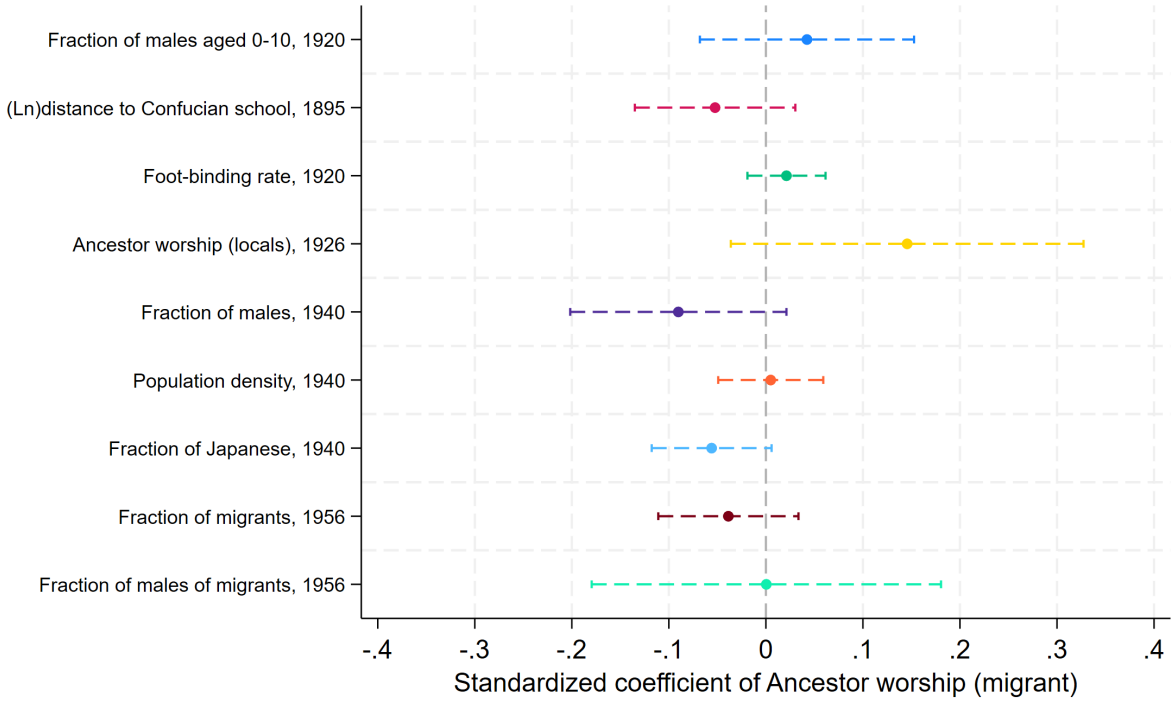
Note: The 1986 KAP is the only survey that contains abortion statistics at the individual-pregnancy level in the 1980s. It surveys married women aged 20-49 and asks the outcomes of every pregnancy.

Figure VI: Fraction of Male by Birth Order (1981-1990)



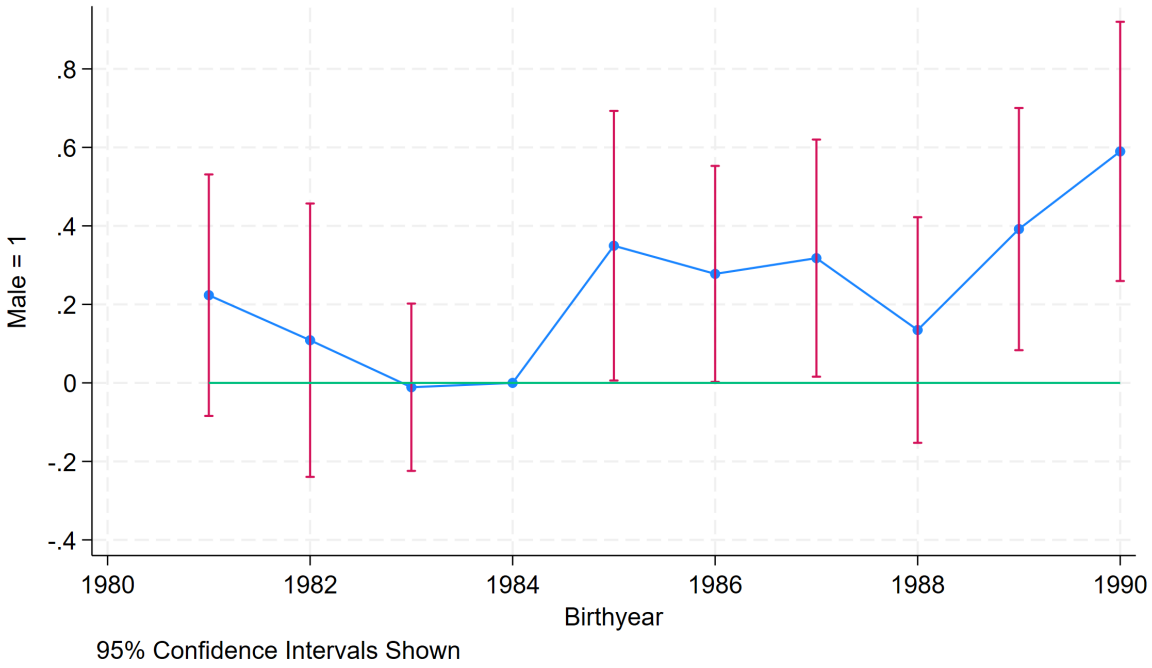
Note: Birth order is constructed based on the family relationship to the household head and the birthyear of each child in 1990.

