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ORIGINAL ARTICLE

Son preference and sex-selective abortion in China: informing policy options

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Abstract
Objectives There is growing evidence in China that son preference is on the decline, but the sex ratio at birth is still the highest in the world at around 120 male births to 100 females. The aim of the study was to explore attitudes towards gender preference among people of reproductive age, to determine the reasons why the sex ratio is persistently high, and to inform policy options.
Methods We conducted in-depth interviews with 212 individuals who aged from 18 to 39 in rural and urban areas of three provinces: Yunnan, Guizhou and Zhejiang.
Results We show that while son preference has weakened considerably, it has not disappeared. The sex ratio remains high, because of this small minority of individuals, who still choose sex-selective abortion to ensure male offsprings.
Conclusions Intensive local policy interventions have been successful in reducing the sex ratio in some areas and these should be disseminated widely. In addition, the law forbidding sex selection should be actively enforced, and the One Child Policy should be relaxed in some areas, to reduce the disproportionately high sex ratio in the second order births.

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Introduction

Son preference is most prevalent in parts of East and South Asia. Sons are preferred because they have a higher wage-earning capacity, especially in agrarian economies, they continue the family line, are generally recipients of inheritance and because women typically marry into the husband's family, ceasing to have responsibility for parents (Hesketh and Zhu 2006). Over centuries, son preference has led to female infanticide and neglect of girl children, leading to high early female mortality (Sen 2003). But diagnostic ultrasound, available from the 1980s, was quickly exploited as a means to determine gender, with a resulting shift from postnatal to prenatal sex selection (Goodkind 1996). In a number of countries, this has led to very high sex ratios at birth (SRB) (defined as the number of males born for every 100 females). The SRB is the highest where there is a combination of strong son preference, a small family culture and an easy access to sex-selective abortion (Park and Cho 1995). This combination occurs particularly in China, Taiwan, South Korea and parts of India (Hesketh et al. 2005; Das Gupta et al. 2009).

Evidence from outside Asia has shown that modernisation, especially the move from agrarian economies, improved economic status, and higher women's status, all erode the societal assumptions that underpin traditional gender attitudes and son preference (Corrigall and Konrad 2007, Das Gupta et al. 2003). But in Asia, the picture seems to be more complicated. Over the past few decades, all of the high sex ratio countries have undergone rapid social and economic development. In South Korea, during

a period of rapid economic growth in the 1980s, sex ratios became the highest in Asia, though this was attributed to the novelty of easy access to sex-selective abortion (Park and Cho 1995). Taiwan demonstrated a similar pattern in the 1990s (Lin 2009). China's sex ratio has increased since the 1980s virtually in parallel with its economic growth and now has the world's highest sex ratio with an estimated 32 million excess men under the age of 20 (Zhu et al. 2009).

This is not the first time that China has had a high sex ratio. Prior to the establishment of the People's Republic in 1949, China was very poor; deep-rooted Confucian ideologies meant that women had a little freedom and a few rights (Li 2000). Female infanticide and high early female mortality led to a considerable excess of males in the reproductive years. But in the early Mao years from 1950, Communist ideological commitment to gender equality and pro-natal policies led to a normal sex ratio, despite China still being an impoverished agrarian economy. Then from the mid-1980s, despite huge socio-economic development and continuing improvement in women's status, the SRB started to rise, from 106 in 1979, 111 in 1990, 117 in 2001, and 121 in 2005 (Zhu et al. 2009). This followed the introduction of sex-selective technologies, and of course the One Child Policy, though sex ratios did not start to rise sharply until around 5 years after the Policy started (Hesketh et al. 2005). The most recent data for 2009 show a slight decline to 119 (Zeng 2010). To put this into context the most recent estimates for the SRB in South Korea are 108, Taiwan 109 and India 113 (Central Intelligence Agency 2010). National figures conceal wide local differences with some rural areas of both China and India showing ratios as high as 140 (Jha et al. 2006; Zhu et al. 2009).

Clearly in countries like China which are undergoing rapid transition, the relationship between sex ratio and son preference, and the drivers of son preference, are complex and not necessarily predictable. The aim of this research was to explore current attitudes towards gender preference among people of reproductive age in China today, with a view to elucidate the reasons why the sex ratio is persistently high and to inform policy options. We used qualitative approaches (semi-structured interviews), in order to obtain a richer understanding of the perspectives and attitudes of the participants.

