

Fertility Control in China's Past

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IN AN ARTICLE published in this journal in 1997, drawing on data from China's 1982 One-per-Thousand-Population Fertility Survey, I argued that the high-fertility regime existing before China's nationwide family planning campaign was introduced could have involved deliberate fertility control. James Lee, Feng Wang, and Cameron Campbell reached a similar conclusion (Wang, Lee, and Campbell 1995; Lee and Campbell 1997; Lee and Wang 1999). Such claims challenge the widespread belief that historically the Chinese did not control their reproduction and wanted as many children, sons in particular, as possible.

Arthur Wolf (2001) in this journal challenged the studies undertaken by Lee and his colleagues and by myself. Unfortunately, Wolf's commentary misrepresents our work, uses our data in misleading ways, and produces contradictory arguments. This brief note aims to correct these mistakes, thereby refuting his major claims and conclusions.

Wolf started by questioning the quality of our data. China's 1982 One-per-Thousand-Population Fertility Survey was designed according to strict statistical procedures, and the data were collected by well-trained enumerators. The sample size is very large and the results have been systematically analyzed by leading demographers from around the world during the last two decades (starting with Coale 1984). It is widely accepted that the 1982 survey is of very high quality. Wolf is skeptical about the survey data, arguing that recall problems make reports of numbers of children born up to 50 years earlier unreliable. His objection is based largely on his study of a small nonrandom sample (580 women) and on the observation that he himself under-recorded the number of births in his interviews (Wolf 2001: 135–136; 150). While acknowledging the possibility of under-registration in the 1982 survey data, I argued in 1997 that it is very unlikely that under-registration could have changed or explained the systematic patterns in fertility behavior identified in my article. Wolf cited under-registration as a major reason for the relatively low fertility levels and the complicated fertility patterns, but as will be demonstrated his interpretations are self-contradictory.

In challenging our interpretation of past reproductive behaviors, Wolf extracted 13 propositions from our findings and conclusions. He then applied a four-step test to each of them. First, he listed a single proposition or a group of propositions that he regarded as interlinked. He then provided limited data on the proposition. Third, he argued that factors other than deliberate fertility control could have caused the variation shown in the data. Finally, he concluded that there was no deliberate fertility control in the past.

This procedure presents a number of problems. First, it tends to distort our findings. Wolf's propositions are extracted from our work; while they relate to our findings, the formulations are very different from those in our work. Moreover, the examination of one or more highly simplified propositions at a time fails to give a complete picture of the complexity of people's fertility behavior as shown in our analyses. Second, Wolf implies that this procedure was also the way that our conclusions were drawn. For example, Wolf claims that "Zhao tests proposition 12 by comparing the mean ages at last birth of women whose first sons were born at ages 15–19, 20–24, and 25–29" (2001: 149). However, I did not proceed from propositions such as those set forth by Wolf to data analysis. My conclusions were reached through a consideration of all the findings reported in my article. A third, more serious problem arises from Wolf's procedure. That his tests were conducted and his explanations were reached in isolation affects his ability to draw appropriate conclusions.

Wolf offers a number of explanations for China's complicated fertility patterns; most of them could explain one or at best a few of his propositions. None, in any event, could explain all the propositions. In contrast, the reasons we advanced can. Moreover, Wolf's suggestions are contradictory—a fact related to the way in which they have been reached.

For example, Wolf challenges the One-per-Thousand-Population Fertility Survey data by arguing that they may not be "entirely accurate." Women may fail to report all the children they had borne (Wolf 2001: 135). Wolf also states that women may fail to report children who were given away, sold, or otherwise disposed of at birth (Wolf 2001: 150). Elsewhere in his article Wolf suggests that the variation in fertility patterns as shown in my analysis and in the 1982 survey data could have resulted if many families gave away or sold their last-born son in infancy, because this would "inevitably shorten the next birth interval and thereby raise both maternal age at last birth and the parity progression ratio" (Wolf 2001: 148). But this explanation implies that these events were accurately recorded in the survey data. Wolf is in effect arguing that the quality of the 1982 survey data is high. He cannot have it both ways.

Similar contradictions can be found elsewhere in Wolf's discussion. For example, he claims that "far from limiting the number of sons reared,

Chinese families made every effort to maximize the number” (Wolf 2001: 134). But he also suggests that Chinese families “commonly surrendered third-, fourth-, and fifth-born sons” (Wolf 2001: 148). Practice of this kind is certainly not an indication that “Chinese couples wanted as many sons as possible” as Wolf insists (Wolf 2001: 151). On the contrary, it would suggest that these families did not want to maximize the number of their sons.