Figure VII: Historical Characteristics and Ancestor Worship (Migrant)



Note: The figure presents the estimated standardized coefficients and respective 95 percent confidence intervals from regressing various historical characteristics (denoted on the y-axis) on ancestor worship (migrants) at the town level, conditional on county fixed effects. All standard errors are clustered at the county level.

Figure VIII: Event Study of the Ancestor Worship (Migrants) on Male (1981-1990)



Note: The figure presents the event study by estimating an alternative version of Specification (1), which allows the estimates of ancestor worship (migrants) to vary by birthyear and uses the birthyear=1984 cohort as the comparison group. With this, I can examine pre-trends before the Legalization of Abortion and the dynamic effects of ancestor worship (migrants) after the Legalization of Abortion.

Appendix: Figures and Tables

Figure A.1: Correlations between Ancestor Worship and Current Son Preference

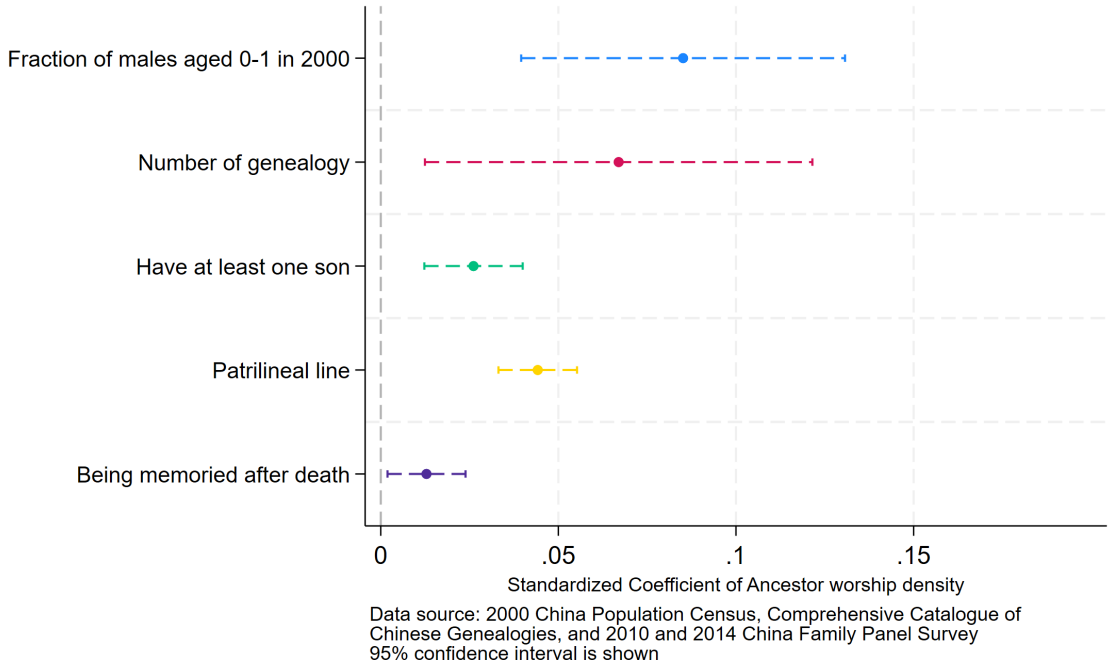


Figure A.2: Fraction of Male in the 1980 and 1990 Censuses

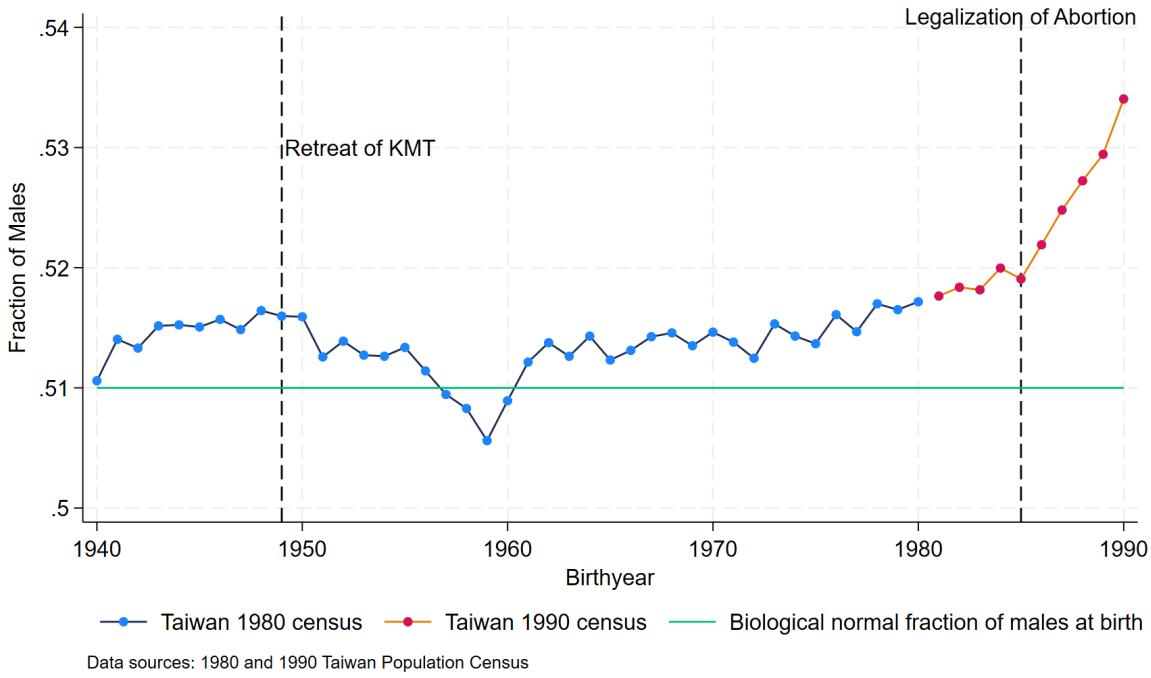


Figure A.3: Fraction of Male of Births by Birth Order (1982-1989) from Lin, Liu and Qian (2014)

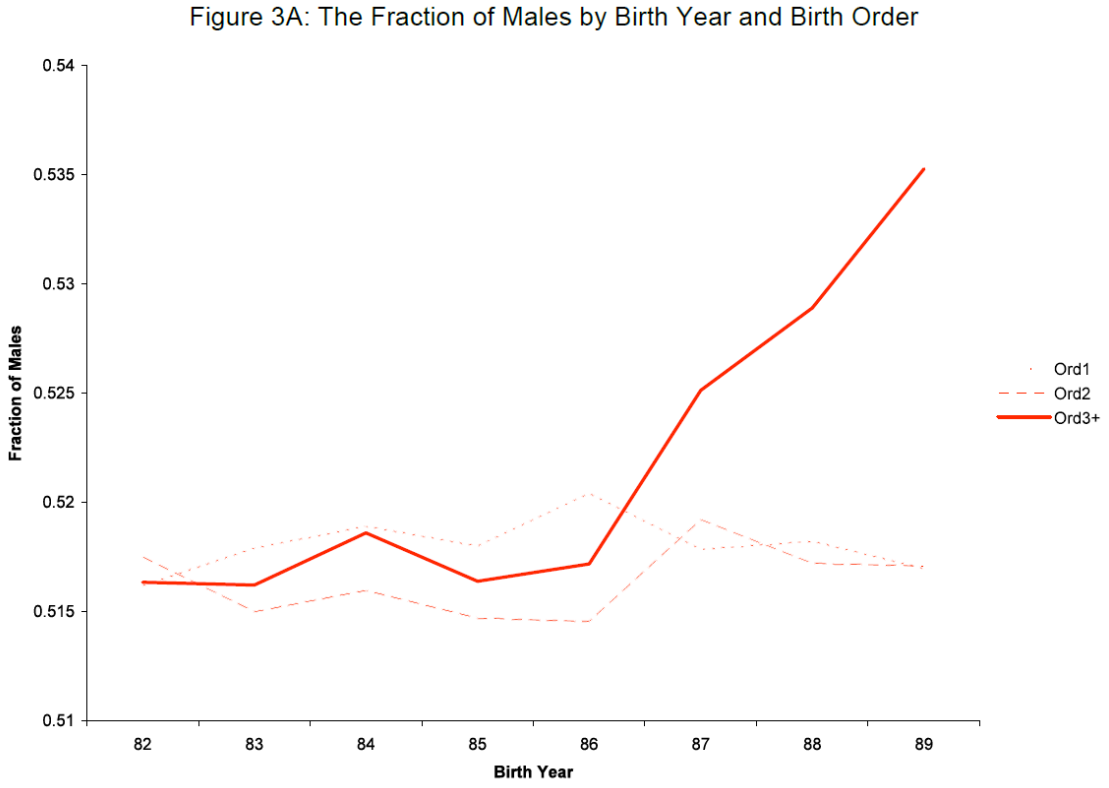
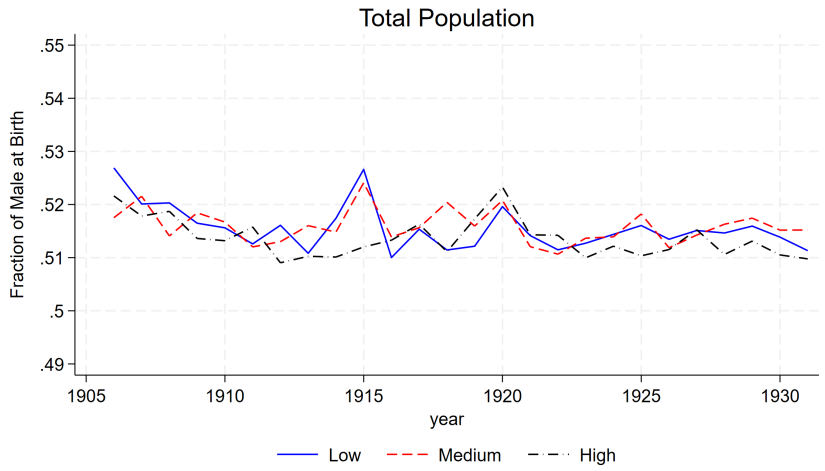
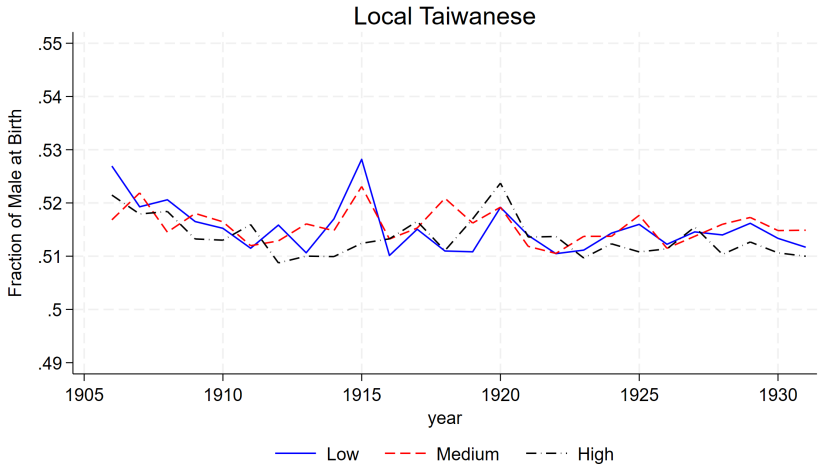