Methods

The study was a part of larger collaborative programme exploring health and well-being in the context of the high sex ratio and rapid socio-economic change in three Chinese provinces: Zhejiang, Yunnan and Guizhou. Two rural counties and two urban districts were selected in each province to represent a range of socio-economic and geographical areas across the 12 project sites. We worked in collaboration with the local health bureaus in each area to generate a purposive sample of individuals who aged 20–39, the de facto reproductive age range in China. We aimed to achieve a maximum of 20 individuals in each area, and to include a cross-section of the population, across the range of socio-economic and educational profiles. Health bureaus have access to the lists of all local residents, by age, gender and marital status. Initial approaches were made by the health bureau personnel through work units and village leaders to establish educational and socio-economic levels of selected individuals. Health bureau personnel then wrote to the selected individuals asking if they would be willing to participate in a research project which explored gender attitudes. They were offered a small payment for their participation. Overall, 73% of those approached agreed to participate,

Given the potentially sensitive nature of the subject matter, we designed the topic guide to focus initially on attitudes, before exploring personal experience. So for each topic, direct closed questions were followed by exploratory questions, allowing interviewees to talk freely about areas of interest and concern to them. The topic guide covered three main areas. Initial exploratory questions focused on the attitudes to son preference, personal views and experience of son preference and the prevailing views in their communities. This was followed by questions about the attitudes towards sex-selective abortion. Finally, interviewers explored the question of why the sex ratio is so high in China.

Interviews took place in July–December 2009 and were conducted by a team of six experienced researchers from Zhejiang University. In each area, they worked in pairs (one male and one female), conducting individual interviews alone, but sharing the data collected at the end of the day. All interviews were conducted in a private place, in the interviewee's home, workplace or a private room in a teahouse. Interviews that lasted between 30 and 60 min were audio-taped with the specific consent of the interviewee, and were then transcribed by the interviewer. Prior to interview, all interviewees were assured of the anonymity and confidentiality of all data collected. They were told that they could refuse to answer any questions and could terminate the interview at any point. All interviewees gave written informed consent. Ethical approval was obtained from University College London and from relevant provincial authorities.

Analysis

Socio-demographic and other quantitative variables were analysed with SPSS. Currently available qualitative analysis

software does not work well for the Chinese language, so analysis was conducted manually using a method based on the constant comparative method (Glaser and Strauss 1967). The audiotapes were initially transcribed in Chinese. Pairs of researchers read the transcripts of their own audiotapes line-by-line in order to mark the key points as themes. The themes embedded in the transcriptions were then reviewed by all members of the research team to ensure internal consistency and independence of the themes. For example, attitudes towards gender preference were categorised first into personal son preference, personal daughter preference and gender indifference, and then parental preferences in the same way. All quotes used in this article were translated into English as accurately as possible, although we acknowledge that some nuances of Chinese are difficult to convey in English.

Results

Socio-demographic characteristics (see Table 1)

A total of 212 interviews were completed: 55 in Zhejiang, 83 in Yunnan, and 74 in Guizhou. Just over half of the interviewees 113 (53%) were from rural areas, and 116 (55%) were female. The mean age was 28.7 with an age range of 18–39. (One 18-year old was included because of a misunderstanding about the date of birth prior to interview). There were big differences in educational levels between urban and rural areas with 71% of rural inhabitants having received no more than a middle school education (to age 16), compared with 18% in urban areas.

Attitudes towards son preference

We explored interviewees' own attitudes to gender preference, their parents' attitudes as well as the prevailing attitudes in their community. Only 13% (10% urban, 16% rural) admitted to preferring sons themselves.

> "I prefer sons. That's the truth. My parents and most of that generation thought daughters were totally worthless and that's really bad, but I can't help my feelings-I really want a son." Female aged 28, urban Zhejiang.

> "I don't want daughters. I will really only be satisfied with my life if I have a son." Male aged 33, urban Yunnan.

> "It is said that, "There are three forms of unfilial conduct-the worst not having male heirs to continue the family line." I think that's true!" Male aged 28, rural Zhejiang.

But 21%, (22% urban, 18% rural) said they would prefer to have a daughter.

Daughters were described as "obedient", "well-behaved", "affectionate", and "lovely".

> "I want to have a daughter, because a daughter can keep close to us, and will take good care of us when we turn old." Female aged 25, urban Zhejiang.

