Transformations in the Public Perception of Sperm Donation in China An Analysis of Media Debate in Chinese Newspapers in the 2010's

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Abstract: Despite a long history of assisted reproductive technologies including the use of IVF and artificial insemination. sperm donation has always been a difficult topic in China due to a number of political and sociocultural factors. The article will look at the cultural biases against sperm donation, that in the past have led to a severe shortage of sperm donors across the country's provincial sperm banks. It will also look at the political and regulatory context of sperm donation, and it will explore new developments more recently that have transformed the perception of sperm donation and the attitudes among Chinese men to become sperm donors. In particular, it will look at the media controversy about sperm donation that followed the death of a sperm donor in Wuhan city in 2011, which served as an important catalyst to initiate wider public debate about sperm donation in the media. As the Chinese government is actively seeking to encourage more men to become sperm donors, and media organizations have taken a more active role in collecting, disseminating and transmitting information, this has changed the perception on sperm donation, at least to some degree. Today, there is a more knowledgeable and better informed (male) public, in particular among university students, who is more willing to become sperm donors than it was the case only five years ago. However, as much as this has changed, the end of China's one-child policy in 2016 has put new pressures on an already strained system of supply and demand of donor sperm in the context of assisted reproductive technologies, as today even more couples are seeking to fulfill their reproductive wishes to also have a second child.

Keywords: sperm donation; gametes; china; media analysis; assisted reproductive technologies.

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I. Introduction

In February 2011, a 35-year-old doctoral student at Huazhong University of Science and Technology in Hubei Province fatally collapsed during the process of making a sperm donation at the local sperm bank. The case came to wider public attention when, in the following year, the media reported that the donor's father had taken the university to court, claiming that the sperm bank was responsible for his son's death. The case triggered a surge of media reports and changed the image of sperm donation from a somewhat taboo topic that people did not talk about even with close family and friends, to a new domain of public interest. The paper will look at how, whilst tragic, the incident served as a crucial breakthrough in China, to change the character of the media debate about sperm donation, and to transform the (male) public's perception of issues surrounding it. In fact, sperm donation has been one of the most controversial aspects of assisted reproductive technologies (ARTs) in China¹.

Artificial reproductive technologies have been a central object of research in science and technology studies for several decades now, and numerous studies have looked at the impact of ARTs in different national and political cultures (e.g., Inhorn and Van Balen 2002; Strathern 1992). As those undergoing ART treatments often rely on gametes (eggs and sperm) or embryo donors, social scientists have also looked at the motivations of donors in different countries and the impact of legislative contexts on the diversity of donor populations (e.g., Mohr 2014; Pennings et al. 2014). This study draws on two related bodies of literature in the Chinese context, one that has explored the social and political conditions of reproduction (e.g., Handwerker 2002; Greenhalgh and Winckler 2005), and another that has looked at human gamete and embryo donation (e.g., Klein 2010; Klein 2017; Liao, Dessein and Pennings 2010; Ping et al. 2011). China reported the birth of its first IVF baby only ten years after the world's first baby was conceived from IVF in England in 1978, and this marked the beginning of China's intensive involvement with ARTs. What is different in China than in most other countries is that the Chinese government does not permit the donation of spare embryos leftover in IVF clinics for use by other infertile couples (Klein 2010). From this follows that spare embryos can only be donated for research purposes (e.g., stem cell research), or alternatively they have to be discarded (MOH 2003), and only human gamete donation is lawful. Many of the concerns surrounding the application of ARTs are unique to China, where Confucian beliefs and values strongly influence the debate. Although IVF has been long established and 'routinized' in China over a period of more than three decades (Wahlberg 2016), and even though artificial insemination (by both husband and donor) has been practised for an even longer period of time (Liao, Dessein and Pennings 2010)², sperm donation, although encouraged by authorities, has always been one of the most controversial applications in the ART sector in China.

Sperm donation serves as a remedy for the lack of male gametes in infertile couples and satisfies the male partner's desire to have a child, but it also means that the couple will raise a child that is biologically unrelated to the father. The absence of this genetic link poses a direct conflict with Confucian norms and values, which many people still accept, especially in rural areas of China. A child conceived with the help of a sperm donor is difficult to accept, because Confucian filial duty strongly favours the biological link as it fits with a central Confucian value of 'continuing the patriline' (Qiu 2002). From this vantage point, the implications for the sperm donor are that he passes on his ancestral bloodline to strangers, which would be akin to an insult to his family and ancestors, because the biological father is not able to fulfil his filial duty for his unknown and unacknowledged offspring (Heng 2009). Consequently, sperm donation has been a highly controversial topic in China.