Figure A.4: Trends of Fraction of Males at Birth (1906-1931)



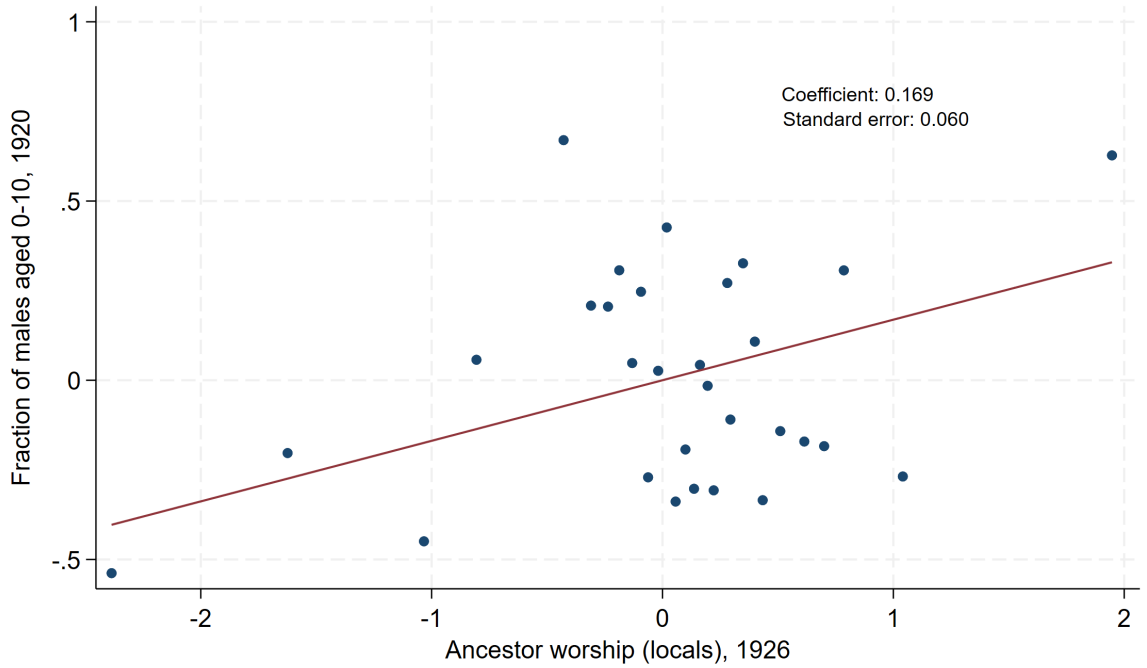
(a) Fraction of Males at Birth (Population)



(b) Fraction of Males at Birth (Locals)

Note: Trends of fraction of males and fraction of local males across groups of towns with high, medium, and low ancestor worship (migrants) in 1906-1931.

