

**Mothering in a Polluted, Developing China:
Class, Risk perception, and Environmentalist Motherhood**

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THESIS

Submitted as partial fulfillment of the requirements
for the degree of Doctor of Philosophy in Sociology
in the Graduate College of the
University of Illinois at Chicago, 2019

Chicago, Illinois

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This thesis is dedicated to all the mothers whose stories are told here.

ACKNOWLEDGEMENTS

On a sunny spring afternoon, I was preparing for my lecture about Diane Bates' book *Superstorm Sandy: The Inevitable Destruction and Reconstruction of the Jersey Shore* in the library of the College of New Jersey. It was my second time to lecture this book. But I was still mesmerized by the section where Diane detailed all the pop culture (e.g., songs, TV dramas) that people use to construct their symbolic identity of being a New Jerseyan. I am particularly interested in Bruce Springsteen's song *My Hometown*, a song which was first recorded in 1983 when Bruce was only 35. The entire song beautifully describes Bruce's attachment to New Jersey, as a child in the 1950s, as a teenage in the 1960s, and as an adult in the 1980s. In its third verse, Bruce detailed a deteriorating New Jersey where textile mills were being closed and jobs were disappearing. The lyrics immediately reminded me of my childhood as my parents were textile factory workers for decades before they retired. The closing textile mills somehow "moved" to the other side of the world. Back then, the best machines in my parents' factory were imported from Germany and the best-quality clothes were equally exported to Europe, the United States, as well as Japan. In the closet of my home, we had piles of defective underwear clothes from the factory. I was happy to wear free underwear. My father told me they were all with good quality (Now I think, what he meant is that they were all good enough for Chinese consumers).

I decided to write down this little vignette here as it symbolizes what I have been struggling with in the past few years and what I hope this dissertation can somehow accomplish. In the first half of graduate school, I struggled with what America is in some very America-centered courses, such as race and ethnicity, gender & sexuality, and racial segregation. These topics are very important. But without embodied experience in the United States, I found it extremely difficult to acquire a deeper understanding of the readings. In the second half of my

graduate studies, I struggled with what China is after being away from China for many years and by repeatedly analyzing a set of data that I collected in China several years ago. Being Chinese, I believe it's immoral to cook the Chinese stories into something that doesn't have any Chinese flavor. Using English to analyze and present the data is itself an alienating process. My mind is full of fear and reverence if my analyses could not resonate with my sociology friends in China and if my use of theories could not resonate with my sociology friends in the United States.

Fortunately, I have had a lot of help in the past few years who used their wisdom, love, and patience to guide me to find the lynchpins, like the "textile mill" in Bruce Springsteen's song.

Mothers

I owe special thanks to all the mothers who shared with me their experience of pregnancy, childbirth, breastfeeding, and all related stories in Shanghai. Your stories collectively nurtured this dissertation, and nurtured my own experience of pregnancy, childbirth, and breastfeeding. I remember all your faces, voices, and I feel grateful to be a part of your "mothering" memory. This dissertation is for all of you. I hope that it doesn't disappoint you.

Advisor and professors

I want to thank my entire committee members, Claire Decoteau, Amy Hanser, Anthony Orum, Paul-Brian McInerney, and Crystal Patil.

I owe a lot to my advisor Claire Decoteau. Claire is a great theoretical scholar whom I deeply admire and feel thankful to have gotten the chance to work with. Having someone like her to look up to is stressful, yet positively stressful. I took two courses with Claire, one is Contemporary Sociological Theory and the other is Sociology of Body. These are two of my

favorite courses at UIC. Her reading group on science, knowledge, and culture also exposed me to an exciting research field. I feel very fortunate to have her read chapter drafts repeatedly. I know it is a luxury.

Getting to know Amy Hanser has completely changed my trajectory in the United States. She went to my previous university in Shanghai to give a talk. My husband was there and recorded her lecture. At that time, she was interested in my master thesis about street vendors. In the summer of 2012, I met with Amy in person at ASA. She was the nicest person you could possibly talk to (not only because she is working in Canada). During the conversation, I explained to her that I wanted to study pregnant women for my dissertation. What followed afterwards was that she approached me to conduct interviews for her project about infant formula, and we ended up co-authoring two pieces. These two pieces laid out the foundation of my dissertation.

Tony Orum is my dearest friend in the United States. His passion for research and his generosity for mentoring young scholar are everything that I could dream of. I was TA for Paul-Brian's Introduction to Sociology class. In his class, it was my first-hand experience and learning that I could have so much fun to read and think about sociological theories. I took Crystal Patil's course Global Perspectives on Women Health where I got the chance to discuss the academic discussions on pregnancy, childbirth, breastfeeding, etc. In retrospect, I wish I could've taken this course a few years later. But it was a truly eye-opening class for me.

I also want to express my gratitude to Norah Mackendrick, Tony Roshan Samara, all TCNJ SOC345 (2018 Spring, 2019 Spring) students.

Whenever I talk to Norah, I feel respect and love. She is knowledgeable and caring. My dissertation was deeply influenced by her fascinating book about precautionary consumption and body burden. Without her encouragement, I don't think I could've completed the chapter about radiation-shielding maternity clothes.

Tony Roshan Samara wrote me an important recommendation letter that brought me to the United States. I was extremely nervous when I first met with him at a Starbucks in Shanghai. I brought a map of Shanghai and used my broken English to pitch my research about street vendors to him. To my surprise, he was extremely nice and kept his promise to mail me the book, *For the City Yet to Come*, all the way from the United States several months after our conversation. It was that meeting with Tony that convinced me that it was a right decision to pursue my research in the United States, although he himself had left academia and is working on something bigger.

At TCNJ, I feel very fortunate to teach a course that is related to my research interest. It was during the class discussions with students that I acquired a deeper understanding of what America is. Using this as a mirror, I feel I can deeply analyze China through better lens.

Finally, I want to say thank you to a lot of my friends who are in Chicago, Shanghai, and New Jersey. They are Amy Brainer, Soulit Chacko, Kelly Eileen, Heather Gifford, Katharine McCabe, Ray Sin, Ryan Sporer, Paige Sweet, Yingfang Chen, Vivian Chen, Zhe Sun, Xiaojing Tang, Sui Tsui, Wei Wei, Erik Zuniga, Diane Bates, Miriam Shakow, and Lindsay Stevens.

Space/Time/Family

I want to thank New Jersey as a whole. This place gave birth to my dissertation. As an international student who lives out of campus, I have constantly been looking for an affordable

place where I could sit, focus, and write. I “gave” birth to Chapter 2 at Rutgers Library, Chapter 3 at East Brunswick Public Library, and Chapter 4 in my adjunct office at the College of New Jersey and Franklin Park Public library. I am grateful that these public spaces welcomed me and provided me with books without checking my IDs.

One thing that is unique about interviewing pregnant women is they (and their children) constantly remind you how fast time can fly. Meanwhile, my own daughter reminds me of how little my dissertation is compared with a real (demanding) happy child.

I also want to thank my parents, Guoxiang Li and Shipin Xu. Words cannot express how much I love them, and how much I feel indebted to them. In the past eight years, we didn’t get to see each other a lot, and they have been strong enough to take care of each other (and worrying about me, their only child, all the time). I’m grateful that they are still physically mobile and psychologically healthy. I appreciate everything they have done for me, and I respect how much they have sacrificed and endured when they were young in China. I also want to thank all my family members in Shanghai. Without them, there is no way I can complete this dissertation. They shared food and laugh with my parents while I was on the opposite side of the earth.

Special thanks are reserved for Weixu Lu and Vindemia “Mia” Luli. Without Weixu, my dissertation will not be completed. I constantly threw my raw ideas to him (24hours/7days), and he always gave me great comments in exchange (while he was struggling with his own dissertation). Our lives have been deeply challenged/empowered by our academic debates and conversations. Each chapter of my dissertation is an intellectual collaboration with him. Little Roundy, I hope one day you will be able to (willing to) read my dissertation. If it was not for this project, I would not have been brave enough to have you. By this, I mean I had you as a part of

my research project. However, your life has proved to me that you are stronger, and much bigger than my dissertation. I love you.

JL

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LIST OF ABBREVIATIONS

APEC	Asia-Pacific Economic Cooperation
AQI	Air Quality Index
CCTV	China Central Television
CEPA	Chinese State Environmental Protection Agency
CPC	Communist Party of China
EWG	Environmental Working Group
EMFs	Electromagnetic field
NCLS	New Citizen Life Space
NIMBYism	Not in my Backyard
SPEZ	Shenzhen Special Economic Zone
WHO	World Health Organization

SUMMARY

Overall, this research asks how do mothers cope with the modernization risks with Chinese characteristics in a polluted but drastically developing post-socialist China? To be more specific: to what extent are Chinese mothers willing to have their little children tolerate the modernization risks in urban China? Considering urban and rural residents have been benefiting as well as suffering from the modernizing China differently, how do mothers from two classes perceive and cope with the risks differently? With a focus on two case studies: electromagnetic radiation-shielding maternity clothes (cloak) and post-Sanlu infant formula scandal in 2008, this dissertation explores the series of questions through 12 months of qualitative research in Shanghai, including in-depth interviews with pregnant women and new mothers from two classes, ethnographic fieldwork in a low-cost maternity hospital (PJ hospital) and a rural-urban migrant non-governmental organization (New Citizen Life Space/NCLS), and archival research on the reports about the environmental pollutions and food safety issues.

This project argues that the dilemma between the drastic state-governed economic development and environmental degradation as well as moral decay has created fear and anxieties over reproductive health, which gives rise to what I term “the responsibility and morality of Environmentalist Motherhood”. In the context of post-socialist China, mothers not only need to perform good motherhood but also claim their distinctive class, knowledge, and positionality. Well-educated, middle-class mothers tend to see the issues of the environmental pollution and food safety problems as a “Chinese” problem rooted in the economic and political path China is taking. Their practice of mothering is facilitated by their economic power but constrained/blinded by their political weakness. By contrast, rural-urban working-class migrant mothers show a fragmented performance of good motherhood due to the discriminatory social

structure, their limited disposable income, and a lack of access to the emerging knowledge of mothering that is dominated and communicated among middle-class mothers through social network and on social media.