The paper uses a qualitative approach to look at the media debate about sperm donation. Chinese newspapers will be analysed with the help of textual analysis. Following Fairclough (2003), newspaper articles, as 'texts', are elements of social events which have 'causal effects' and can bring about change. For instance, texts can bring about changes in our knowledge, beliefs, attitudes, values and so on. However, this causality is not regular. According to Fairclough, it is not possible to say for instance that particular features of texts automatically bring about certain changes in people's knowledge or attitudes, or particular social effects. Analysing the causal effects of texts, what needs to be accounted for is that they are embedded in "processes of meaning-making" (Fairclough 2003), and that it is these 'meanings' that have social effects and can lead to change, rather than the texts as such. Such a methodological approach implies that meanings and interpretations associated with these texts (newspaper articles) and their messages about sperm donation will be more relevant than for instance the number of times they occur. The media analysis will primarily draw on Chinese English-language media³, in particular but not only the dailies 'China Daily' and 'Global Times'⁴. The period of data collection concentrates on the time when sperm donation became a topic of wider public debate in China in 2011 until 2016, but the analysis will also include newspaper articles from earlier years, as well as regulatory guidelines and scientific reports.

In China's system of media control, the Publicity Department of the Communist Party of China (CPC) (sometimes still called by its old name 'Propaganda Department') coordinates with the General Administration of Press Freedom to enforce media censorship and control of politically sensitive and taboo topics (Stockmann 2013). Since President Xi Jinping took office, he has asked for 'absolute loyalty' from the state media (South China Morning Post 2016a), and censorship of all forms of media organizations and content has tightened. Despite heavy government censorship, however, mainland Chinese media production has also turned into an increasingly competitive market, offering diversified content and an increase in investigative reporting. Many topics and political events are strictly monitored and either considered to be taboo or sensitive, but there are also some areas with less heavy state censorship, where journalists enjoy greater freedoms in their journalistic expression. Sperm donation is not considered to be a politically sensitive topic, and government authorities have in fact actively sought to overcome the deep-seated sociocultural prejudices against sperm donation prevalent among many Chinese, which in the past have led to severe shortages among the country's sperm banks. The paper will start with a discussion of the broader cultural and regulatory context surrounding sperm donation in China. The media analysis will then include an analysis of central topics, meaning and actors in the debate about sperm donation in Chinese newspapers. The conclusions will make some final observations about the effects of the media debate on the transformation of public perception.

2. Cultural and Regulatory Context of Sperm Donation in China

Confucianism is the main Chinese framework of norms and ethics by which the new ARTs have been taken up and interpreted. Confucian norms and values place a strong emphasis on the patrilineal tie between ancestors and their descendants, and procreation is by far the most significant aspect of Confucian filial duty. Childlessness has always been regarded as a failure in one's duty toward parents and ancestors (Heng 2009). Especially in rural areas, but not only, it is attached with social stigma, which may not only affect the infertile couple but also their entire family (Handwerker 1998; Ping et al. 2011). In the past, this has led to alternative techniques of reproduction to bypass infertility or to get hold of additional children, in particular if a couple was unable to bear a son, and such alternatives included for instance adoption of (extra) sons or taking concubines when a wife had not produced an heir (Klein 2017). Yet today, ARTs offer entirely new ways to deal with infertility and to alleviate the burden of childlessness. Since ARTs became available in China in the late 1980's, their development coincided with a unique biopolitical setting, namely that of a mandatory birth limitation policy, allowing only one child per couple (Greenhalgh and Winckler 2005). In her ethnographic studies of Beijing's emerging ART industry in the early 1990's, Lisa Handwerker has shown how in the context of government controlled reproduction, the availability of ARTs created new pressures for childless couples to do everything they can to overcome infertility, and how therefore, paradoxically, the one-child policy came to be experienced as a 'everyone must have one child policy' (Handwerker 2002). When Deng Xiaoping's economic reforms since the late 1970's culminated in the political reform project under Jiang Zemin at the turn of the millennium,

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Greenhalgh and Winckler (2005) have shown, how the birth planning policy overall shifted from a mass surveillance intrusion into all aspects of people's lives to a more 'neoliberal' and indirect form of regulatory control through new social actors and intermediary organizations. This shift was characterized by two fundamental paradigm changes: firstly, a change from a focus on 'quantity' to that of 'quality of the population', and secondly, a change from direct state regulation to greater self-regulation through the market and by communities, families and individuals themselves. Under this 'neoliberal' influence, the one-child policy turned its focus away from curbing the size of the population onto improving its 'quality', and as Handwerker (2002) has pointed out, this meant a new focus on producing 'the quality singleton'. This trend has been particularly strong in urban areas and was exacerbated by the rise of new consumer markets for infertility and ART treatments and a new culture of selfregulating subjects obsessed with raising the quality of their single offspring.