Figure A.5: Positive Correlation between Fraction of Males Aged 0-10 and Ancestor Worship (Locals)



Note: The coefficient is standardized, one s.d. increase in ancestor worship (migrants) relates to 0.169 s.d. increase in the fraction of males aged 0-10 in 1920.

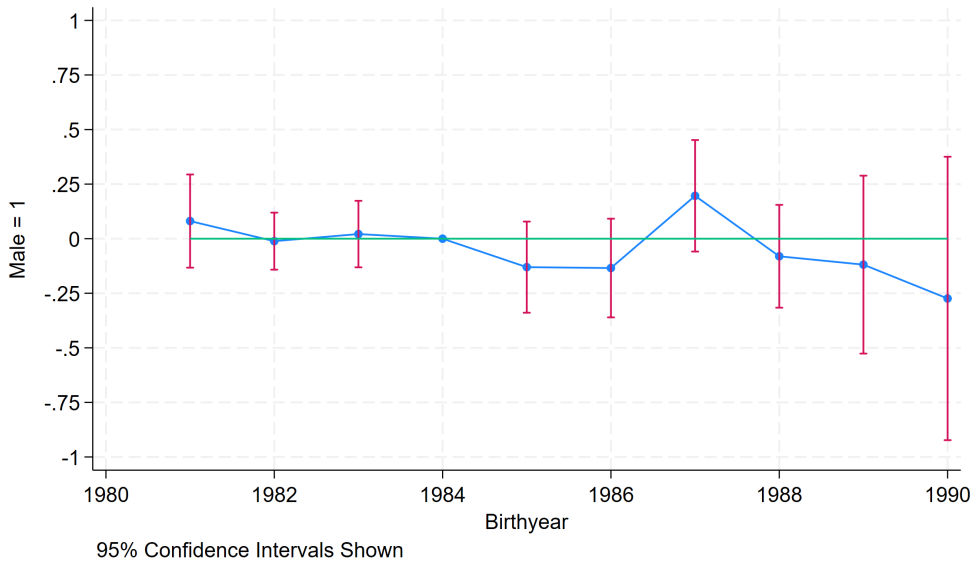


Figure A.6: Event Study for the First Two Birth Order Children (1981-1990)

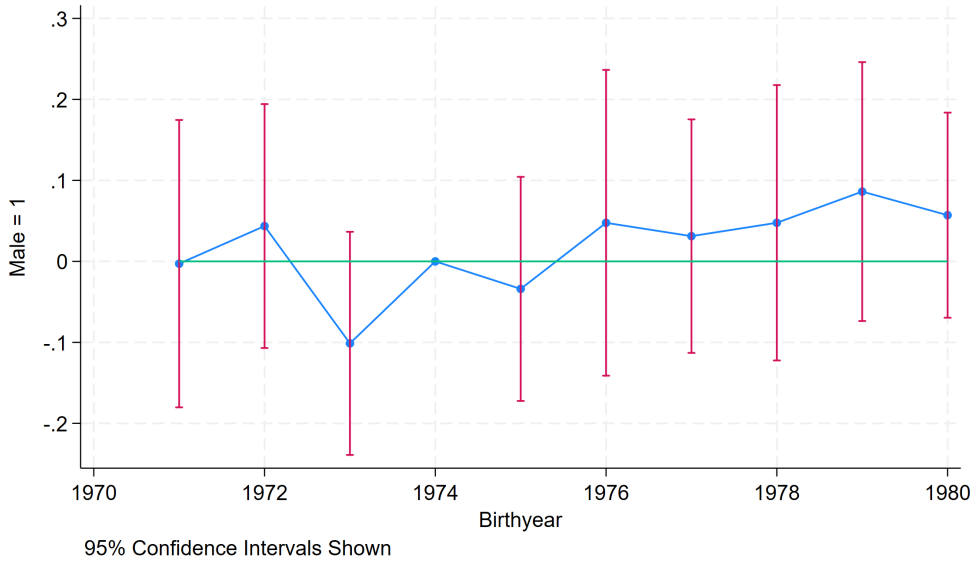


Figure A.7: Placebo Test for Children in 1980 Census (1971-1980)

Table A.1: Summary Statistics of Town Level Characteristics

	Obs.	Mean	SD
Ancestor worship (migrants), 1956	354	0.300	0.0148
Ancestor worship (locals), 1926	354	0.331	0.132
Fraction of males aged 0-10, 1920	354	0.512	0.0143
Fraction of males, 1940	354	0.508	0.0162
Fraction of Japanese, 1940	354	0.0405	0.0625
Population density (per km^2), 1940	354	3164.8	12599.6
Fraction of males of migrants, 1956	354	0.653	0.0975
Fraction of migrants, 1956	354	0.0614	0.0915
Ln cotton suitability	354	6.901	1.955
Ln maize suitability	354	7.277	1.497
Ln tea suitability	354	8.039	1.165
Ln wet rice suitability	354	7.627	1.953
Ln white potato suitability	354	7.157	1.341
Ln wheat suitability	354	7.350	1.404
Ln distance to seashore	354	2.699	0.725
Ln distance to Taipei	354	4.777	1.047