Table 1 Socio-demographic characteristics of the interviewees

Characteristics	Zhejiang		Guizhou		Yunnan		Total urban ($n = 99$)	Total rural ($n = 113$)	Total ($n = 212$)
	Urban	Rural	Urban	Rural	Urban	Rural			
Age (years)									
18–29	12	11	25	22	23	25	60	58	118
30–39	11	21	11	16	17	18	39	55	94
Sex									
Male	8	12	14	20	17	25	39	57	96
Female	15	20	22	18	23	18	60	56	116
Education[a]									
Low	5	21	7	29	6	30	18	80	98
High	18	11	29	9	34	13	81	33	114
Marriage									
Married	14	25	12	20	19	26	45	71	116
Unmarried	9	7	24	18	21	17	54	42	96

[a] Low education level is defined as up to middle school (age 16), and high as education continued beyond middle school

"Daughters are more loving. They show more filial piety and are more obedient. Sons are naughty and they are much harder work." Female aged 35, rural Yunnan.

"Where I live there are men who can't get married because there are not enough women, so I think daughters are much better. They can go the city and marry rich men and take good care of their parents." Female aged 29, rural Guizhou.

"I want a daughter. Nowadays you have to put aside lots of money for the son to get married–but not much for a daughter." Male aged 26, rural Guizhou.

But the majority of them were gender indifferent:

"I have no preference for son or daughter. In my hometown, until a few years ago, if you didn't have a son, people would talk about you behind your back, but that's changed now." Woman aged 28, rural Guizhou.

"I think sons and daughters are the same, provided they can earn enough money to survive. And daughters can also take good care of parents now." Male aged 25, urban Yunnan.

Most of our interviewees (72%) described how their own parents had shown very clear son preference, manifest in a number of ways: more encouragement for sons to acquire higher education, more attention and more resources devoted to sons, and the entitlement of sons to the family property.

"My mother always said that girls had no need to continue learning, So I didn't have a chance to stay at school, but my brother went to high school." Female aged 37, rural Guizhou.

"My parents prefer me [over my sisters], and always gave me better things, like food and clothes-and I will inherit my parents' house. My sisters won't get anything." Male aged 27, urban Zhejiang.

When asked about attitudes to son preference in their community and wider society, the general consensus was that son preference was on the decline even in rural areas:

"There is a saying: 'having sons is good for your reputation, but having daughters is good luck'. This means-if you have a son the parents need to work hard, to afford a house for him, but if you have a girl, she will be kind, and will take good care of her parents, so in fact a girl is better for the parents." Female aged 34, urban Yunnan.

"Lots of people now think it is better to have girls, because boys are more expensive, because they need so much money to get married." Female aged 21, urban Zhejiang.

"The concept of son preference is much weaker these days. It may still be a problem in poor areas, but views are changing–even in rural areas people are starting to think that sons and daughters are just the same. This shows that China is becoming more modern." Male aged 28, urban Yunnan.

"Traditionally in rural areas people preferred sons, because sons could do farm work and inherit the land. People with no sons felt ostracized. But now lots of people think a daughter is better. Men and women can earn the same and daughters take better of care of their old parents nowadays." Female aged 26, urban Guizhou.

But, perhaps this apparent tolerance is overstated by respondents:

"People may pretend that having sons doesn't matter anymore, but when there's an argument, one person might say to the other something like "but you've got no son" and that will end the argument, because it's the ultimate humiliation." Female aged 37, rural Guizhou.

"Couples without sons are sometimes very desperate and take extreme measures to get one. They sometimes go to another place to escape [the family planning authorities] and have a son without paying a fine." Female aged 35, urban Zhejiang.

Note that a second child in most urban areas and a third in most rural areas is usually not permitted under the rules of the One Child Policy, and the couple will be liable to a substantial fine.

Sex selection abortion

We specifically wanted to know what views were on sex-selective abortion, while being aware that its illegal nature might make interviewees reluctant to discuss it. But a few were reticent, and three women admitted to having had a sex-selective abortion:

"I had two daughters and I was desperate for a boy. So when I got pregnant I had an ultrasound and it was another girl. I knew my husband would not accept another girl, so I had an abortion. There was no choice. That was five years ago. Then I did have a boy, so now I'm happy, and so is my husband." Female aged 35, rural Guizhou.