The dissertation starts with a government-subsidized, low-cost maternity hospital for rural-urban migrant women in order to paint a general picture of the ideal, reproductive citizenship in contemporary, urban China as well as the lack of health rights among rural-urban, working-class migrant women due to the long-term consequences of *hukou* system and *suzhi* discourse. The following chapters reveal how well-educated, middle-class mothers practice their Environmentalist Motherhood through “cloaking” pregnancy and “delaying” their baby’s contact with China’s environment. All these strategies require tremendous monetary, time, and knowledge investment, and simultaneously cause gendered burden due to their inferior position in the global information as well as commodify flows. Rural-urban working-class migrant mothers, by contrast, are sealed off the outsider world. Their practice of Environmentalist Motherhood is constrained by their desire for economic betterment and the discriminatory structure they are facing in urban areas. The dissertation ends with a general discussion on several emerging core themes, such as global environmental justice, modernity and toxicity, and the dilemma of Environmentalist Motherhood.

CHAPTER 1:INTRODUCTION

1.1 Background and Research Question

In 2008, while China had its focus and all of its resources on the Summer Olympics, a growing crisis emerged and soon spread across the country: thousands of infants were diagnosed with kidney stones. It was discovered that all these infants were being fed *Sanlu*, a domestic infant formula produced and packaged in China. It was soon determined that Sanlu contained a significant amount of an industrial binder – melamine – which caused the kidney stones to form. Although the Chinese government and domestic, dairy corporations subsequently enacted new policies to regulate the infant formula market, many mothers held on to their suspicions about domestic, infant formulas. A growing number of wealthier mothers chose to purchase foreign-brand, infant formula from abroad. Unable to afford and/or have access to foreign-produced formulas, working-class mothers rationalized that the alternatives (domestic brand formula produced and sold in China) were still good for their babies.

However, toxic, infant formula is not the only concern facing mothers in China. In 2008, Beijing implemented a system of X-ray inspection in subway stations as part of an overall plan for safety and security during the Olympics. Shanghai followed suit in 2010 for the World Expo, and was followed by Guangzhou, Shenzhen, and many other tier-one cities. Pregnant women were exempt from these inspections, because of the public's fear of possible risk for their developing fetuses. Venture capitalists recognized a new opportunity in this fear – the manufacturing and marketing of radiation-shielding, maternity clothes (cloaks). Unions in some work units and organizations even reimbursed pregnant women for the purchase of a cloak as a

kind of welfare for its female employees. *Tianxiang*¹ (添香), one of the most popular brands, has advertised on its website that “eight out of ten pregnant women in China wear the *Tianxiang* radiation-shielding maternity clothes.” However, little is known about the variation in mothers’ decisions to purchase and wear the cloaks.

These are not the only concerns of mothers in urban China. However, there is a latent variable that orchestrates the women’s risk perceptions in two scenarios: mothers’ anxieties toward environmental degradation and to moral decay, which I term *the modernization risk with Chinese characteristics*². In his seminal work, *Risk Society*, the European scholar, Ulrich Beck, (1992) contends that a risk society has emerged in Western society that is featured by an ambient awareness of environmental degradation, increasing individualization, as well as the limitations of the orthodox scientific epistemology, which Beck terms *modernization risk*. As a result, he predicts/hopes/advocates for a late/second/reflexive modernity, in which the lay people/public, who are witnessing and/or suffering from the environmental degradation or environmental illness, speculate about the invisible “second reality” (p.72) and would be allowed to work together with the scientific-technological-political coalition to cope with the risks in an advanced, democratic way.

However, after carefully analyzing the archival newspaper data about food safety issues in China, anthropologist Yunxiang Yan (2012) concludes that the risk society as described by Beck is arriving in China (mixed with premodern risks), but the centrality of modernity and the

¹ The phrase “Tianxiang” originates from a famous Song poem. The whole phrase “hongxiou tianxiang/红袖添香” originally means a beautiful maid lights more incense, so that her male master could better focus on studying.

² The term “modernization risks with Chinese characteristics” is used simply as an analytical concept. The element of the term provides latitude for expressing how/why China is the way it is or should be a certain. The vagueness of this concept has given Chinese party leaders (starting from Deng Xiaoping to Xi Jinping) plenty of space to assemble various elements to *develop* China. But for ordinary people, the vagueness of this term is also used to explain anything that we feel confused or vulnerable to put into concrete words.

dominance of science and technology are not being challenged. Yan explains that unlike Western society where modernity had never been a sought-after object, (Western) modernization is the Holy Grail for national survival and nation-building in Chinese history³ (P. 721-722). Susan Greenhalgh and Li Zhang (forthcoming) even label the contemporary Chinese governance a “governing through science”- modern science and technology are heralded by the Chinese party leaders as an all-purpose remedy. Yan also draws our attention to the moral decay (or lack of moral order) deriving from drastic social changes. He points out that the moral decay extends from the consequences of a commonly understood food safety problem (e.g., the melamine was purposefully added to increase the protein at a much lower price) to a problem of more general distrust. Therefore, what we are witnessing is a gradual, top-down approach to food regulation. But the question remains, as some of the middle-class mothers in my data are questioning, will regulation ever be achieved within the Chinese current development model? If so, how long will it take?

Other than food safety problems, the challenges arising from the overall environmental degradation and climate change are equally undeniable. At the Seventeenth National Congress of the Communist Party held in Beijing in 2007, then president, Hu Jintao, coined the term *shengtai wenming* (“ecologically harmonious socialist society”). Here, the word “harmonious” connotes both a harmonious relationship between human society and nature, and a harmonious social relationship within a breathlessly developing country. The latter, in other words, implies the tolerance of a certain, vaguely defined, level of social inequality. Due largely to the severe,

³ It is important to be aware that during the socialist period in China under Mao (1949-1976), modernization was also a desire for China. However, at that time, constrained by socialist ideology, only certain Soviet-approved scientists (e.g., Torfim Lysenko) were allowed by Mao. In short, during that period of time the entire goal of modernization was to serve/realize the dreamed of socialist regime and the potential communist society (see Judith Shapiro 2001).

nationwide, air pollution in 2013, the general secretary of the Communist Party of China (CPC), Xi Jinping, also “declared war” on environmental pollution during the opening of the National People’s Congress in March 2014. More recently, on the global stage, when the United States president, Donald Trump, announced that the United States would withdraw from the Paris Agreement on climate change mitigation, China and the European Union reaffirmed their strong commitment to the Paris Agreement. China even announced that it would halt carbon-emission growth by 2030, sourcing 20% of its energy from renewables and nuclear power.⁴ During the second Belt and Road Reform for International Cooperation on May 14, 2019, President Xi Jinping yet again announced that China’s development will be an “open, green, and clean” development. Therefore, the Chinese government does not deny the existence of environmental degradation and climate change. Julie Sze (2015) coined the term *eco-desire* to describe the ambition that the Chinese government is presenting to the global world for combating environmental risks. However, the concern remains, how will the promised radical environmental policies be implemented under the current, Chinese development model?

The literature has shown that, in current Western democratic settings, a strategy that is dependent on ecological modernization (that is, using science and technology to cope with environmental degradation without slowing down or transforming the contemporary, capitalist economy) is doomed to fail (e.g., Bates 2016, Diamond 2013). One reason for this is that this strategy is inevitably a *symbolic* strategy taking place in the context of the cosmetics of risk (Beck 1992: 57). That is to say, the contemporary, capitalist economy is as if it were on a treadmill where it repeatedly commodifies the risks in order to make profits through coping with the symptoms of risks. Nevertheless, it prevents society from eliminating the causes of the risk.

⁴ <https://www.nytimes.com/2018/07/19/world/asia/china-climate-change-report.html>

In the context of China, the internal contradiction between environmental degradation and the current, state-led, modernization project generates its own risks, such as the failed eco-city in Chongming Island⁵ (Sze 2015) or the “diseases of transition” (Holdaway 2013).

Therefore, it is worth exploring how ordinary Chinese people perceive and cope with the modernization risk with Chinese characteristics. Anthropologists Zhang and Ong (2008) proposed a useful framework here. They argue that since the implementation of “market reforms” (*shichang gaige*) and “opening up” (*kaifang*) in 1978 under the Deng Xiaoping administration, China has taken a path that assembles the neoliberal technologies of governing with a reanimated, socialist, authoritarian rule. Experienced at an individual level, the past decades are a combination of a burst of self-enterprising/self-expression desires, which were once strictly suppressed under Mao, and a lingering awareness of the invisible power of the state government, which is still setting the rules of the game. The in-between space, what Zhang and Ong called “the new social,” is vaguely defined, sporadic, and elastic. From two slightly different perspectives, a group of outstanding sociologists/anthropologists has made contributions to explaining “the new social.” One perspective shows that because Chinese people were uprooted/released from the decades-long comprehensive socialist regime, they had saved up a strong desire for consumption and self-expression (Rofel 2007), a tremendous aspiration for modernization (Yan 2010), a huge demand for private living space (Li 2010), and a longing for meritocracy (Hanser 2001). All these longing and yearnings have taken place in the past decades during which China was undergoing a drastic, but quite unsettled, modernization process. These

⁵ Based on four case studies in Shanghai: Dongtan, the One City, Nine Town Projects, the 2010 World Expo, and Chongming Island, Julie Sze (2015) investigates the conduit of eco-desire in urban China. The hyper-urbanization paired with ecological modernization is manufactured (by the local government) to place Shanghai at a pioneering place in terms of the changing global economic order and climate change problems. However, the four projects turn out to be a fusion of desire, projection, profit, and fun. It is an effort doomed to fail.

scholars unpack the “unsettled development” by referring to the combination of a socialist, political regime with neoliberal governing or the practice of *guanxi* ⁶to navigate institutionally an uncertain environment (Gold, Guthrie and Wank 2002), to name a few. In my review, the entire process has been described as an adventure with many difficulties, but, perhaps, with more opportunities and possibilities.