It was in the midst of this shift, when medical experts and fertility providers in the late 1990's became increasingly unsatisfied with a vastly expanding but unregulated ART industry. They increased their pressure on the authorities to standardise and regulate the new medical sector, so that ART clinics require state licenses to provide their services. It took until 2001, when the former Ministry of Health (MOH), now the National Health and Family Planning Commission (NHFPC)⁵, issued four new regulations: two methods, the 'Managerial Method for Human Assisted Reproduction' and 'Managerial Method for Human Sperm Banks', and two technical standards, the 'Technical Standard for Human Assisted Reproduction' and 'Technical Standards for Human Sperm Banks'. In 2003, these methods and standards were amended, and the amendments together with new ethical principles were incorporated into the currently applicable set of legal guidelines, called the 'Technical Standards and Ethical Principles for Human Assisted Reproduction and Sperm Banks' (henceforth referred to as MOH 2003). Under the new legal guidelines (MOH 2003), single women, unmarried and same-sex couples are not permitted to receive ART services, and those seeking to undergo fertility treatment need to show their marriage certificates. The guidelines also require confidentiality of all involved persons including the identity of donors, and sperm or gamete donors are guaranteed lifelong anonymity⁶. Due to Confucian cultural sensitivities in China, which have the potential to make a child conceived with the help of a donor difficult to accept, most couples respect this anonymity principle, as it goes hand in hand with a secrecy rule common among Chinese families: when the act of using a sperm donor is kept a secret, the rationale goes, the child will also never ask for his or her genetic father's name (Liao, Dessein and Pennings 2010)⁷.

There are 30 provinces, autonomous regions and municipalities in mainland China. Under current guidelines, each province can only have one provincial sperm bank (MOH 2003)⁸, but not all provinces have sperm banks yet. With more being planned, there are currently 23 li-

censed sperm banks. There are at least 178 licensed IVF clinics (Oiao and Feng 2014) and approximately 30 licensed clinics offer artificial insemination services (Ping et al. 2011). All of these clinics rely on the supply of sperm from sperm banks, hence there is a huge demand in donor sperm. It has been estimated that around 10% of infertile couples turn to a sperm bank for help (Shanghai Daily 2005). In large cities like Beijing, Shanghai, Nanjing and Guangzhou, this means that over 10,0000 couples hope to receive a sperm donation as soon as possible (Gong et al. 2009). Long waiting lists and waits of up to two years cause some of them to give up on their plans (Ping et al. 2011). For ethical reasons, China bans any form of commercial sperm banks, which means that sperm cannot be traded or acquired for a payment (MOH 2003). The ART regulations further define strict eligibility criteria for sperm donors. They must be between 22 and 45 years old, heterosexual, in good health, and they are required to undergo a series of physical and psychological evaluations (MOH 2003). Serologic and genetic testing aims to identify those at high risk for sexually transmitted infections and hereditary genetic diseases. such as for instance HIV, Hepatitis B and C, syphilis, gonorrhoea, mycoplasma, chlamydia, and numerous other conditions. This and a density threshold of at least 60 million spermatozoa per ml of semen means that many applicants fail at the first stage of the screening tests.

The rate has been found to be so high that a sperm crisis and declining sperm quality have become of increasing concern and a subject of scientific studies. For instance, a multicentre study of four major sperm banks found that out of 19,471 prospective sperm donors between 2003 and 2009 only 6,467 men (33.2%) gualified to become donors (Ping et al. 2011). The main reasons for non-recruitment were found to be semen parameters below the required threshold (55%) or a positive test for sexually transmitted diseases (7.9%). One recent study found that of sperm donor applicants in Hunan Province, 56% gualified in 2001 because their sperm met standards of healthiness, whereas by 2015 only 18% qualified (Huang et al. 2017, p. 88): "The semen quality in young men in China has been declining over the past 15 years", concluded the study, which involved more than 30,000 men. It is generally believed that the main reasons for the declining quality of sperm are changing lifestyles, which often are associated with China's economic transformation from Communism to a market society: such as long hours of sitting at the computer, stress, irregular sleep schedules, increasing substance abuse, and environmental pollution is also typically cited. However, an increased perception of declining sperm quality is not particular to China, as researchers around the globe have warned for years that the male sperm count is in a state of decline. It is difficult to know whether sperm quality is in a state of decline or whether there are biases in the study populations, but it is unlikely that the rate could have fallen that much⁹.

When applicants pass the screening tests, they face a lengthy donation process from the initial tests to delivering the required amount of semen.

In addition to at least three visits for screening, a complete donation of usually 17-40 ml of semen (as required per individual sperm bank) requires approximately 10-15 visits at intervals of 5-7 days. All samples have to be frozen for a period of at least six months from the last donation, and donors are required to return to the sperm bank for final HIV testing. To truly qualify for fertilisation, post-thaw semen in addition needs to test for a frozen-thaw survival threshold of 60% or above (MOH 2003). Some eligible donors change their minds when they discover that it can take up to 10 months or longer to complete the entire process of having the semen samples declared eligible for donation. In China, each donor can only impregnate five women through AID or IVF (Gong et al. 2009). Sperm banks are required to follow-up with treatment results and to keep records in order to limit the number of pregnancies from the same donor. A computer management system is used to record this data.