"I had an abortion when I found out the second pregnancy was female-I already had a daughter. We're allowed two children where I live and I had to have a boy–for the family's sake. It's not wrong. It's not a human being, just a fetus." Female aged 27, rural Yunnan.

Two other rural women volunteered that they would consider sex-selective abortion after a first girl:

"I really want a boy, so I would definitely consider an abortion if I had a girl first." Female aged 23, rural Yunnan.

Twenty percent of our interviewees said they personally knew women who had had sex-selective abortions, but the general view was that sex selection was becoming less common.

"You don't hear about sex-selection abortion so much these days. I think it is less common in urban areas, but probably still happens in the countryside." Male aged 28, urban Yunnan.

But, in general, strong views were expressed against sex-selective abortion. It was described by many as "wrong" or "cruel".

"I cannot accept this act [sex-selection abortion], we should give birth to the baby, no matter whether it's a boy or a girl. It is also bad for the woman's health, so I am strongly against it." Female aged 29, rural Guizhou.

"It is inhumane …it is against human nature, and we should follow the laws of nature. The people who choose sex-selection abortion have been deeply influenced by Confucian values." Male aged 35, urban Guizhou.

"I disagree with sex-selection abortion. It is like murder." Female aged 21, urban Zhejiang.

Why is the sex ratio high?

Interviewers explained that China had the most excess male births in the world and interviewees were asked what they thought the reasons were. Around one-third said that they were unaware of the high sex ratio, but some had witnessed its effects:

"There are lots of villages around here where there are too many men and they can't get married. Lots of women go to cities to work and then marry a city guy with more money. The poor farmers have no chance. It is terrible." Female aged 30, rural Guizhou.

Explanations for the high sex ratio included the One Child Policy:

"It's all the fault of the One Child Policy. We can only have two children and everyone wants one son, so if they have a girl first, they check the next pregnancy-and then have an abortion if it's another girl. I don't blame them." Male aged 29, rural Yunnan.

Several blamed the ease of access to sex-selective abortion:

"It's too easy to get an abortion. This is wrong. I didn't know that so many people get rid of baby girls. This is terrible. The government could stop this. Why don't they?" Female aged 29, urban Zhejiang.

And others blamed tradition:

"People still believe in the old traditions-that girls go and live with their husbands and abandon their families. But it's not like that anymore. I am living in a town with my husband. My parents are in our village and we see them often." Woman aged 28, rural Zhejiang.

"In rural areas people want a son, so they can pass on their land. But in towns this doesn't matter-daughters can inherit the parents' property." Female aged 35, urban Zhejiang.

"It's the fault of the grandparents. The older generation still prefer sons and they put pressure on their children to have sons." Male aged 35, urban Guizhou.

Discussion

The qualitative approach allows interviewees to express their views freely. It allows for a more in-depth exploration of ideas, and although we did aim to include a wide range of individuals, the approach is not designed to be "representative" of the general population. A major limitation is the fact that interviewees may tend to answer according to social norms or acceptability, a phenomenon known as "social desirability" (Sjostrom and Holst 2002). This may have biased responses, especially given the sensitivity of some the subject matter. But we were impressed by the candour of many of our interviewees, and their readiness to express unsolicited views. A further limitation was the need to use six interviewers which led to inevitable heterogeneity in the quality and depth of the interviews.

However, we have obtained a snapshot of attitudes towards son preference in China today. Our findings show that son preference is common among the interviewees'

parents, but that it is weaker among their peers, indicating secular trends. Sex-selective abortion was also described as less common than previously. This apparently weakening of son preference concurs with a growing body of evidence (Qu and Hesketh 2006; Mo 2005) and is in line with the recent findings from India, Taiwan and South Korea (Chung and Das Gupta 2007; Lin 2009).

The reasons for these changes in attitudes in China are multifactorial. The underlying reason is societal change, specific improvement in overall socio-economic status and in women's status. A number of our interviewees referred to these factors. Women's status has improved markedly in China over the past few decades, and women now account for 48% of university graduates and 46% of the labour force (Huang 2008). In Taiwan, female education has been identified as the single most important predictor of gender indifference. Lin (2009) and Luo and Li (2007) showed that women with a higher status were less likely to undergo sex-selective abortion. Son preference has also been linked to dependence on the rural economy. This dependence has reduced in China, because of massive rural–urban migration. In 2008, there were an estimated 200 million rural–urban migrants, of whom 49% were female (National Bureau of Statistics of China 2009). Importantly, rural women can now earn an independent living through migrating to cities to work. The way in which women's financial independence has reduced the imperative to have sons was commented on a number of our interviewees.