Table A.2: Summary Statistics of Aged 0-9 Children with 3+ Birth Order in 1990 Census

	Obs.	Mean	SD
Male	358,287	0.527	0.499
Birth order	358,287	3.482	0.972
Father's age at child's birth	358,287	28.80	3.121
Father's birthyear	358,287	1958.38	2.962
Father's year of schooling	358,287	8.887	2.665
Mother's age at child's birth	358,287	26.38	3.327
Mother's birthyear	358,287	1960.96	3.417
Mother's year of schooling	358,287	7.938	2.545

Table A.3: Individual Preferences on Son and Ancestor in 1994 and 1999 Taiwan Social Change Survey

	All			Male		
	Obs.	Mean	SD	Obs.	Mean	SD
The importance of having at least one son	2,263	0.417	0.369	1,115	0.457	0.371
The importance of being memorized and worshiping after death	2,315	0.738	0.287	1.066	0.753	0.278
The importance of bringing honor to your family clan	2,263	0.593	0.319	1,115	0.615	0.314

Table A.4: Migrants and Home Province Characteristics in Mainland China

Dependent variable	Log Migrant population			
	(1)	(2)	(3)	(4)
Log Population of home province	1.38***	1.36***	1.26***	1.24***
	(0.14)	(0.11)	(0.17)	(0.18)
Log Population density of home province		38.89***	37.58***	31.40***
		(10.45)	(10.80)	(11.59)
Ancestor worship density			2.69	2.28
			(2.86)	(3.09)
Confucian scholars density				-0.01
				(0.04)
Clan density				0.90
				(0.67)
Social organization density				0.01
				(0.01)
# of Provinces	48	48	48	48
Adj. R^2	0.612	0.689	0.690	0.691

Notes: The sample is 48 provinces in mainland China, defined by KMT. This table reports coefficients from regressing log migrant population on log home population in 1953, home population density in 1953, ancestor worship density, Confucian scholars density, clan density in 1911, and social organization density in 1935. Robust standard errors are in parentheses.
*** Significant at the 1 percent level.

Table A.5: Robustness: The Effect on the Sex of the 3+ Birth Order

Dependent variable	Male = 1					
	County clustering (1)	Two-way clustering (2)	Parents' origins (3)	Year 1985 as pre-period (4)	Logit (5)	Probit (6)
Ancestor worship (migrants) X Post	0.29***	0.29***	0.29***	0.22**	0.29***	0.29***
	(0.07)	(0.07)	(0.08)	(0.09)	(0.08)	(0.08)
Parents' origins-birthyear FEs	No	No	Yes	No	No	No
# of Counties	21	21	21	21	21	21
# of Towns	354	354	354	354	354	354
# of Observations	358,287	358,287	358,287	358,287	358,287	358,287
Outcome mean	0.527	0.527	0.527	0.527	0.527	0.527
Ancestor worship (migrants) s.d.	0.018	0.018	0.018	0.018	0.018	0.018

Notes: This table reports coefficients from estimating Specification (1) with alternative specifications on the sample of 3^{rd}+ birth order aged 0-9 children whose parents are both locals. All the fixed effects and covariates are controlled in each column. Standard errors are clustered at the town level, except in column 1, where I cluster at the county level, and in column 2, where I allow for two-way clustering at the town and birthyear levels. In column 3, I include parents' origin-birthyear fixed effects to control for heterogeneous effects of family culture. In column 4, I set *Post* equal to 0 for the 1985 birth cohort. In columns 5 and 6, I report the marginal effects of Logit and Probit models at the mean of covariates.
*** Significant at the 1 percent level. ** Significant at the 5 percent level.

Table A.6: Corrlation of Ancestor Worship (Migrants) with Alternative Measures Weighted by Original Population and Original Area, or Generated by Number of Ancestor Worship Festivals

Dependent variable	Ancestor worship (migrants)		Ancestor worship (festivals)		
Weights	Pop	Area	None	Pop	Area
	(1)	(2)	(3)	(4)	(5)
Ancestor worship (migrants)	1.09***	0.87***	9.29***	10.55***	7.71***
	(0.01)	(0.01)	(0.71)	(0.83)	(0.74)
Towns (Observations)	354	354	354	354	354
Adj. R^2	0.939	0.912	0.328	0.314	0.235

Note: The table is to present the correlation between different statistics of ancestor worship culture, i.e. aggregating ancestor worship density and the number of ancestor worship festivals from county to province with weighted in population and area and without weights. Population data is from the 1953 China Population Census. Area data is from the China Historical Geographic Information System. Standard errors are in parentheses.
*** Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.