3. The Media Debate about Sperm Donation in Chinese Newspapers

This section will look at how newspapers have reported about the controversial issue of sperm donation, and how this debate evolved during the 2010's. This analysis will focus on archive searches of the China Daily and Global Times. Both newspapers have news archives that are available online. Before the news of legal proceedings broke out in early 2012, following the death of a sperm donor in Hubei Province, there was only little news coverage of issues involving sperm banks and sperm donors. An archive search of the China Daily (CD) between 2001 (when ministerial bodies started to license and regulate human sperm banks and assisted reproduction) and 2011 (when a sperm donor died during the donation process) produces only sparse results. In some years, there were none, and in other years only up to two news articles per year. Reports during this period covered issues like the need of sperm banks for more sperm donors (CD 2004), the difficulties that infertile couples face to find a matching sperm donor (CD 2008), and the burdens and familial pressures that childless couples face when trying to conceive (CD 2010a). By 2009, the director of Shanghai's first sperm bank in an interview with the CD still considered sperm donation to be a social taboo in China (CD 2009), citing cultural prejudices and a lack of knowledge as the main reasons to keep potential donors away from enrolling with sperm banks. Medical experts and government officials have always attributed the shortage of donor applications to a 'lack of education' and insufficient knowledge about sperm donation among the general population (CD 2012a), yet at the same time the media also did little during these years to change public awareness and attitudes about the issue. Around 2010, this situation slowly started to change. The director of Guangdong Province's sperm bank for instance stated to the media that the numbers of prospective donors in 2010 had gone up by almost 100%, compared to the average in previous years, when over 900 applicants attended his sperm bank (CD 2011). According to him, the numbers started to improve, because "more people, especially college students, have developed an interest in donating sperm".

The majority of sperm donors have always been students in China. A 7-year multicentre retrospective study of sperm donation and its application in China examined four major sperm banks between 2003 and 2009 and concluded that college students constituted by far the largest occupational group (92.7%), and that only a small percentage of donors were office workers or trade and medical professionals (less than 8%) (Ping et al. 2011). The study further found that the majority of donors were also unmarried (95.2%) and childless (99.1%). There is no science behind it, but some like Jiangsu Province's sperm bank in East China in Nanjing city have altogether stopped accepting applications from working men, out of concerns about the lesser quality of their samples (GT 2012e). For the director of Jiangsu's sperm bank, this is a result of lifestyle, because "working males are usually under excessive pressure and many have bad habits, including drinking, which negatively affects their sperm" (GT 2012e).

While about 30% of the sperm donated in this sperm bank does not meet the required standard, the rate is said to be less than 20% in sperm samples from office or so-called white-collar workers (CD 2013c). In contrast, the rate of all donors (including students and all other groups) passing the examination at the Beijing Human Sperm Bank under the National Research Institute for Family Planning was said to be about 20% in the same year (GT 2013c).

The gradual change in the attitudes of Chinese men to consider sperm donation coincided with new efforts by sperm banks to increase the number of applicants. These early recruitment campaigns aimed particularly at university campuses, and news reporting began to pick this up too (Klein 2017). Recruitment on campuses usually involved students who were former sperm donors themselves, and their role was to distribute leaflets among classmates and in dormitories. Newspapers informed the public for instance that flyers were circulated on Beijing university campuses with the message: "if you are over 22 years old, male, healthy, full of love, courage and confidence, you are the right person for us" (GT 2010). It was also documented that these efforts caused a range of different reactions among students, many of whom were still lacking knowledge and awareness of the culturally sensitive topic. Most had never even talked or read about sperm donation before. A common reaction was therefore to question the purpose and methods of recruitment. One young student for instance said to a journalist: "I saw this in the restrooms on our campus and even our dormitory, it's embarrassing" (GT 2010). Hence, this form of recruitment was not always guaranteed to be successful. A student recruiter in Shanghai who was distributing leaflets in his dormitory for instance had not received any feedback from his fellow students, and he argued that this was due to their fear 'to lose face', in that by becoming a sperm donor they would have less chances of finding a girlfriend (GT 2012e). The attitudes and motivations of Chinese men for or against sperm donation also came into focus. Against sperm donation were voices such as: "I can't bear the thought that I might someday meet my offspring, whom I wouldn't even know" (CD 2012a).

There are also those for whom preserving biological kinship was not as much a personal value, as they worried it could affect 'others' like their family, friends or partners, and what would happen if they found out. A newspaper also reported about a graduate student in Beijing who had in fact decided to become a sperm donor, but who noted that he had kept the donation a secret out of worry that "my family might kill me for letting a stranger use the precious family seed" (CD 2010). Risk of incest through intermarriage of ART conceived descendants from the same donor has also been a recurring theme in media interviews with the public. A man from Hubei Province for instance, who over a decade ago when he was a student decided to become a sperm donor, told the media that "it feels weird to know that someone you meet on the street someday could be your child" (GT 2013b). He had decided to donate his sperm out of altruistic reasons, but is now married with his own child and full of remorse that he may have other kids.