Wolf has been selective in using other people’s results. This itself is not a problem so long as the user does not change the author’s original findings and major conclusions. I presented three triangle-shaped diagrams in my 1997 article showing the mean age at mothers’ last birth, parity progression ratios, and average length of birth interval, all by sex composition of preceding children, and I made the following observations. “[T]he sex composition of children already born exerted a noticeable effect on women’s fertility behavior. A greater proportion of women who had only daughters among their preceding children went on to have another child; their birth interval was shorter; and their mean age at last birth was higher. These points, to a large extent, also apply to women who had only sons. In contrast, a smaller proportion of those who had both sons and daughters, especially those whose sons outnumbered their daughters, went on to have a further child; their birth interval was somewhat longer; and their mean age at last birth was lower” (Zhao 1997: 743–744). This is a general summary of the findings presented in the section to which the three diagrams belong. The actual fertility patterns are more complex because they are also affected by other factors. Wolf selects some figures from the three diagrams and lists them in his Table 1. This selection considerably simplifies and alters the complicated fertility patterns and major findings reported in my article. Wolf then uses the subset of the original data to test propositions he claims to have identified in my work (Wolf 2001: 146–147). In doing so, he attributes to me something that is not my major conclusion and does not replicate the way that my conclusion was drawn.

Wolf also incorrectly manipulates some results published in my article. In his Table 2, for example, he calculates from the data presented in my three diagrams mean age at last birth, mean length of last birth interval, and mean parity progression ratio for women who already had both sons and daughters (Wolf 2001: 147). Elementary statistics tells us that if one wants to calculate the mean, the weighted mean must be used under this particular circumstance. It is not clear how Wolf obtained his averages, especially the average parity progression ratio. But they are not weighted ones, because I did not publish data allowing such calculations in my article.

In addition, Wolf apparently misunderstands my results in a number of places. For example, he reproduces my Table 6 on parity progression ratios for women after age 30, by age at birth of first surviving son, as his Table 4. I stated that the conditional parity progression ratios in the table

were computed "according to the following procedure. First, the women were divided into four groups depending on the age when they had their first surviving son. Then the parity progression ratios were computed in each group. In contrast to the conventional procedure where all children are recorded irrespective of the age of their mothers, only the births a woman had after her 30th birthday are counted here. The first child born after age 30 is re-coded as parity one and so on, regardless of how many children a woman had before reaching that age" (Zhao 1997: 747). Wolf clearly misunderstands the table since he makes the following remark: "I interpret this to mean that women in the upper left hand corner of the table bore their first child before age 20 (the son who survived) and then did not bear a second child until after age 30, while women in the next level of the same column bore their first child (again the son who survived) between ages 20 and 25 and then did not bear another child until after age 30" (Wolf 2001: 149). It is apparently on the basis of this incorrect interpretation that Wolf imputes to us his proposition 13, which states that "An additional birth was more likely among women whose first surviving son was born early than among women whose first surviving son was born late" (Wolf 2001: 145). Although he claimed that this proposition had been extracted from our work, it bears no relation to my findings and conclusions.

There are further misreadings in Wolf's criticism. At the beginning of his article, Wolf labels me as one of the revisionists and then makes the following claim: "The revisionists and I agree...that marital fertility in China followed a natural fertility trajectory" (Wolf 2001: 134). I did compare the age-specific marital fertility patterns of Chinese women with those of so-called natural fertility populations (Zhao 1997: 757). But, I made it clear that the purpose of my comparison was to demonstrate that examining the shape of the trajectory of age-specific marital fertility may not be an effective way of identifying those individuals engaged in fertility-regulating behavior (Zhao 1997: 754-756). For the same reason, I was skeptical about the definition of natural fertility, let alone about using a natural fertility trajectory to measure China's marital fertility. However, Wolf represents me as a supporter of his claim.

Wolf also misapplies results reported by other scholars. For instance, he employs a set of fertility rates published by Liu Ts'ui-jung in 1995 to support his claim that China's historical fertility should be higher than suggested by Lee and his collaborators and by me (Wolf 2001: 137). Wolf fails, however, to mention that the figures he cites are based on the high estimate of fertility produced by Liu. More significantly, in computing this set of fertility rates, Liu included only those who had sons or whose sons were recorded in the genealogies; those without sons but at risk of having them were excluded. Therefore, these figures are not conventional fertility rates. It is wrong to compare them with those reported in our studies. Liu presented another set of

fertility figures in the same study that are closer to conventional fertility measures but indicate a lower fertility level (Liu 1992, 1995). If we take these into account, the actual fertility in the lineage population studied by Liu could be considerably lower than that suggested by Wolf.