This perspective, however, is challenged by the second perspective which argues that it is more attentive to the “deeper” side of China (Kleinman et al. 2011, Liu 2000, 2002). If the first perspective focuses on “the enterprising self” (Hanser 2001); the second perspective shows us that there is a huge price people have unconsciously paid to manage this new subjectivity. The price, according to Kleinman and his co-authors (2011), constitutes a “divided self” - a successful, surface self belies an empty core self that is filled with the meaningless, placeless, and timeless (Liu 2002). A more vivid metaphor is drawn by Kleinman et al (2011) from painting master, Huang Yongyu’s, famous artwork “Owl” (Figure 1). The “Owl” has one eye wide open and the other closed. They argue that the Chinese people are like the “winking Owl” whose one eye is used to absorb and look for opportunities in a rapidly changing society, and the other one, closed, to “distance himself/herself away from the immediacy, expediency, and sheer practicality of getting on with life and negotiating the constant flow of threats and opportunities” (2011: 27). In short, the closed eye hints people’s psychological residue from the past (e.g., the Cultural Revolution) and the present (e.g., the drastically changing moral rules), and the future (e.g., the environmental destruction).

⁶ Generally speaking, *guanxi* means social network and social connections. However, according to Gold, Guthrie and Wank (2002), *guanxi* has a richer body of meanings, including family and personal life; the labor market; business practices with local government and firms, and operation of the legal system. In the context of China, *guanxi* can sometimes help people bypass the rules.

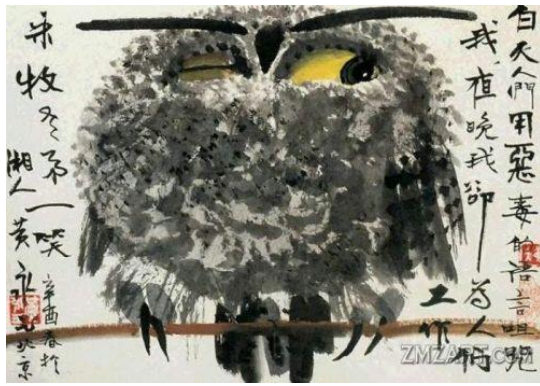


Figure 1. “Winking Owl” by Huang Yongyu

Description: This picture created this piece of art work in 1973 and was harshly criticized in 1974. According to wikiart.org, the “winking owl” was used by Huang to criticize the Proletarian Cultural Revolution and the Socialist System.

However, most scholars tend to keep silent on the issue of environmental degradation, but with a few exceptions. For instance, The *China Journal* published a series of articles to examine how Chinese citizens understand and respond to environmental health risks (Klein 2013, Lora-Wright 2013, Tilt 2013, Deng and Yang, 2013, Yang 2013). The connection between environmental pollution and public health is one of the core debates in the discussion of environmental justice, because the debate involves both genetic/biological aspects and the politics of science itself (e.g., Floyd and Kroll-Smith 1997, Murphy 2006). In the context of contemporary China, although these scholars disagree in some details/causal relationships (due largely to their different research sites), they similarly point out a constrained political space for Chinese citizens (or netizens) to translate their individualized approaches into a trans-local and larger movement. Anna Lora-Wright vividly describes how Chinese people are experiencing environmental pollution as “dying for the development.” Nevertheless, the challenge that contemporary China is facing is the tension between rapid development/modernization and

environmental degradation, or the tension between “reaping the benefits of China’s booming” and the burden of “global pollution” (Shapiro 2012). However, the *individuals* whom these scholars have analyzed usually do not have a second or third body to worry. Little is known about whether being a parent would change the risk perception.

In other words, this dissertation is set to answer how ordinary Chinese citizens experience the modernization risks with Chinese characteristics, while nation-state seems to be taking a paradoxical path. I borrow from Ulrich Beck the modernization risk, but contextualize it in contemporary, urban China where science and technology are rarely being challenged, the political space for democratic, social movements is very limited, and the desire for development is strong, but where the risks as well as the challenges are simultaneously real and prevalent. With a focus on mothers from two different classes, this project extends the conversation by asking: 1) to what extent are Chinese mothers willing to balance the tension between the modernization risks and their economic gains, and their desire for (westernized) cosmopolitanism; 2) to what extent are Chinese mothers willing to have their little children tolerate the modernization risks in this context; and 3) considering the rising social inequality (in other words, urban and rural residents are benefiting as well as suffering from the modernizing China differently), how do mothers from two different classes perceive the risks differently?

1.2 A Brief Description of Two Cases

I focus on two cases in this project. Chapter 3 is based on the radiation-shielding maternity clothes (cloak) and chapters 4 and 5 focus on the infant formula. The background of each case is presented in the chapters respectively. In the following, I will briefly explain why these two different cases provide me with an ideal window for exploring the modernization risk with Chinese characteristics.

Generally speaking, two bodies of environmental sociology literature focus on the connection between women's fertility and the radiation from daily electronic devices (e.g., cellphones, laptops). One part of the discussion is about the *female workers* in semiconductor factories. For instance, Pellow and Park (2002) reported several cases of a "mysterious illness" suffered by female factory workers during pregnancy in the late 1990s. Most of these female workers were in East and South Asia (e.g., Taiwan, Hong Kong, the Philippines), because of the global expansion of the U.S. semiconductor into Asia after the 1970s (Grossman 2006) and the laissez-faire controls of hazardous substances from both overseas corporations and local governments. Nevertheless, female workers were the main supply of cheap labor, and their sensitive reproductive bodies were constantly exposed to a toxic, working environment. In other words, this part of the discussion focuses on the occupational, environmental effects of capitalist accumulation on female workers' reproductive bodies. Female workers were mobilized to address their concerns about the reproductive crisis through collective legal actions.

The other part of the discussion is about *female consumers* in the contemporary environment. The earliest discussion can be traced back to Howard Bern's "fragile fetus" (1992) and Theo Colborn's "endocrine disruptors" (1991). With the technology of biomonitoring, organizations such as the Environmental Working Group (EWG) and the sort of biosocial or neomaterial, feminist approach in the United States visualize and disseminate the vulnerability of women's bodies to environmental pollution, such as the awareness of body burden and pre-polluted babies (Mackendrick 2018, 2019). This part of the discussion emphasizes the vulnerability of a female's reproductive body to a general, toxic environment. Women are hailed as neoliberal consumers to mitigate their risk exposure in the market.

I argue that China is a perfect site to explore both bodies of literature. According to the latest United Nation's report on global e-waste,⁷ the life of a smartphone in China (19.5 months in 2015) is shorter compared with the United States (21.6 months) and the average European Union countries (20.4 months). In other words, the average life of a smartphone in China is shorter than in most of the developed countries, not to mention China's larger population. Therefore, China is a huge market for electronic devices due to its rising middle-class consumers. It's no wonder that Apple ascribed its reduced revenue expectations to the slow sales in China earlier this year.⁸ Meanwhile, China is also among the most important manufacturing sites for electronics⁹ and dumpsites for e-waste¹⁰ (Grossman 2006). Both sectors require a continuous supply of cheap labor to manually assemble the devices on an assembly line and disassemble the devices in (mostly) informal, manufacturing zones. To put it bluntly, many electronic gadgets are initially manufactured in China, and, eventually, most of their electronic junk returns to China to die (see footnote 7). Therefore, by tracing the conduit of radiation-shielding maternity clothes (cloak), I can examine the class-stratified, ambivalent feelings of both middle-class mother/consumers and rural-urban, migrant mother/workers toward the *product* cloak itself as well as their concerns about the reproductive crisis due to the internal working environment and the external environmental pollutions. Even though most of the main, manufacturing factories and dumpsites are in rural China (e.g., Guiyu village is a major hub for e-waste disposal), rural-urban, working-class migrants do work in some, small electronic

⁷ https://collections.unu.edu/eserv/UNU:6341/Global-E-waste_Monitor_2017_electronic_single_pages_.pdf

⁸ <https://www.nytimes.com/2019/01/02/technology/apple-revenue-decline-china.html>

⁹ <https://www.economist.com/business/2018/10/11/chinas-grip-on-electronics-manufacturing-will-be-hard-to-break>

¹⁰ <https://www.cnn.com/2013/05/30/world/asia/china-electronic-waste-e-waste/index.html>

factories, and the work environment of middle-class mothers is surrounded by electronic devices (e.g., laptops, printing machines).

The perceived risk of domestic formula after the 2008 Sanlu, infant formula scandal brought a resurgence of public distrust in the Chinese government as well as an ambient awareness of moral decay. As Yan (2012) suggests, the loser of the formula scandal has been the Chinese national image rather than the infant formula industry per se. For the purpose of this project, I want to highlight two things: first, the 2008 *Sanlu* incident represents one of the worst situations of food safety crisis in China. As claimed by Jacob Klein, concerns about the food supply are indicative of wider ambivalence about modernization and the hazards it has produced (2013: 379). Second, the 2008 *Sanlu* incident also ignited a small, but radical, online, social movement in the name of *parents*. Communications scholar, Guobin Yang (2013), recorded and analyzed the entire incident, based on the data he collected online. According to Yang, a small group of parents (about 10% of 262,600 parents) of affected children refused the compensation package offered by the formula firms and launched a collective protest to demand a clear answer about the short-term and long-term effects of tainted milk powder to their children's health. Zhao Lianhai, one of the leading parents, led a series of campaigns online and eventually on Twitter with the support of some overseas, human rights, activists after several of his web pages were shut down by the Chinese government. In 2009, he was arrested and sentenced to two and one-half years in prison under the charges of "disturbing the social order." Recently, Zhao was involved in the aftermath of the 2018 "vaccination scandal." With a focus on infant feeding, I examined the class-stratified risk perception among mothers of infant formula and the general food supply.