While these cases demonstrate how sperm donation may be perceived as a risk factor for family and social relations, others like a senior student in Beijing also found that recruiting students to become sperm donors is a good thing, because it "reflects progress in society" and allows students "to make a contribution to the quality of the population in the future" (GT 2010). However, flyers and posters as methods of information dissemination to reach students have not always proven to be effective, and some sperm banks also turned to other strategies for recruitment on campuses including for instance collaborations with student unions. For the director of the Guangdong sperm bank, this turned out to work better, as "student union members normally talk to students one-on-one in private about sperm donation" (CD 2011). The director of Shanghai's sperm bank even appeared on local radio programs and gave lectures at the city's Fudan and Tongji Universities to encourage more students to become sperm donors (CD 2012a).

The comparison of sperm donation with blood donation was another common strategy to make the former more acceptable and to overcome deep-rooted sociocultural concerns. In this vein, sperm bank staff explain to potential sperm donors similar to the director in Hubei Province that "just like blood donation, giving sperm is a humanitarian and charitable deed" (GT 2013b). However, in as much as altruism is often presented as the main motivational factor, there is also a monetary dimension to the incentive to become a sperm donor. Although financial payments and the selling of sperm are strictly prohibited for ethical reasons, monetary compensation of donors for their time and expenses is permitted and approved by the provincial authorities (MOH 2003). This is also the case in other countries including the UK¹⁰. Compensation payments are often quite high in China compared to normal living costs and salaries, but medical staff insist that the cash payments are not the same as incentive payments. For instance, the director of Guangdong's sperm bank defended this system to the media, in that it "doesn't mean they are selling sperm", but that the sperm bank is "providing meals and transport fees and compensation for loss of working time" (CD 2011).

Donors are usually given compensation payments as the tests progress to make sure that they return and complete the full process which can be lengthy. Applicants usually first receive small payments to have their blood and semen tested, and they receive greater sums for every ml of sperm they give to the bank. When donors complete the process and return for the final HIV test six months after their last sample was frozen, they receive an additional bonus payment. The full compensation payment in 2011 was slightly above the average monthly income in Shanghai (CD 2011a).

In early 2012, the death of a sperm donor in the city of Wuhan took centre stage in the newspapers. The death of the 35-year old received great media exposure, when the case went to court and the father sued the sperm bank for four million Yuan (US\$ 628,972) (GT 2012). However, the district court ruled in June that the donor, who studied towards a doctoral degree in medicine, was entirely capable of making his own decisions about his life, including whether he wanted to take part in the sperm bank program. He had signed up as a sperm donor in January 2011 and within ten days had made his fourth visit to donate sperm, when he collapsed in the collection room. In the aftermath of the tragic incident and the ensuing court case, news reporting about sperm donation increased significantly. For instance, a series of headlines in the Global Times (GT) in the month of September alone read: "Sperm Banks running empty" (GT 2012a), "Sperm bank calls for more donors" (GT 2012b), "Sperm bank offers donors a raise" (GT 2012c), and "Thank you for coming" (GT 2012d). In January 2013, the China Daily published a large editorial on "Banking on sperm – hope for childless couples" with a large collection of articles on related topics, such as an institutional overview of different sperm banks, what is involved in the process, a frequently asked questions section about sperm donation, and public attitudes about sperm donation (CD 2013).

State censorship of the media with respect to sperm donation has only been visible indirectly, when media reporting aligns with government policies. This is for instance the case when newspaper articles tend to showcase certain motivations and attitudes over others, as the selling of sperm is strictly forbidden in China, and donors are expected to have altruistic motivations (despite the fact that they receive significant financial compensations). Donors interviewed by the media are often quoted as being altruistic, and motivational statements such as "I'll just be glad if I can help a childless couple" (CD 2010) are quite common in the media debate. However, although the media may showcase altruistic intentions over other motivations, donors also have personal motivations and individual experiences that make them inclined to, as Mohr (2014) puts it, "enact their moral selves". This is certainly the case when for instance a 34-year old civil servant in Shanxi Province described to a journalist that he became a sperm donor when his brother became infertile - in a car accident, and the condition eventually led to his divorce (CD 2013a). The donor firmly believed that the divorce could have been prevented, if his brother and sister-in-law would have known more about sperm donation, and he therefore hoped to help others in a similar situation. Yet, he also hid his donation from his wife, because he was not sure if she would have accepted it. In contrast, however, the newspaper also reported about a young student in Beijing who had openly discussed his wish to become a sperm donor with his girlfriend, who did not agree to it right away, but who eventually convinced her "that it was a worthy cause as it would help couples or single woman who are unable to reproduce get children" (CD 2016). Likewise, a 22-year old university student in Shanxi Province emphasized in an interview that it was important to him that people do not think that he sold his sperm, even though he was given a considerable amount of money for a student (CD 2013a). He did not want his actual intention to be misrepresented, which was to help infertile couples.