Two of Wolf's major claims require further comment. First, Wolf claims that in the examination of China's moderate marital fertility, Lee and his collaborators and I stressed intentional control of reproduction and made no "attempt to formulate and test alternative explanations" (Wolf 2001: 145). This is incorrect. In searching for reasons why marital fertility was not very high in Chinese history, we have expended at least as much energy as Wolf. In preparing the article with which Wolf takes issue, I examined almost all of the explanations provided in his commentary—including such factors as decrease of marital sexual relations caused by child marriage, low coital frequency, prolonged and intense breastfeeding, poor health, low living standards, certain kinds of diseases, and periodic separation between spouses associated with seasonal migration. I stated that "[t]hese explanations are certainly important in our understanding of fertility patterns in Chinese history," although I also pointed out their limitations (Zhao 1997: 731). (I also examined the impact of infanticide and under-registration. But strictly speaking, these factors come into play after the birth of a child and should not be seen as means of affecting marital fertility.) The difference between Wolf and me, therefore, is not that I made no attempt to find alternative explanations for the moderate marital fertility while he did. What divides us is that facing complicated fertility patterns, Wolf has been reluctant to accept deliberate fertility control as an alternative explanation, while I, like Lee and his collaborators, have accepted this possibility and investigated it.

Second, the central theme of Wolf's commentary is that there is no evidence of deliberate fertility control in the past. He tries very hard to find better explanations for China's relatively low marital fertility but fails to advance any that have not been suggested previously. Most of Wolf's points are important to our understanding of past fertility patterns, but they are neither new nor sufficient in explaining the complicated fertility behavior observed in Chinese history.

Ironically, evidence uncovered by Wolf and his collaborators suggests that intentional fertility control was practiced in the historical Chinese population. For example, Wolf and his collaborators organized a study in the mid-1990s in Fujian province similar to the one Wolf conducted in the early 1980s. The study, which interviewed 50 elderly women in Lianjiang County, found that the mean number of children was 5.9 among 42 women with completed fertility. The mean age at last birth (computed for 40 women) was 38.3 (Zheng 2000: 71–72). These figures are very close to those derived from Wolf's early study and virtually identical with those I reported (Zhao 1997: 735). In discussing the question whether women had inten-

tionally controlled their fertility, one of the principal investigators, Zhenman Zheng, made the following remark: "It was a great pity we had not directly asked this question. But the indirect evidence suggested that the answer should be yes. For example, when women were asked about their intention of childbearing, the overwhelming majority said that they did not want to have more children" (Zheng 2000: 71).

Accordingly, the question seems not to be whether there is evidence of deliberate fertility control, but rather whether we are willing to acknowledge such evidence. Wolf is defending a position that he has long held. In the mid-1980s, in his debate with Ansley Coale about fertility levels in historical China, Wolf made the following claim. "Whatever the reason for moderate fertility in China, it was not deliberate fertility control" (Wolf 1985: 177). During the last 15 years, Wolf has slowly retreated from his original position that fertility was high in Chinese history, but he has yet to retract his claim of no deliberate fertility control in the past.

China has a long history. Population issues were discussed among scholars and politicians more than 2,000 years ago. Although traditional Chinese culture had many pronatalist components, evidence of "antinatalist" thinking and practice was widespread. In the Tang Dynasty (AD 618–907), Wang Fanzhi, a poet, expressed the view that having one son was enough. During the Song Dynasty (AD 960–1279), a number of scholars asserted that people wanted to have only two sons or even just one. The Ming-Qing period (AD 1368–1911) witnessed a further increase in the discussion of population issues. During the seventeenth century, some scholars and officials were concerned that population growth had accelerated and could overtake the growth of food output. Wolf states that "when Chinese officials worried about the balance of population and resources, they did not advocate birth control as the solution" (Wolf 2001: 151); however, some contemporary commentators did suggest that over the long term the number of children in each family needed to be kept at two. In the eighteenth century, Hong Liangji's assessment of population issues prefigured that of Malthus, earning him the title of "Chinese Malthus." In the mid-nineteenth century, Wang Shiduo advocated population control measures, including imposing a heavy tax on large families, enforcing late marriage, encouraging celibacy, and spreading the use of drugs to reduce pregnancies and births (Li 1994, 2000; Zhao 1997). China has a long history of using medical substances and other measures to induce abortion and to prevent pregnancy. Potions were used to cause abortion some 2,000 years ago. Medical substances and prescriptions that were believed to prevent or terminate pregnancy or cause sterilization were detailed in many medical writings published during last two millennia.

The extent to which the Chinese intentionally controlled their reproduction in the past is still unknown, but given the available evidence

it would be unwise to suppose that the Chinese made every effort to maximize the number of their children and never wanted to practice deliberate fertility control.

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