Table A.7: Alternative Measures of Ancestor Worship: Weights and Numerator

Dependent variable	Male = 1					
Variable Z	Ancestor worship (migrants)			Ancestor worship (festivals)		
Weights of Z	None	Pop	Area	None	Pop	Area
	(1)	(2)	(3)	(4)	(5)	(6)
Variable Z X Post	0.29***	0.25***	0.31***	0.02**	0.01*	0.02**
	(0.08)	(0.09)	(0.08)	(0.01)	(0.01)	(0.01)
Outcome mean	0.527	0.527	0.527	0.527	0.527	0.527
Variable Z s.d.	0.018	0.018	0.017	0.241	0.270	0.236

Notes: This table replicates column 4 of Table II with alternative measures of ancestor worship culture brought by Chinese migrants. The alternative measures are mentioned in Table A.6. All the fixed effects and covariates are controlled in each column. The estimate in column 1 is the baseline estimate in column 4 of Table II. All the fixed effects and covariates are controlled in each column. Standard errors are all clustered at the town level.
*** Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.

Table A.8: Alternative Measures of Ancestor Worship: KMT and CCP Controlled Areas before the Civil War

Dependent Variable	Male = 1		
	(1)	(2)	(3)
Ancestor worship (migrants, KMT) X Post	0.32***		0.31***
	(0.08)		(0.09)
Ancestor worship (migrants, CCP) X Post		0.07	0.05
		(0.06)	(0.06)
# of Towns	354	354	354
# of Observations	358,287	358,287	358,287
Outcome mean	0.527	0.527	0.527
Ancestor worship (migrants) s.d.	0.018	0.018	0.018

Notes: This table replicates column 4 of Table II with alternative measures of ancestor worship culture brought by Chinese migrants. To address possible measurement error from aggregating county-level ancestor worship to the province level, the alternative measures use ancestor worship from either KMT-controlled areas or CCP-controlled areas in June 1946, on the eve of the Civil War. All the fixed effects and covariates are controlled in each column. Standard errors are all clustered at the town level.
*** Significant at the 1 percent level.

Table A.9: Horse Racing: Other Festivals in the County Gazetteers

Dependent variable	Male = 1				
	(1)	(2)	(3)	(4)	(5)
Ancestor worship (migrants) X Post	0.29***				0.32**
	(0.08)				(0.14)
Religious festivals (migrants) X Post		0.07			0.11
		(0.05)			(0.13)
Marketplace festivals (migrants) X Post			0.10		-0.15
			(0.11)		(0.29)
Agricultural festivals (migrants) X Post				0.18	-0.25
				(0.17)	(0.45)
# of Towns	354	354	354	354	354
# of Observations	358,287	358,287	358,287	358,287	358,287
Outcome mean	0.527	0.527	0.527	0.527	0.527
Ancestor worship (migrants) s.d.	0.018	0.018	0.018	0.018	0.018

Notes: This table replicates column 4 of Table II with measures of other festivals generated from county gazetteers. The festivals are religious festivals (excluding ancestor worship), marketplace festivals (business activities), and agricultural festivals. I use ChatGPT-5 to digitize the county gazetteers and generate the share of corresponding festivals. The construction of other festival measures is similar to ancestor worship (migrants), except that ancestor worship density is replaced with the share of other festivals. The estimate in column 1 is the baseline estimate in column 4 of Table II. All fixed effects and covariates are controlled in each column. Standard errors are clustered at the town level.
*** Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.

Table A.10: Horse Racing: Other Son Preference related Cultures

Dependent variable	Male = 1						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Ancestor worship (migrants) X Post	0.29***						0.37***
	(0.08)						(0.11)
Clan (migrants) X Post		0.01					-0.01
		(0.01)					(0.01)
Confucian scholars (migrants) X Post			0.00				-0.00
			(0.00)				(0.00)
Tea (migrants) X Post				0.00			-0.03**
				(0.01)			(0.01)
Wet rice (migrants) X Post					0.02*		0.04**
					(0.01)		(0.02)
Wheat (migrants) X Post						0.02	-0.05
						(0.02)	(0.03)
# of Towns	354	354	354	354	354	354	354
# of Observations	358,287	358,287	358,287	358,287	358,287	358,287	358,287
Outcome mean	0.527	0.527	0.527	0.527	0.527	0.527	0.527

Notes: This table replicates column 4 of Table II with measures of other placebo cultures brought by Chinese migrants. The cultures are family clan culture, Confucian culture, tea culture, rice culture, and wheat culture. The construction of these cultural measures is similar to ancestor worship (migrants), except that ancestor worship density is replaced with the corresponding cultural measures. The estimate in column 1 is the baseline estimate in column 4 of Table II. All fixed effects and covariates are controlled in each column. Standard errors are clustered at the town level.
*** Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.