By 2013, public perception of sperm donation had shifted so much that it no longer fitted easily with the old system of Confucian values of filial duty and the patriline. There was now a more knowledgeable and better informed (male) public with a greater openness to sperm donation, and sperm banks significantly changed their tactics of interaction with the male public. Social media became the new favourite platforms of recruitment, and the setting up of blogs and accounts on popular Chinese websites and phone applications, such as Sina Weibo¹¹ and WeChat¹², became popular strategies of sperm banks to reach the young, male public. This way, sperm banks were now able to engage more directly with large numbers of internet users, and to provide those considering sperm donation with the opportunity to ask questions without the need to attend a sperm bank. Hand in hand with the use of social media to promote sperm donation, many provincial authorities also increased the level of monetary compensation to incentivize more men to become sperm donors. The higher compensation figures helped to draw more attention to sperm banks, and this in turn also was picked up frequently by the press. Henan Province's sperm bank early in this process posted a message on Sina Weibo, in which it offered cash payments of up to 5,000 Yuan (US\$ 789) (GT 2013a). After the notice was issued, the sperm bank reported that it received around 50 donations per day and up to 100 during holiday periods, which was a significant increase to the number of applicants that had attended the sperm bank before. Monetary compensation in the range of 4,000 to 5,000 Yuan (US\$ 631-789) was already guite high compared to

normal living standards, but Zheijiang's sperm bank in Hangzhou Province even topped all other sperm banks, when it posted on its Sina Weibo profile that it would offer a bonus of 6,000 Yuan (US\$ 975) (CD 2013b). In the UK, in contrast, where living standards, costs and salaries are much higher, the amount is set at GBP£ 35 per visit (Human Fertilization and Embryology Authority). The principle behind it is that the amount offered is not a payment and a person should never feel compelled to donate for financial gain but rather because they want to help a family in need. The money a donor receives is to compensate for out of pocket expenses. This means that after 12 weekly visits over three months, a donor in the UK receives a total of GBP£ 420, which is far less than what a donor receives in China, where living standards and average living costs are much lower.

This quickly led to a race among sperm banks for bolder statements and catchier awards for donors. In 2015, Hubei Province's sperm bank lured new volunteers with a WeChat message beneath a photo of an iPhone 6s which read: "5,000 Yuan (US\$ 785) will be paid for 40 ml sample of semen (the iPhone 6s is priced at 5,288 Yuan on the mainland)" (CD 2015). The China Daily also reported that the message received 85,000 page views within two weeks and that it was a much talked about topic among students and in online discussion forums. Trying to keep up, Shanghai also increased its compensation level to the maximum of 6,000 vuan and posted a controversial advertisement on WeChat stating to draw attention: "no need to sell a kidney... Shanghai sperm bank can make your iPhone 6s dream come true" (GT 2015). 'To sell a kidney' is a well-known metaphor in China that was coined when a 17- year old teenager made headlines in 2011 for selling his kidney on the black market to afford an iPhone and iPad. Within only a few days, the post had been viewed over 100,000 times. Although it drew heavy criticism for exploiting that case, the post was deemed a success, as the sperm bank was able to increase its rate of 20 phone calls on normal working days to 200-300 calls per day to those selected from registrations on the sperm bank's website. Online registrations of interest and calling up potentially eligible donors by phone have now also increasingly replaced the traditional walk-in service. In July 2015, online donor recruitment was taken to a new height, when seven sperm banks teamed up with the Chinese ecommerce company Alibaba in a three-day commercial campaign that was launched on the online shopping site 'Taobao'. Chinese men were promised that by signing up and completing a sperm donation they could receive a payment between 3,000 Yuan (US\$ 483) and 5,000 Yuan (CD 2015a). Within the three days that the campaign lasted more than 22,000 signed up to register with a sperm bank. The registrations were passed on to the relevant sperm banks, some of which received equivalents to nearly a year of walk-in traffic.