But despite this apparent gender indifference, the sex ratio remains very high. There are a number of possible explanations. First, as already noted research participants may not express their true feelings, so findings are inherently biased. Second, individuals report their own feelings, but with filial piety still deeply rooted in Chinese society, pressure from parents may influence a couple to sex select (Lin 2009). Third, there is a polarisation of gender preference. While the majority is essentially gender indifferent, it only needs a small minority willing to undergo sex-selective abortion to skew the ratio (Lin 2009). Finally, it could be that this tendency to gender indifference is recent and has yet to filter through to behaviour. Perhaps the slight downturn in sex ratio to 119 reported in 2009 signals the beginning of the downturn in sex ratios. An incipient decline in sex ratio has been reported in India as well (Das Gupta et al. 2009). As the world's two most populous countries this clearly has global implications.

Policy implications

A comparison of policy in India, China and South Korea concluded that public policy could play a crucial role in influencing son preference and reducing sex-selective abortion (Chung and Das Gupta 2007). Many of our interviewees felt more could be done by government to address the problem. Public policy can have both negative and positive effects. More needs to be done to reduce the negative effects of public policy. First, sex-selective abortion is very accessible, even for the poor, despite legislation which forbids the practice. It is now well established that the current high SRB in China can almost all be attributed to sex-selective abortion, with infanticides now very rare (Zhu et al. 2009), so measures to enforce sex-selective abortion legislation could be very effective. Enforcement of such a law in South Korea contributed to the dramatic fall in sex ratio in the early 1990s (Park and Cho 1995). The fact that sex-selective abortion is still carried out with impunity, by medical personnel, usually qualified doctors, in hospitals and clinics, not in backstreet establishments, makes the failure of government to enforce the law all the more surprising. Policy could and should be used to address this. The strong feelings expressed by some of our interviewees against sex-selective abortion suggest that such measures would have considerable popular support.

Second, there is the thorny question of the One Child Policy and its role in the high sex ratio. In rural areas where more than one child is permitted, second and third order births account for the overwhelming majority of excess male births. The 2005 national intercensus survey showed an SRB of 108 for first order births and 143 for second order births (Zhu et al. 2009). But this pattern of gradient in sex ratio across birth order is also seen, albeit less dramatically, in India, South Korea and Taiwan (Jha et al. 2006), where low fertility is voluntary, so the Policy probably acts to accentuate the problem.

But it has been shown that the variant of the One Child Policy which allows two children, especially after the birth of a first girl, leads to the highest sex ratios (Zhu et al. 2009). There has been a gradual relaxation in the One Child Policy over the past decade, mainly allowing for more exceptions to the one child rule in urban areas, but importantly signalling a considerable relaxation in the previously strictly applied one child rule in urban areas. We believe that serious consideration needs to be given to allowing three children, after two girls in rural areas. This would help to reduce the sex ratio, simply by increasing the proportion of two-girl- and one-boy-families over one-girl- and one-boy families, since second order births contribute to disproportionate high sex ratio. Evidence suggests that fears of a resulting rural population explosion would be unfounded, since only a small minority of rural couples now claim to have more than two children (Qu and Hesketh 2006).

On the positive side, the Chinese government has taken a number of policy measures to address what they acknowledge as the danger to societal stability of large

numbers of excess men. From 2005, parents of daughters in rural areas have been entitled to a pension of 600 RMB (US $75) per month (Gu and Chen 2005). From 2003, the "Care for Girls" campaign introduced a comprehensive package of measures in 24 counties. This included poster and media campaigns, focusing on gender equity and the advantages of having girl children. The results have been encouraging: a 2007 survey showed that expressed son preference had declined in participating counties, and in a rural county of Shanxi province the SRB reduced from 135 in 2003 to 118 in 2007 (Li and Yan 2008). Clearly this campaign should be prioritised and widely disseminated.

Even if the fall in SRB to 119 does represent the start of the decline, improvements will not filter through to the reproductive age group for another two decades. Whatever happens to the SRB from now, there is still a whole generation of excess males alive today who are yet to enter the reproductive age group, and that is a serious cause for concern.

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