Overall, my dissertation outlines how the past forty years of unsettled and drastic economic and social development in post-socialist China have exposed people to a variety of modernization risks with Chinese characteristics, including environmental pollution, food safety problems, market uncertainty, and a generalized crisis of distrust in government. These risks and uncertainties give rise to the anxieties over reproductive health. Mothers not only need to perform good motherhood but also claim their distinctive socioeconomic status, knowledge, and positionality. Middle-class mothers tend to see the issues of environmental pollution and food safety problems as “Chinese” problems rooted in the economic and political path China is taking. Their practice of Environmentalist Motherhood is facilitated by their economic power but constrained/blinded by their political weakness. By contrast, rural-urban, working-class migrant mothers show a fragmented performance of good motherhood because of a discriminatory social structure, their limited disposable income, and a lack of access to the emerging knowledge of mothering that is dominated and communicated among middle-class mothers through networks and on social media.

In the following, I will briefly outline the main theoretical framework that I use critically to organize my dissertation. More detailed theoretical discussions are included in each analytical chapter.

1.3 Theoretical Framework

1.3.1 Risk framework and Risk perception

There are two distinctive approaches toward risk in sociology: “objective” risk framing and “subjective” risk perception. The former focuses on how risk is defined and produced through accumulated expert knowledge (Beck 1992; Giddens 1990) and the intervention of

experts and political institutions (Rose 1999). The latter emphasizes how people's socioeconomic status and ideas help shape "risk beliefs and/or risk ideas" (Lupton 1999).

First, Beck argues that the advent of "risk society" is the unintended consequence of advances in science and technology, which tend to be widely spread around the globe, in both rich and poor countries alike. One of his main points is that the level of "risk" increases as knowledge on a given subject develops. Another is that the increasing level of risk in the modern world too often surpasses the ability of conventional social institutions (e.g., the welfare state in Western European countries) to control. "Risk" for Beck is primarily concerned with the present ecological crisis and its consequences for existence on Earth. While these consequences are generally unexpected and unintended, they exist, and people are now forced to accept at least partial responsibility for them, and to address them, either singly or jointly. Beck also has a notion of hierarchical risk, but he simply based on poverty line. Similarly, Giddens also regards risk as a modern notion, coming from "a grasp of the fact that most of the contingencies which affect human activity are humanly created, rather than merely given by God or nature" (Giddens 1990: 32). He also agrees that risk derives from our increasing knowledge, the advancement of science and technology, and our distrust in the system of expert knowledge. He argues that the concept of an acceptable level of risk is associated with trust, specifically, with people's confidence in the ability of the expert system to weight alternative risks and benefits. Nevertheless, with the globalization of risk (i.e., the nuclear and ecological crises), risk has become unavoidable. Giddens foresees that the consequence of modernity is a diversified attitude toward modern risk: pragmatic acceptance, sustained optimism, cynical pessimism, and radical engagement (Giddens 1990: 135-137). Therefore, for both Beck and Giddens, risk is an unavoidable consequence of modernization. It is heavily influenced by the drastic

industrialization and technological innovation, as well as the public's distrust of expert system and conventional social organization.

In contrast, Rose (1999, 2006) regards risk as a new form of governmentality. He situates biopolitics, regulatory biopower on the species body according to Foucault (1990), in the context of neoliberalism and biomedicalization, under which power is no longer administrated by the state, but works through “relational pastoral power,” which consists of a family of genetic counselors, allied experts, and their network of responsibilities and obligations (Rose 1999: 74). He argues that risk framed by biomedical experts offers a new area where political power regulates people in the name of freedom (i.e., Castel 1991, William and Calan 1996). While Beck and Giddens are more positive about the changes that risk society has brought us, Rose appears to be more pessimistic about political intervention in biomedicalization in the name of risk management. Nevertheless, they all focus on the production of risk from the perspective of experts. Here, social movements of non-experts or laypeople are framed as a response to the inability of experts to deal with modern risk. People's awareness of risk is a component their subjectivity, which is evoked in the practice of self-discipline under neoliberalism. However, the aforementioned objective interpretations of risk have been widely challenged by those who take into consideration how non-expert and ordinary people understand risk in their daily lives.

“Subjective” risk perception refers to the risk beliefs and ideas that people hold unconsciously as a result of living in a specific culture. Psychologists contend that people usually incorporate heuristic thinking in their perception of risk (Heimer 1988), and it is widely acknowledged that different social factors, such as age, gender, socioeconomic status, and previous exposure to situations of environmental risk, all contribute to their risk perception (Douglas 1966/2000; Lash 1993; Lupton 1999; Beamish 2001). In studying the shared denialism

to climate change in Norway, Norgaard (2011) borrows Lifton (1982) concept double reality. Simply put, the first reality derives from our collectively constructed sense of normal everyday life. To put it in a Bordieusian way, this reality is the collective frames of the active presences of the whole past of which (we are) the products (1977: 56). The second reality is the troubling knowledge, such as the predictions for further severe weather scenarios, or the fact that our bodies are all polluted due to the overly use of synthetic chemicals in our food, clothing, furniture, etc. In other words, the first reality is our cultural as well as social adaptation to the environment where we are living, while the second reality is what science has claimed for us. In Norway, people acknowledge the scientific knowledge of climate change, but they do not incorporate it into their daily routines. Norwegian see the denialism as an art of living, an art to suspend the inconvenient truth in an exchange for a sane life. Similarly, Auyero and Swistun (2009) discovers the power of undisrupted daily routine as a blinder in shaping how the residents experience the environment that is filled with pollutants in an Argentina shantytown named Flammable (2009: 142). They argue that there exists a surfeit of information on risk that people tend to anchor their judgements on only a small part of the available knowledge. Different from people's deliberate choice to place a barrier between climate change information and the everyday life in Norway, the daily routines seem to give Flammable residents a sense of security even though they are experiencing environmental suffering.

It is important to mention that the denialism in Norway or the sense of security shared in Flammable are not being produced in a vacuum. Instead, it is always being conditioned to resonate with "local experiences, linked to existing moral justifications for action, and marketed to receptive audience" (Hannigan 2006). In other words, it is a collectively organized denialism (Norgaard 2011) and it is a social production of toxic uncertainty (Auyero and Swistun 2009).

Therefore, Douglas and Wildavsky (1983) argue that we should go beyond the “objective “/ “subjective” boundary and explore the culture which lies in the arbitrary gap between private, subjective perception and public, scientific definition. They argue that the public perception of risk and of an acceptable level of risk is a socially collective product-related to people’s preferences among social institutions, along with the use of social relations for defending social positions (1983: 186).

Nevertheless, I concur that it is very important to combine the studies of risk framework and risk perceptions because they offer us a practical sociological approach to analyzing what Anthony Giddens simply terms as “ontological security” (1990). In this project, I select two different groups of mothers to test this framework in post-socialist China because little is known on how the post-socialist Chinese government, experts/scientists, and mothers contribute to the whole discussion of invisible risks in electronic devices, infant formula, and the general environmental pollution under globalization. I argue that this is very important because: 1) China is considered as one of the leaders to combat environmental degradation and climate change; 2) In order to work on the goal of sustainability and environmental justice, it is crucial to know how residents with various historical dispositions perceive the environmental risks at the first place; 3) the information and knowledge flows across the borders complicate the practice of risk perception. Appadurai (1996) demonstrates the rhizome-style cultural consequence of modernization is partially caused by the mass media. At present, the prevalence of personalized social media further deepens the space/time configuration. Aside from this, recent studies show social/new media is playing a crucial role in empowering, shaping, and representing women’s mothering experience (e.g., Johnson 2014, Arnold and Martin 2016).

1.3.2 The Morality and Responsibility of Environmentalist Motherhood

If “ontological security” has been found common among the climate change deniers in Norway or the poor residents in Flammable, as I described in the previous session, mothers seem to be an exception. The existent studies have shown women and mothers are particularly being targeted/hailed by risk discourse. A whole body of literature has shaped my understanding of motherhood, particularly the social expectation on being a good and responsible mother. Parenting is expected to resolve the emotional burden from all the social ills within the private sphere (e.g., Furedi 2002). Within the family, there is an unequal share of the socially and culturally constructed moral responsibility imposed on mothers (Hays 1998). Intensive mothering, according to Sharon Hays, is a kind of child-centered, labor-intensive, expert-guided, and expensive labor.

The association made between the responsibility of mothering and environmental degradation as well as climate change has a lot to do with the essentialized understanding of women as a child bearer and homemaker. Women are being constituted as “Sexual Stewards” (Sasser 2018) (both victims but also agents) to these environmental challenges. In the context of the United States, there are generally two images of this kind of Environmentalist Motherhood. **The first image** of environmental motherhood is exemplified by Lois Gibbs in Love Canal and Lorraine Ross in Silicon Valley in the late 1970s and the early 1980s. As iconic figure of mother-environmental activists, Gibbs mobilized the residents in her community after noticing the association between her children’s illness and the chemical pollutants that come from a decades-long illegal dumpsite made by Hooker chemical company. Ross mobilized her community members to link the rising rate of birth defects to the contaminated ground water caused by leaks of hazardous chemicals used in the computer industry, which lead to the

foundation of Silicon Valley Toxic Coalition. Outside of the United States, after the 2011 Fukushima Nuclear Power Plant disaster, mothers in Japan voluntarily collected data about radiation-contaminated food so as to take care of the food safety issues despite the government's perspective of them to be lacking scientific knowledge and persuade them to stay "Fukushima happy" after the disaster (Kimura 2016). Across the three examples, women/mothers faced various social sanctions due to the suspicions over the credibility of "housewife knowledge"; but with collective efforts, they were able to transform their social roles into citizen-scientists-activists and contribute to the scholarship of street science (Corburn 2005). **The second image** is more an embodiment of neoliberal individualism. For instance, mothers are hailed to control their fertilities so as to demand an end to U.S. fossil fuel subsidies¹¹ (Kallman and Ferorelli 2018) or combat global climate change (Sasser 2018), to practice precautionary consumption to ensure their family's access to uncontaminated food (Mackendrick 2018), or to adopt individualist parenting to opt out vaccinating their children due to their distrust in big pharma as well as some possible risks from vaccinations (Reich 2016).