At a time, when sperm donations just had started to pick up, the CPC in January 2016 implemented the new 'two-child policy' in order to curb

down on population aging and to expand the pool of working-age people. As a result of this policy change, sperm banks in Beijing, Shanghai, Shanxi and Hubei announced that their sperm storage was at an all-times low (GT 2016, South China Morning Post 2016). The end of the country's decades-old family planning policy has put new pressures on sperm banks, as the waiting times for donor sperm have gone up even further. Many families want to take advantage of the reforms to have a second child, including often also older couples who are more likely to have fertility problems. Even long before the two-child was introduced, some ART clinics already had to refuse new patients "who would just end up hopelessly waiting" (CD 2012), but the introduction of the two-child policy has made this situation even worse. Since the introduction of the new policy, the number of consultations in one IVF clinic in Beijing has risen by 20% (South China Morning Post 2016). However, it is also the case that not all families are seeking to have a second child. When the family planning policy started to relax in 2013 and allowed families to have a second child if both parents were a single child, only about 13% of eligible married couples (1.45 million) submitted applications to the National Health and Family Planning Commission (GT 2016). Yet, under the new nationwide policy, the government is actively trying to convince more families to have a second child, and in 2017 it announced to introduce new financial incentives, such as rewards or subsidies, for families who do not want a second child due to economic pressures (All-China Women's Federation).

4. Conclusions

The shortage of donor sperm has devastating consequences for infertile couples seeking to undergo fertility treatment. Sperm banks have tried in many ways to overcome the sociocultural prejudices against sperm donation that pre-existed in Chinese society, and the paper has argued how the situation has improved in recent years. Today, sperm donation is no longer a new concept or social taboo to Chinese people, even though recruitment of new donors is still not easy and requires a lot of effort and incentives. In interacting with a now less prejudiced (male) public, many sperm banks have found that the use of new platforms like the internet and social media help them to appeal to a larger number of men, in particular the younger generation of blog and social-networking site users that are the prime group for recruitment. However, this has also created the risk that recruitment of sperm donors in this latest phase has taken on a more commercial character than used to be the case. Whereas earlier on students used to receive leaflets or went to lectures to be informed about sperm donation, now the placement of promotional blog, social network or instant messaging posts incentivizes potential donors in ever more competitive and commercial ways, for instance by promising the latest models of iPhones but also through forming marketing collaborations with commercial companies, such as in the case of the Alibaba campaign in 2015. As discussed earlier, the so-called compensation payments for sperm donors are significantly higher in China than the UK, despite the fact that the costs of living are comparably much lower. Unlike in the UK, where the compensation only covers out-of-pocket expenses, in China the compensation is at a level of incentivization, even though this is officially prohibited under the existing guidelines.

The recruitment of sperm donors has overall increased significantly in recent years. Evidence of this development is most visible from a retrospective study of China's largest sperm bank in Changsha in Hunan Province (Huang et al. 2017). Of a total pool of 30,653 donor applicants between 2001 to 2015, 3,114 were recruited in 2001-2005, 10,386 were recruited in 2006-2010, and a far greater number of 17,136 men were screened for eligibility in 2011-2015. It is important to note that sperm bank staff have never credited the shortage of sperm donors to cultural prejudices alone, but also to excessive government policies. For instance, although China has the world's largest population, it is also by far the most restrictive country in terms of limiting the number of women that can be impregnated by one donor to five only. In the USA, in contrast, there is no enforced national limit, but guidelines recommend 25 births per population of 850,000 from the same donor (The American Society for Reproductive Medicine 2004). For the director of China's largest sperm bank, the limitation of a single donor's sperm to five women only is a waste of resources and presumably the biggest hurdle for sperm banks to meet the demand of the ART sector (CD 2010). The chances of marriage between offspring from the same donor are already extremely slim when provided to five women in a population of only three million, whereas for a country of 1.3 billion people "one man's sperm could safely be provided to at least 10 women" (ibid.).

Additional policy restrictions are that donors cannot be younger than 22 or older than 45 years old, and that they cannot be gay or foreign nationals (MOH 2003). In the UK, in contrast, donors can be as young as 18 and sexuality does not matter (Human Fertilisation and Embryology Authority). The media frequently refer to the notion that sperm count requirement of 60 million spermatozoa per ml is often considered to be too high (CD 2013), because it is three times that of the "average healthy male", as defined by the World Health Organization (1999). However, normal sperm concentration ranges from 15 million to 200 million of spermatozoa per ml of semen, whereas a count of 40 to 60 million per ml is only average and necessary for fertilization. In fact, it has been suggested that values in the range of 50-60 million spermatozoa per ml should be used as a lower cut-off level for full reproductive competence, whereas the area between 15 and 40 million spermatozoa per ml delineates a grev subfertility zone (Skakkebaek 2010). Hence, the Chinese sperm density requirement is not too strict. It is important to note that sexually transmitted diseases are also a significant cause for screening failure, but Hepatitis B, for instance, is an endemic virus in China which affects approximately 120 million individuals. Numerous applicants fail, because they test positive for a recent or long-standing hepatitis B infection. Due to often unnecessary and counterproductive regulations, Chinese sperm banks have to recruit that many more sperm donors, compared to American or European sperm banks, to supply similar numbers of families.