Table A.11: The Heterogeneous Effect by Migrant Share and Cultural Distance

Dependent Variable	Male = 1					
Subsamples	Migrant Share		Distance to Confucian School		Foot-binding Rate	
	< median	> median	< median	> median	< median	> median
	(1)	(2)	(3)	(4)	(5)	(6)
Ancestor worship (migrants)	0.26	0.28***	0.43***	-0.00	0.13	0.48***
X Post	(0.18)	(0.09)	(0.08)	(0.28)	(0.23)	(0.10)
# of Towns	177	177	177	177	177	177
# of Observations	128,920	229,367	237,586	120,701	144,850	213,437
Outcome mean	0.525	0.529	0.527	0.527	0.528	0.527
Ancestor worship (migrants) s.d.	0.015	0.018	0.019	0.011	0.015	0.018

Notes: This table reports OLS coefficients from estimating Specification (1) with different subsamples. All columns contain county-birthyear fixed effects, town fixed effects, and a set of historical controls, as well as a series of geographic characteristics and family controls. Standard errors are all clustered at the town level.
*** Significant at the 1 percent level.

Table A.12: The Null Effect of Ancestor Worship (Locals)

Dependent Variable	Male = 1			
	(1)	(2)	(3)	(4)
Ancestor worship (locals) X Post	0.067	0.101	0.110	0.122
	(0.159)	(0.163)	(0.171)	(0.169)
Birthyear FEs	Yes	Yes	Yes	Yes
Town FEs	Yes	Yes	Yes	Yes
Historical controls X Post	No	Yes	Yes	Yes
Geographic characteristics X Post	No	No	Yes	Yes
Family controls X Post	No	No	No	Yes
# of Towns	255	255	255	255
# of Observations	6,463	6,463	6,463	6,463

Notes: This table reports OLS coefficients from estimating Specification (1) on the sample of 3^{rd}+ birth order aged 0-9 children whose parents are both migrants and born after 1954. The results from regressing male indicator on birthyear fixed effects, town fixed effects, and a set of historical controls, as well as a series of geographic characteristics and family controls. *Geographic characteristics:* the suitability index of cotton, maize, wet rice, white potato, wheat, and tea; (ln)distance to seashore, (ln)distance to Taipei. *Family controls:* birth order of the child, age of parents at child's birth, and years of schooling of parents. Standard errors are all clustered at the town level.

Table A.13: The Effect of Migrant Mother's Ancestor Worship on the Sex of 3+ Birth Order Children

Dependent variable	Male = 1			
	(1)	(2)	(3)	(4)
Ancestor worship (mother) X Post	-0.23	-0.42	-0.42	-0.64
	(0.22)	(0.39)	(0.38)	(0.64)
Town-birthyear FEs	Yes	Yes	Yes	Yes
Mother's origin FEs	Yes	Yes	Yes	Yes
Father's origin-birthyear FEs	Yes	Yes	Yes	Yes
Origin controls (mother) X Post	No	Yes	Yes	Yes
Family controls X Post	No	No	Yes	Yes
# of Mother's origins	45	45	45	40
# of Towns	283	283	283	234
# of Observations	20,193	20,193	20,193	12,159
Outcome mean	0.534	0.534	0.534	0.529
Ancestor worship (mother) s.d.	0.033	0.033	0.033	0.033

Notes: This table reports coefficients from estimating Specification (2) on the sample of 3^{rd}+ birth order aged 0-9 children whose mother is a second-generation migrant in columns 1-3. The sample is restricted to parents who are both migrants in column 4. The results from regressing male indicator on town-birthyear fixed effects, mother's origin fixed effects, father's origin fixed effects, and origin controls (mother) as well as a series of family controls. *Origin controls (mother):* Imperial scholars density, Confucian clan density, and suitability index of wheat, wet rice, and tea of mother's origin. *Family controls:* birth order of the child, age of parents at child's birth, and years of schooling of parents, as well as whether parents are from the same origin. Standard errors are all clustered at the town level and migrant mother's origin level.
*** Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 1 percent level.

Table A.14: The Effect of Ancestor Worship of Migrant Neighbors from Other Origins than Mother on the Sex of 3+ Birth Order Children

Dependent variable	Male = 1		
	(1)	(2)	(3)
Ancestor worship (neighbors, mother) X Post	0.20	0.36	2.11
	(2.28)	(2.33)	(3.34)
Ancestor worship (neighbors, mother) X Post			7.16
X Fraction of migrants from other origins			(13.05)
Town-birthyear FEs	Yes	Yes	Yes
Parents' ancestry-birthyear FEs	Yes	Yes	Yes
Family controls X Post	No	Yes	Yes
# of Mother's origin	37	37	37
# of Towns	274	274	274
# of Observations	12,115	12,115	12,115
Outcome mean	0.529	0.529	0.529
Ancestor worship (neighbors, mother) s.d.	0.006	0.006	0.006

Notes: This table reports coefficients from estimating Specification (3) on the sample of aged 0-9 children whose parents are both migrants and mother is a second-generation migrant. The results from regressing male indicator on town-birthyear fixed effects, parents' ancestry-birthyear fixed effects, and a series of family controls. *Family controls:* birth order of the child, age of parents at child's birth, and years of schooling of parents, as well as whether parents are from the same origin. Standard errors are two-way clustered at the town level, migrant father's origin level and migrant mother's origin level.
*** Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 1 percent level.