In the context of post-socialist China, following Sharon Hays' intensive mothering, a body of literature show how middle-class pregnant women adopt multiple strategies within the prenatal health care system (e.g., fetal education, taking vitamin pills, maternal serum screening) in order to have the highest quality of children (Higgins 2015) or ensure their children win the competition at the start line (Zhu 2008, 2013). A separate body of literature details the anxieties of middle-class mothers with a focus on education (Jin and Yang 2015; Kuan 2015; Yang 2018). These studies are all contextualized in post-socialist China where parents (especially mothers) are hailed to carefully nurture and educate the best quality of next generation throughout the

¹¹ <https://conceivablefuture.org/>

privatization and commodification of healthcare and education system. To produce a generation with high quality is not only the dream of every (one-child) family, but also a fundamental component of the development of Chinese modernity, biopolitics, and neoliberal governance, such as the state-led discourse of *yousheng* (good birth/eugenics) and *suzhi jiaoyu* (quality education).

However, little is known in terms of the Environmentalist Motherhood in contemporary China. Considering the severe pollution as well as the continuous scandals about food safety problems, it surprises me that the existent literature only focuses on the “enterprising self” of the mothers. Do mothers really trust the Chinese state government could tame the prevalent environmental destruction? Therefore, to reiterate, this project aims to use interviews and ethnographic data to excavate how pregnant women and new mothers from two classes, perceive, talk about, and cope with the tension between environmental destruction and China’s state-led modernization project.

1.3.3 Consumerism and Social Inequality

In North America, the cultural definition of good motherhood is infused with consumerism (Cook 2013; Taylor et al. 2004). As I mentioned in the previous section, a growing body of literature has shown one of the manifestations of Environmentalist Motherhood is through consumption, such as to use precautionary consumption (MacKendrick 2014, 2018) to feed an “organic child” (Carins, Johnston, and Mackendrick 2013). Sharon Kaufman similarly argues middle-class parent-citizen in today’s America is constituted by a “two-part understanding – consumption and risk” (2010: 23). All these studies suggest that neoliberalism, political consumption and personalized politics have become involved in how individuals communicate with society in their everyday lives. It partially derives the political ethos of the

“Regan Revolution” in the late 1970s and early 1980s during which the United States touted the free market as the most efficient and effective system for distributing public goods, such as the healthcare services (e.g., Light 2004; Timmermans and Oh 2010). Mackendrick (2018) also reminds us that the emerging environmental activist groups, such as Environmental Working Group (EWG), raised people’s awareness of environmental pollution but were unable to fix the fractured regulation system, which ironically pushes people, especially mothers, to cope with their concerns and anxieties through consumption. Nevertheless, consumption becomes an important strategy for mothers to cope with their concerns of environmental pollution and health concerns in the United States.

Even though the commodification of public goods such as health care, housing, and education in China similarly started in the late 1970s and early 1980s, it is in a completely different context. To simply put, the public goods were once owned and distributed by the state government, and the *opportunity* to consume after 1978 is a site where Chinese subjects began to enter the global arena and quest for modernity as post-socialist subjects (Davis et al. 2000; Zhang and Ong 2008; Rofel 2007; Zhan 2011; Zukin and Maguire 2004). Two things can be taken away from this body of literature. On the one hand, as Lisa Rofel (2007: 111-134) unpacks, the consumption, largely embodied largely by women, occurs within a unique *vacuum* through the “domestication of cosmopolitanism by ways of renegotiating China’s place in the world” and the “self-conscious transcendence of locality/structured forgetting.” To paraphrase, consumption is experienced/desired as way to reject the socialist past and embody the imaginary cosmopolitanism. To an extreme, Shen Yifei (2014) argues in recent years, the government media and the market are promoting and selling the idea of “hot-mom” (*lama*) to the whole society. A “hot-mom” is presented as someone who is fashion, stylish, law-abiding, and most

importantly, a consumer-feminist. In my opinion, this image instills consumerism as an element of liberation/feminism into the contemporary definition of modern motherhood in urban China.

On the other hand, as Mei Zhan (2011) and Cooper (2011) demonstrate, the commodification of healthcare services leads to the structural confrontations between doctors and less privileged health seekers. China's people-centered health-care system was once appraised by the World Health Organization (WHO) for all developing countries in the 1960s and 1970s. However, starting from the late 1980s and early 1990s, the central government and work-unit dropped their share of health budgets significantly while the health spending made by citizens steadily increased (Wang 2004: 14). As a result, the health care disparity increases and particularly through the urban/rural divide.

To sum it up, the Chinese state promoted the growth of a consumer society as a part its economic reform agenda. The process has given rise to a rapidly growing group of middle-class consumers and marketplace becomes an important venue for people to practice and confirm their social class (Hanser 2010). Considering the booming maternal and baby industry¹² (*muyin hangye*) in China, particularly through e-commerce and social media, I argue my project can contribute to our understanding of to what extent the state-promoted consumerism is mediating between motherhood and their risk perception as well as risk evasion strategies; and how middle-class and rural-urban migrant mothers strategize it differently.

¹² <https://daxueconsulting.com/baby-care-market-in-china/>
<https://www.statista.com/statistics/459333/china-maternal-and-baby-industry-gmv/>

1.4 Methodology

1.4.1 Research Component

My research design incorporated a comparative analysis of risk perception and risk eviction strategies of middle-class mothers and rural-to-urban, working-class mothers in Shanghai. Chapter 2 and chapter 5 are based mainly on my ethnographic work in an affordable maternity hospital (PJ Hospital) and an urban village where the New Citizen Life Space (NCLS) was located. The analysis of these two chapters is accompanied by a small group of rural-urban migrants I interviewed in a community-level clinic at the beginning of my fieldwork. Chapter 3 and chapter 4 are based on my in-depth interviews with middle-class mothers as well as an examination of archival documents and online forums. A small segment of the in-depth interviews with middle-class mothers was conducted with mothers who were recruited in the summer of 2013, when I was working on a project about infant formula consumption with Amy Hanser, who is on my committee. I also interviewed one infant formula, sales representative in PJ Hospital and three managers of NCLS. In the following **Table 1**, **Table 2**, and **Table 3**. I summarize my two main research components. In **Appendix A** and **Appendix B**, I summarize the detailed information about my research subjects, including their age, the age of their child(ren), education level, interview place, and frequency of interviews

Table 1. Participant Observation

Population Group	Dates
Community-level clinic	September 14, 2014 – April 30, 2015 (7 months)
Rural-urban migrant women in PJ	October 1, 2014-May 15, 2015 (8 months)
Rural-urban migrant women in NCLS	May 18, 2015- August 7, 2015 (3 months)

Table 2. Interviews (September 2014-August 2015)

Population Group	# of Women
Middle-class mothers with multiple interviews	8
Middle-class mothers with one interview	23
Rural-urban migrant women with multiple interviews/ethnography	8
Rural-urban migrant women with one interview	20
Doctors in the low-cost maternity hospital	1
Infant formula sales representative in PJ	1
Managers of NCLS	2

Table 3. Interviews (May - June 2013)

Population Group	# of Women
Middle-class mothers with one interview	25

1.4.2 Finding Women and Gaining Trust

I conducted ethnographic and qualitative research during a twelve-month period in Shanghai, China, where I was born and raised. Looking back, before I left for Chicago in 2010, I had very limited memories of environmental degradation. I did notice that the spring and fall seasons had become shorter, the summers were hotter, and the winters had become warmer and more humid. Thunderstorms were more frequent during the summers. But things such as air pollution or water pollution were not on my radar, although, because of drastic urbanization, I constantly walked past all kinds of construction sites with little protection. Somehow, I was immune to all kinds of dust and noises. I even had no memory of the 2008 *Sanlu* event. While

most of the areas in China were suffocating with severe air pollution in early 2013, I was busy with my courses in the United States. Therefore, I was lucky.¹³ I half-joked that I was “cleansing my lungs” in the United States.

However, during the twelve months of fieldwork in Shanghai, I paid closer, conscious attention to all aspects of environmental degradation. In fact, the air pollution irritated my nose and throat, causing lots of mucus for several months. The sky was always grey and hazy. The tap water tasted weird, and my father usually procured our water from a public, purified water machine (Figure 2. Photo by author.). Around 2010, many commercial residential neighborhoods had been equipped with water purification machines. However, soon after I returned to the United States, my parents told me that the TV news had announced that the purified water machine had an issue called “secondary pollution” caused by poor regulation. Therefore, they began to boil and cool the water for drinking. It still tasted better than tap water and was more affordable than bottled water. While I was walking around Xujiahui, one of the largest shopping-mall centers in Shanghai, I noticed some large, advertisement banners for foreign-brand, household-water- refinement systems (Figure 3). For instance, the ads on the left says that the Aquaklen (which is a corporation based in California) is designed by German scientists, and the refinement system is a necessity for mothers and newborns. The (white-western) mother is even given a speech bubble, *“Now that you have good infant formula, why not use good water for it?”*

¹³ Here, I found Aya Kimura’s reflection on her position very useful. She was aware that her project on post-Fukushima motherhood could be considered a part of what Naomi Klein (2007) terms “disaster capitalism.” She was also aware that as an “expatriate researcher,” she could research the post-Fukushima Japanese society without suffering physically from any long-term consequences. But, she argued, she was not a “detached outsider,” and her committee for social justice motivated her to work on the project. Similarly, I am fully aware of my positionality. Having friends and family members living in China always makes me feel that half of me is with them all the time.

Similarly, the ads on the right claims, “Today’s water quality determines your child’s tizhi in 10 years.” Tizhi covers a wide range of meanings in Chinese, but, simply put, it means physical

health. Therefore, the eco-desire for better and cleaner water is circulating all over the city.

Businessmen capitalize from the desire for pure water. Nevertheless, I was consciously resistant



Figure 2. Photo by author.