As these are major reasons for the chronic shortage of sperm donors in China, medical experts hope for the government to ease some of the restrictions and they use interviews with the media as an occasion to create some pressure. This is an area where the government will have to make amendments in the future, in particular that now sperm banks also need to supply those who want to have more than one child.

The media initially did not take on much of a role as an 'educator' of the public with the aim to increase people's awareness and knowledge about sperm donation and what it involves. Yet, a fatal incident involving a sperm donor and ensuing legal proceedings in 2012 changed the news cycle. The little-known topic of sperm donation and the plight of sperm banks dealing with severe shortages of donors came more into the center of public attention, and changed the (male) public's awareness and knowledge about it. Sperm donation has become part of the public imaginary, and the debate in the media, as exemplified by two Chinese newspapers, has contributed to this in many ways. Medical experts and government officials have always attributed the shortage of sperm donors to a lack of education and knowledge about what it involves, and often told the media that engaging the public through education campaigns is a more effective way to ease the donor shortages (GT 2013b). The media have played an important role. They have filled the knowledge gap that medical experts and sperm bank staff always ascribed to be the main reason for the widespread cultural prejudices against sperm donation in the past. News reporting has also been balanced in regard to portraving the whole range of motivations and attitudes of Chinese men with respect to sperm donation. Thus, the news articles as 'texts' in the Chinese media debate about sperm donation that contain meaning and interpretations with the possibility of social change (Fairclough 2003) have played an important role in the dynamic relationship between sperm banks, social events, cultural interpretations and the (male) public's perception of the risks and benefits of being a sperm donor.

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¹ ART's are methods to overcome infertility through a range of different methods, such as for instance in-vitro fertilization (IVF), fertility medication, donor conception or surrogacy, although the latter is not officially permitted in China.

² China's first human sperm bank, the Xiangya Reproduction and Genetics Hospital, was built in 1981 in central China's Hunan Province. It is also the first Chinese sperm bank, from where a baby was born in 1983, with the help of stored frozen spermatozoa.

³ This strategy was chosen due to a lack of understanding of Mandarin. However, English-language media (ELM) are part of the news industry and Chinese social life, and they have a history that goes back to the early 19th century (Guo 2006). ELM exist at all levels (central, provincial, and local) and cover all types of media, such as TV, print media, radio and internet. They represent Chinese societal discourse, as they function as a window onto China for audiences abroad as well as within mainland China.

⁴ China Daily was founded in 1981 and has the widest print circulation of any English-language newspaper in China. The digital edition of China Daily, established in 1995, has huge audiences around the world: daily pageviews now exceed 31 million, and nearly 50% of these views come from inside of China (China Daily, *About China Daily*, in http://www.chinadaily.com.cn/cd/introduction.html (retrieved April 16, 2018). Its editorial staff is mainly Chinese. It is often used as a guide to government policy, and its editorial policies are slightly more liberal than those of most other Chinese newspapers. The Global Times is a daily tabloid newspaper established under the ownership of the Chinese Communist Party's flagship paper, the People's Daily. Its nationally circulated Chinese version was founded in 1993, and since 2009 there has also been an English edition that shares editorial content with the Chinese flagship, but to some extent it also operates independently. It has earned attention and notoriety, in both China and abroad, as China's angriest newspaper, and has been labeled as "China's Fox News".

⁵ In 2013, the Ministry of Health has been dissolved and its functions integrated into a new administration, called the National Health and Family Planning Commission.

⁶ Across the world, countries have varying laws on whether to allow anonymous sperm donation. In contrast to China's position, in the UK sperm and egg donors no longer have the right to remain anonymous. Children born with the help of a donor are able to ask for the identity of their donor when they are 18 years old (Human Fertilisation and Embryology Authority). ⁷ The rule of anonymity goes back to the feeling in the past that if one adopts a son from a non-agnate, it is best to adopt one from far away, because that way the child will have great difficulties finding his biological parents (Wolf and Huang 1980).

⁸ The only exception are provinces with more than 100 million inhabitants which can have two sperm banks. For instance, Beijing has two sperm banks, one under the National Research Institute for Family Planning at China's Academy of Sciences, and another one at Beijing University Third Hospital.

⁹ A large meta-analysis of 185 studies, covering nearly 43,000 men and their sperm counts between 1973 and 2011, concluded for instance that the concentration of sperm per ml of semen among men from North America, Europe, Australia and New Zealand fell by almost 60% (Levine et al. 2017).

¹⁰ The commercialization of gamete donation is forbidden in many countries, but monetary compensation is often allowed. The same system also exists in the UK, where the Human Fertilisation and Embryology Authority requires that monetary compensation to donors is reasonable so as to avoid commercializing the procedure (Human Fertilisation and Embryology Authority).

¹¹ 'Sina Weibo' is a popular Chinese social networking site, similar to Facebook and Twitter.

¹² WeChat is a Chinese instant messaging application, which can be compared to WhatsApp and Facebook Messenger.