Figure 3. Photos about Water Purifier Machine by author.

to the problem of “ethnographic refusal” (Ortner 1995) during my fieldwork and paid specific attention to the physical experience (e.g., smell, taste, sound) of my interactions with the Chinese environment.

In the following, I will briefly describe 1) how I entered the field; 2) why I use two different methods to approach middle-class mothers and rural-urban, working-class migrant mothers; 3) what it means to be in an insider-outsider role as a Chinese researcher doing fieldwork in China, and 4) what it means to do a research about pregnancy and motherhood in contemporary, urban China.

1) I started my research at a community-level clinic in Huangpu District (Figure 4). There are three reasons why I decided to start from this community-level clinic. First, the community-level clinic is where expectant mothers apply for the “Pregnant Women’s Health Manual” (called the “small card”), which is initiated by the Shanghai Women’s Health Institute within the first trimester of pregnancy. The pregnancy registration is supposed to be mandatory based on policies. Meanwhile, the community-level clinic is also the place where newborn babies are vaccinated. Therefore, it was an ideal location for me to recruit both pregnant women and new mothers. Second, community-level clinics are public hospitals, where I could easily enter (with a Chinese-looking face) without being checked. I assumed that I would be able to sit outside the pregnancy registration office and the vaccination room. I also assumed that I would be able to post a recruitment advertisement somewhere inside the clinic. Third, my aunt had formerly worked as a community doctor in that community-level clinic. I assumed that this layer of *guanxi* would offer me some convenience to be introduced to the clinic as an “insider.”



Figure 4. Downloaded from Shanghai Administrative Map from ChinaMaps.org

However, after several weeks of fieldwork, I ran into several difficulties/findings. Because of my *guanxi* with the clinic, I was allowed to sit outside of the pregnancy registration room and the vaccination room. But, I was told, nothing could be posted. The hospital is a *public* space, but only government-approved information can be posted. Moreover, it turned out to be difficult to find rural-urban migrants outside of the registration room; it was equally difficult to gain their trust and have both middle-class mothers and migrant mothers contact me to set up interviews after I had given them my recruitment materials. Within those weeks, I was able to gain the trust of only two pregnant women, and they trusted me because of my roots in *Luwan* district. *Luwan* district has now been merged with *Huangpu* district after undergoing a series of gentrifications (e.g., hosting Xintiandi). However, *Luwan* district is also generally considered one of the locations of “original” (“authentic”) Shanghainess. To be fair, many rural-urban, working-class migrant renters are residing in *Luwan* district. However, their *hukou* (household

registration) is by no means in “*Luwan*” district. In other words, these two pregnant women accepted the interview due to their trust in the seemingly trustworthy (or high *suzhi*) of Shanghainess.¹⁴ I was fortunate to conduct more than five interviews with each of them throughout their pregnancy, childbirth, and following “the month”¹⁵. Ironically, they are the two women whom I interviewed most often. I ascribe this to my “insider/outsider” role (Cui 2015), to which I will return later.

2) I learned two lessons from the difficulty in recruiting participants in this community-level clinic. On the one hand, I noticed that the missing rural-urban, migrant, pregnant women might reveal a hidden pattern that was due to the *hukou* system. On the other hand, the crisis of distrust in addition to the “relation-oriented” nature of Chinese culture was preventing me from gaining trust from my participants. Therefore, I eventually decided to supplement data collection by using my personal network and snowball sampling. In other words, by using my family members and friends as “intermediaries,” I could be introduced to my potential, research participants as an “insider.” I immediately saw the effect of this approach. However, the shortcoming was that nearly all the pregnant women and new mothers to whom I could reach out were within the category of middle-class mothers (most of them hold a Shanghai *hukou* and almost all of them have at least a college degree). I want to emphasize that this does not mean that middle-class mothers have no interaction with rural-urban, migrant mothers; instead, it does

¹⁴ Both *hukou* and *suzhi* are key concepts for us to understand Chinese society. I will give a full explanation of these two concepts in the next chapter (Chapter 2). Here, please allow me to simply explain *hukou* as household registration and *suzhi* as individual/collective quality.

¹⁵ “Doing the month” is a direct translation from the Chinese phrase *zuo yuezi*. This postpartum recovery includes refraining from all contact with water (especially cold water) and wind. Women are also required to follow a “hot” diet to resolve pregnancy-induced “hot/cold” imbalance. Even though it is an “old-fashioned” custom, it is still very commonly practiced among Chinese population in China as well as overseas. Meanwhile, the “doing the month” has been rapidly commodified and marketized in urban areas. More and more affluent mothers choose to “do the month”, *scientifically*, in a professional *yuezi zhongxin* (center for doing the month).

tell us with whom middle-class mothers communicate about their reproductive experiences and parenting strategies.

But what about rural-urban, working-class migrants? When I decided to diversify my data using my personal networks, I also decided to use a “top-down” approach to reach out to migrant mothers. Through some personal networks, I scheduled a meeting with a policy-maker in charge of family planning policy in the Shanghai Academy of Social Science. She asked if I had a big grant or a big project to collaborate with doctors. Because I had neither, she suggested I look up some literature to see which group of doctors was publishing on the issues of pregnancy and childbirth of migrants in Shanghai. Using her suggestion and after spending a few days looking through the doctors’ publications, I noticed the name, Dr. Zhuang, who had teamed with several doctors on a project about affordable, child delivery service to rural-urban migrants. Once more, through my personal network, I scheduled a meeting with someone who was in charge of family planning in Minhang district. With her help, I was able to get in touch with Dr. Zhuang and the director of the low-cost, maternity hospital (Chapter 2). After a long-process of negotiation, I was finally allowed to be physically in the hospital, but the hospital gave me no help with data collection. In addition, between mid-May and mid-August, I also conducted ethnographic work in the NCLS, an NGO-affiliated center that was offering services for rural-urban migrants in Pudong district. The data of NCLS were used to supplement the data collected in the hospital.

To sum up, I used two different approaches - snowball sampling through personal networks and ethnographic observation - to recruit middle-class mothers and rural-urban, working-class migrant mothers. However, I argue that these two approaches vividly reflect the social settings in which these two groups are experiencing and performing motherhood

distinctively (more fully discussed in chapters 4 and 5). This methodology did generate more interview data with middle-class mothers and more ethnographic fieldwork notes with rural-urban, migrant mothers.

3) Based on her own fieldwork experience, Ke Cui (2015) applied the “insider/outsider” researcher’s role in the context of the “relation-oriented” culture in China. She discovered that she had to rely on her personal network (*guanxi*) as an intermediary to recruit and gain trust from her respondents in Hebei (a major city in China). She was constantly viewed as an insider (in order to be accepted as an interviewer) but she was also seen as an outsider (so that interviewees would share with her some private information that they would not share with a complete insider for fear of damaging the researcher’s face [*mianzi*]). In short, Cui benefited from being an insider-outsider in her fieldwork in China. I too noticed those benefits, but I also realized it was a lot of work to ensure confidentiality when I was seen with my family members and friends who had referred to me the respondents. By contrast, it was mentally much easier to conduct multiple interviews with those whom I had recruited in the clinic and with rural-urban migrants. Being a complete outsider granted me some freedom to ask questions, but, from time to time, I had to consider the possibility that I was being lied to. The tension never subsided during the entire journey.

4) The tension was especially strong when the topic was about pregnancy, childbirth, and infant feeding, largely because I had never been a mother (nor had I thought of being a mother) prior to entering my field. I subsequently became a mother after I left the field. Most of my data analysis took place while I was in the process of pregnancy and infant feeding. Although my experience was outside of China, there was no way I could suspend my own embodied mothering experience. During my data analysis and writing process, I had many “aha” moments,

which derived from my own emerging mothering experiences and the adoption of a sociological approach. There is a small, invisible component of me, which often wanted to hop on a time machine and correct some of my interview questions. The whole procedure reminds me that pregnancy, childbirth, and infant feeding are issues that an ethnographer is not able to *enter* individually. I wish I could return to Shanghai and interview those women again. However, their experiences of pregnancy, childbirth, and infant feeding would be outdated too. Nevertheless, I argue that because the risk perception and risk evasion strategies are by all means contextualized in the unique spatial and temporal environment, my data analysis and writing have not been distorted, but rather reinforced by my own experience.

1.4.3 Moving from Data Collection to Analysis

In August 2015, I packed my belongings and returned to the United States to analyze the data and complete the dissertation from afar. Not unexpectedly, this was a disorienting process as I gradually synchronized my inner world with my now very different environment. I began this process by transcribing interviews with the help of two Chinese American students, whom I hired at the University of Illinois at Chicago. Both spoke fluent Chinese and English. But, because of their different migrating experiences (one student had migrated to the United States when she was in elementary school and, the other when she was in high school), while I was reading their transcriptions, I noticed their different capabilities in typing Chinese characters. I again listened to all the interviews and corrected all the mistakes (some mistakes were due to their lack of understanding of Chinese culture, but some mistakes were because of the code-switching between the Mandarin and Shanghai dialects among middle-class mothers). Towards the end of transcribing interviews, I suggested to the translators that they share with me what they had found most interesting, disturbing, and surprising. Their time, contributions, and

generosity played an important role in refreshing my memory and the lingering attachment to my fieldwork site and translating women's voices into words that could be analyzed. I had transcribed all twenty-five interviews for Amy Hanser in 2013. During the process of data analysis, I constantly compared the interview transcriptions with my fieldwork notes. My fieldwork notes were written mostly in Mandarin. In short, the data I have collected is a huge body of Chinese voices, Chinese words, and Chinese experiences.

The real challenge for me during the entire process has been to bridge the Chinese data with English literature. Following the processes described by Emerson, Fretz, and Shaw (1995) as well as by Kathy Charmaz (2014), I identified the core themes in the data with the help of grounded theory, situated the themes in relation to the existing theories, and then performed more focused coding for examples and counter-examples, juxtaposing these with the research subjects' demographic information (education, age, class, etc.) and the interview environments (workplace, coffeeshop, home, PJ hospital, NCLS, community-level clinic). In each core analytical chapter, I use the women's original Chinese sentences/phrases/words as key concepts (chapter 2: "*A Hospital for Our Kind of People*"; chapter 3: "*Maodun*"; chapter 4: "*Delaying*" my child's contact with China's environment; and chapter 5: "*Last mile*" solution). I do so because I believe it is inevitable that translation from Chinese into English will change the meaning of the story. Monique M. Hennink (2008) talks about the importance of language and communication for qualitative research, particularly how conducting cross-cultural research posts a challenge for the (Western) researcher to comprehend the complexity of his/her second/third language in the field and how a local translator/ "cultural broker" can be of help. The challenge I faced is similar to what Hennink defines here, but in a totally different way. As a native speaker, I can comprehend the meanings of the Mandarin and Shanghai dialects and read

cultural cues quickly. However, the analyses in English inevitably change the tone of some sentences, phrases, and words. Without a writing assistant as my “cultural broker,” I relied on my own interpretation of the literature and on a constant drafting process to “stitch together” data and theory, piece-by-piece, carefully and, hopefully, genuinely.

1.4.4 Methodological Limitations

There are several limitations to my methodological approach. First, the entire research is centered in Shanghai, one of the biggest cities in China. Even though issues, such as the pregnancy registration (chapter 2), the concerns over EMFs and the selection of infant formula (chapters 3 and 4), and the urban village (chapter 5) are nation-wide, my analysis is nevertheless very Shanghai-centered. The generalizability of the results is circumscribed and therefore needs some further tests. Second, the entire research is of a mixed group: pregnant women, women who have just delivered their babies, and new mothers. Eight women with whom I had multiple interviews shared with me their entire journey of pregnancy, childbirth, and infant feeding. The rest of the women shared with me their journey based on the recollection of memories or their plans for the future. It is possible that their risk perception could be stronger if they had been interviewed in the middle of their pregnancies, for instance, compared with looking back on their pregnancies. Third, Jennifer Reich (2015) reflects on how social media is shifting the power between a researcher and participants in qualitative research. No one questions that social media have completely transformed our society. One aspect that especially resonates with my fieldwork is the “porous nature of field sites” (p.405), due to the embeddedness of social media in my communications with participants when I was in the field and after I left. In addition, social media have become a platform for those mothers to perform their motherhood to an imagined audience (Barabasi 2010, Brake 2012, Litt 2012). I tried to avoid sharing my social media profile

with my respondents; however, as a reciprocal gesture, some of the respondents are still among my WeChat contacts. I tried to analyze only the data I collected while I was in the field; however, the ambient but fragmented information being disseminated on social media might slightly enhance or twist some of my impressions of some respondents.

1.5 Overview of the Dissertation

Chapter 2 focuses on the government-subsidized, low-cost maternity hospital for rural-to-urban, migrant women. I have explained in the methodology section that I encountered great difficulties in finding and recruiting migrant women. The consequential efforts I made eventually led me to this special hospital. I began the dissertation with this chapter to paint a general picture of the ideal, reproductive citizenship in contemporary, urban China as well as the lack of health rights among rural-urban, migrants due to the long-term consequences of the *hukou* system. Although the data are drawn from the childbirth experiences of migrant women in that hospital, I use it as a mirror to reflect the social position of middle-class, urban mothers and rural-urban mothers in authoritarian, urban China.

Chapter 3 analyzes the risk perception and risk evasion of middle-class, pregnant women with a focus on radiation-shielding, maternity clothes. Employing theories of scientific uncertainty and intensive mothering, I situate middle-class mothers' narratives and practices within both a domestic and a transnational context. Their practice of cloaking their pregnancy and their distrust of made-in-China products delineate the conflicted mindset of emerging, middle-class mothers in a fast-developing China in terms of how they view globalization in China and how they view China's path to globalization. Although the data are drawn mainly from middle-class mothers, I end the chapter with a discussion of rural-urban, working-class mothers. As a continuum to chapter 3, in chapter 4, I draw on interviews with middle-class

mothers to further my argument about the internal conflicted mindset of middle-class mothers in urban China, but with a heavy focus on consumption. As a comparison to chapter 4, in chapter 5 I utilize my ethnographic data to discuss the risk perception and risk evasion strategies of rural-urban, working migrants in NCLS. I argue that, due to the structural barriers this group of women is facing, such as the *hukou* system and the network divide, their infant-feeding strategies are more hybrid than those of the middle-class mothers in my data. Meanwhile, their perception and presentation of Environmentalist Motherhood is constrained and downgraded.

CHAPTER 2: “A HOSPITAL FOR OUR KIND OF PEOPLE”: REPRODUCTIVE CITIZENSHIP AND THE CHILDBIRTH EXPERIENCE OF RURAL-URBAN MIGRANT WOMEN

2.1 Introduction

On November 7, 2014, after spending two hours on Subway Line 8 and then on a suburban shuttle bus, I finally arrived at PJ hospital. It had recently been renovated and relocated to this new location -, a very suburbanized area in metropolitan Shanghai. Unlike most maternity hospitals in Shanghai, PJ is one of the ten Low-Cost Maternity Hospitals initiated in 2004 under the sponsorship of local district governments and Saving the Children, a British non-governmental organization. The hospital has three floors and outside the building, there is a rest area surrounded by grass, flowers, and one little fountain. Nothing looked special until I walked upstairs to the second floor where the delivery room and wards were located. At the center of a large, but simply decorated, waiting room, there were four lines of steel backless benches randomly covered by quilts, pillows, and luggage. The scene immediately reminded me of the train stations where every year during the Spring Festival tens of thousands of rural-urban migrants sleep, rest, and eat in the waiting areas in order to catch a train back home. It might be the moment when their existence is most visible throughout the entire year. It is an image shared by the entire Chinese society, because it illustrates the floating, unstable, and not-belonging-here status of this incomparably huge population.

Throughout my ethnographic fieldwork, I witnessed the relatives of the birthing women sleep, eat, and chat in the waiting area. They shared their excitement and stories with each other, even though this brief camaraderie would last for only a few days. Two migrant vendors were

running businesses in the waiting area, selling and renting basins, towels, hot water bottles, infant socks, infant formula, and maternal meals. Most important, they were offering services of making copies of documents for the birth certification application. Why do migrants come to this specific hospital for childbirth? Why does the hospital allow the family members to rest and the vendors to run businesses in the waiting area? What can we learn about reproductive citizenship from this hospital in contemporary, urban China?

This chapter does not directly address my core research question, as I explained in the introduction. However, I decided to start from this hospital, because it vividly captures the social position and social world of working-class, rural-urban migrants in urban China. This chapter also introduces two key concepts: household registration (*hukou*) and individual/population quality (*suzhi*). Neither *hukou* nor *suzhi* can be directly translated into English (even though I just did so for analytical purposes) because of their diverse connotations and applications in the post-Mao era. To paraphrase Andrew Kipnis's (2006) insightful comments on the spread of *suzhi* discourse, its "*sacredness* guarantees that the range of contexts in which the term is used continually expands" (highlighted by author) (310).

In the following, I will first briefly review three concepts: *hukou*, *suzhi*, and biological citizenship/reproductive citizenship, with a specific focus on how *hukou* and *suzhi* constitute an ideal reproductive citizenship in contemporary China. I will then use my ethnographic data to describe the childbirth experience of a group of rural-urban migrants as *waidiren*¹⁶ and as women giving birth in Shanghai. I explain the dilemmas faced by these migrant women and by

¹⁶ *Waidiren* means outsiders or strangers who tend to have low quality (*su zhi*). Fan (Fan 2002) describes two types of internal migrants in China: permanent internal migrants and temporary internal migrants. Li Zhang refers to this large flow of rural migrants as "strangers in the city" (Zhang 2001). In general, "internal migrants" (or floating population) are written forms, and usually don't imply any discriminative meanings; whereas "*waidiren*" is a more spoken form and has discriminative meanings.

the urban government as well. On the one hand, the urban government would like to draw migrant women into the formal medical system to improve the health outcomes of the entire population. But to do so, it must ensure that the migrant women limit their pregnancies and conform to standardized, regular, prenatal checkups. To achieve this, however, the urban *hukou* would need to be extended to the migrants, who arrive in the city with only their rural *hukou*. Thus they are shut out of the urban *hukou* health care system, even though they want to access its health services (Hu, Cook, and Salazar 2008). The tensions between the pressures of the internal migration population and the public health goals of Chinese authorities produce a “space” in which rural, migrant women, usually excluded from urban health care systems, are granted “temporary” reproductive citizenship rights in the form of relatively unrestricted access to prenatal and maternity care. However, such temporary reproductive citizenship does not offer a sense of empowerment or social inclusion for these migrant women, whose experiences of birth and the health care system are instead characterized by feelings of shame, disrespect, and discrimination. Nor does it help them, or their children be welcomed into urban space, because no other rights or entitlements come with it. It is a temporary inclusion without real consequences.

2.2 Literature Review

2.2.1 Hukou, the Household Registration in China

Partially inspired by the Soviet Union’s internal passport system, *hukou* (household registration) is one of the primary, state institutions for controlling the population movement between rural and urban areas; it was set up to serve larger economic and political interests in China (Chan and Zhang 1999; Cheng and Selden 1994; Solinger 1999; Wang 2004). Each

household is assigned a *hukou* book, which records the births, deaths, residence, education, and occupation of every household member. It also marks a person's status or administrative category as either rural (*nongcun*) or urban (*feinong/chengshi*). A person's *hukou* is then assigned at his/her birth and inherited from his/her mother.¹⁷ It is difficult to change, and the system for change lacks transparency (Chan and Zhang 1999).

The *hukou* system was initiated in 1951 and signed into a nation-wide policy by the then state premier, Zhou Enlai, in 1953. After the establishment of the People's Republic of China (PRC) in 1949, the state-party set heavy industrialization as the focus for its first "Five-Year Plan" (1953-1957). The *hukou* system played an important role in binding farmers to rural areas, so that they could focus on agriculture to generate enough grain for the entire country, whereas workers in the work units in urban areas could concentrate on the mission of industrialization. In early, socialist China, the *hukou* system was also used for food rationing, employment arrangement, education opportunity, retirement, and health care services in a planned economy.

However, starting from the late 1970s and early 1980s, the focus of the entire nation gradually switched from a planned economy to a market economy. This was especially the case in urban areas. To satisfy the huge labor demand, in 1983, a citizen identity card was proposed and soon applied nation-wide in 1985. Since then, a peasant migrant could freely move to urban areas to look for jobs without carrying a *hukou* book. Instead, he/she needed to apply for a temporary residence certificate (*zanzhu zheng*) issued by the urban, local police station. But his/her access to major public goods, such as healthcare, education, and housing was still

¹⁷ At present, a child can follow either side of the parents' *hukou*. It is extremely useful when *hukou* is integrated with a school district and the housing market. But, during the first few decades, a child could only follow his/her mother's *hukou* because a woman is considered lower (less likely to have her *hukou* changed due to the sex labor division) and thus the state can control the growth of the urban *hukou* population.

excluded by the urban government. To paraphrase Sarah Swider's (2015) definition of urban citizenship in China: rural-urban migrants are integrated into the urban economy through their *labor*, but the *cost of social reproduction* is shifted back to rural areas (702).

In short, a person's *hukou* is (probably) more important than his/her nationality in China. It determines a person's entitlement to all kinds of citizen rights. One extreme example is a "black *hukou*" person who is born outside the family-planning quota. He/she is a Chinese citizen but cannot be added to the *hukou* book, which means exclusion from all kinds of public goods.¹⁸ Therefore, as Chen and Zhang (1999) summarized, the "real power of the *hukou* system in regulating migration did not come from just the system itself but from its integration with other social and economic control" (829). This chapter will show how the *hukou* system is integrated into the family-planning policy that limits rural-urban migrant women's access to reproductive health care in Shanghai.

2.2.2 *Suzhi* Discourse

Suzhi can be defined as quality, and, in the context of China, it means both individual quality and collective quality. Just as it is hard for us to define the quality of an object, the definition of what constitutes a person with good/higher quality/*suzhi* or bad/lower quality/*suzhi* can be equally vexing. However, the elasticity of this term also gives the state tremendous power to legitimize its projects under the name of improving the *suzhi* of Chinese people.

Andrew Kipnis (2006) conducted a genealogy of *suzhi* discourse and summarized that the "sacredness" of *suzhi* took place in two major propaganda campaigns: birth control and *suzhi* education (education for quality) (297). For the purpose of this chapter, I will focus on the first

¹⁸ People who are either rich or have political power, such as the famous film director, Zhang Yimou, can also find a way to register their additional children.

propaganda: birth control. According to Andrew Kipnis, the overall population *suzhi* has three main components: bodily *suzhi*, thought and moral *suzhi*, and educational *suzhi* (304). Simply put, the unprecedented, family-planning policy in China (especially the final stage of the policy for having one-child) was framed not only to control the size of the population (quantity) but also (probably more important) to improve population *suzhi* (quality). Because of the conflict between socialist and capitalist ideology (Malthus was considered as a capitalist by Marx), the Malthusian thesis about the imbalance between population growth and environmental carrying capacity was rejected. The party leaders claimed that populations are *labor* not *social problems* in socialist China. Instead, they argued that the success of socialist China would rely on a large population with good quality (*suzhi*). That said, gradual plans should be made to control the quantity of the population to nurture its quality (Greenhalgh 2003). Over time, the conviction became deeply ingrained among the general Chinese population who see the one-child family as a sign of modernity itself (Anagnost 1995). The belief coincides with the hierarchy between rural and urban status, as Woronov argues, based on her research on migrant schools, that “the migrant children’s notoriously ‘low *suzhi*’ was inextricably linked to their floating status, and to the ways they lived in, used, and experienced the space of the city” (2004: 294-295). In other words, rural-urban migrants, who tend to have more children based on their culture and economic purposes, are considered to have low *suzhi* in the eyes of urban residents.

Both the *hukou* system and *suzhi* discourse have placed people from rural areas in a lower social hierarchy with lower *suzhi*. Rural-urban, migrant women, as a result, are considered to violate the ideal reproductive citizenship in urban China

2.2.3 Ideal Reproductive Citizenship in China

Reproductive citizenship is proposed by Bryan Turner (2001, 2008) as a gendered criticism to the dominant discussion of citizenship that historically has considered national citizenship only in terms of those engaged in gainful activity (i.e., formal employment) and the soldier-citizen (i.e., military employment). It highlights the fact that the foundation of national citizenship is legally and socially related to heterosexual reproduction within a nuclear family. It is a useful tool for discussing the relationship between citizenship, reproduction, and nation. The modern state is interested in constructing an ideal, reproductive citizen because the state wants to harness the reproductive capacities of its population. Therefore, the debate over who is considered an ideal, reproductive citizen is contingent on the demographic policies of the nation (Unal and Cindoglu 2013). On the flip side, under the architecture of ideal reproductive citizenship, people (usually women of color or minorities) tend to make a claim of their rights and freedom by advocating for reproductive rights, reproductive freedom, and, later, reproductive justice (Craven 2010; Lopez 2008; Markens, Browner, and Preloran 2003; Mclean 2002).

In this chapter, I borrow this concept of reproductive citizenship from both sides. It illustrates 1) the strong state intervention in constructing the ideal, reproductive citizen as someone who conforms to state requirements with regard to the number of children, hospitalized childbirth, heterosexual marriage, and a series of bureaucratic procedures that legalize a child's citizenship. But the concept also shows 2) the resistance from both the rural-urban, migrant women who are giving birth as well as the migrant vendors in the low-cost maternity hospital. However, rural-urban, migrant women are not negotiating for their reproductive rights directly with the city government. I argue, in order to fully explain the lynchpin (that is the low-cost

maternity hospital in this chapter), it is also necessary to bring in the discussion of biological citizenship (Kimura 2016; Petryna 2002, 2004; Rose and Novas 2005, Decoteau 2013 in “biomedical citizenship”).

Claire Decoteau summarizes the application of biological citizenship into two contexts (2013: 137). For this chapter, I focus on the first context, that is, when the body, the biological condition, or the biomedical categories become the basis for making rights-claims or adjudicating claims for compensation. According to Petryna (2002) and Kimura (2016), the contaminated bodies that resulted from the radiation disasters in Ukraine and Fukushima (Japan) became the basis and contested ground for people to claim their citizenship rights, such as compensation in Ukraine and relocation/reliable information in Japan. In my chapter, the changing migrant patterns and the pressure from the international community that the local government is under to reduce the maternal mortality rate contractualize???? the pregnant, working-class, migrant women to access their reproductive rights. However, within the “space” of the government-subsidized, low-cost, maternity hospital, migrant women find themselves in what I have termed *discriminatory inclusion*, I mean that rural-to-urban migrant pregnant women have been *included* in a government-subsidized, childbirth services system, but only temporarily and only in a manner that discriminates them from urban-*hukou* pregnant women.

The concept discriminatory inclusion is inspired by Claire Decoteau’s inclusive exclusion (2013) and Khiara Bridges’s state-sanctioned violence (2011). The former explains the (antiretrovirals) Treatment Activists Campaign (TAC), whose commitment to using Western science to treat HIV/AIDS, inevitably bio-medicalizes citizenship rights in South Africa. The bio-medicalization of citizenship rights ignores the fact that not every HIV/AIDS patient would want to or be able to adopt the bio-medical technologies (due to cultural or structural barriers).

This eventually furthers the privatization of responsibility and the “letting die” of the poorest patients. The latter describes the ability of the state to enter and access the private lives of poor, African American pregnant women via Medicaid. By offering Medicaid, some poor women (who cannot afford regular health care) walk into the hospital to access free, prenatal, health-care. However, Medicaid demands mandatory hours spent with nutritionists, social workers, or health counselors beforehand. In other words, the setting of Medicaid places the bodies of poor, African American women under the gaze of state violence and reproduces the problem of race in the United States. Although the two concepts derive from totally different social contexts, they both demonstrate the state’s neoliberal bio-power through the bodies of the marginalized population. In the following, I will show that *discriminatory inclusion* offers a different outcome of this power in the context of post-socialist China. The rural-urban migrant women are not completely abandoned (or “letting die”); instead, a low-cost, child-delivery project is set in place to raise the public health image of China on the global stage. Without paying close attention to the needs of migrant women, the seemingly affordable, reproductive health service delivery system eventually perpetuates the urban/rural divide and the perceived lower *suzhi* of the rural population.

2.3 Findings

2.3.1 Managing the Dilemma, Privatizing the Risk

The bureaucratic arrangements of pregnancy and childbirth more broadly in contemporary China require critical examination. It is more or less required that a pregnant woman in Shanghai apply for the “Shanghai health handbook for pregnant women” (*xiao ka*, meaning “small card”) at her community-level clinic during the first trimester. To get the “small card,” the woman must show her state-issued marriage certificate, *hukou* registration book,

citizen identity card, and document of permission to have a child. These documents are important, but complicated, so I will focus on only a few elements that are relevant to this chapter. First, according to the 1980 Marriage Law, the youngest age at which a man can apply for the marriage certificate is 22; for a woman, 20. Second, as I explained earlier, the *hukou* is one of the primary tools for controlling population mobility between rural and urban areas. An individual's entitlement to any source of welfare—or citizenship, to put it more directly—is tied to the site of his/her *hukou*. In other words, access to maternity insurance is determined by the origin of a woman's *hukou*. Third, initiation of the document of permission to have a child originates from the one-child policy. Application for this permission requires presenting a state-issued marriage certificate, citizen identity card, and evidence of the couple's marriage and pregnancy history from his or her workplace or sub-district government.¹⁹ After the first trimester, a pregnant woman can use her *xiao ka* to set up another health record, i.e., the *daka* ("big card"), in her selected, childbirth, maternity hospital.

In short, under the close bureaucratic surveillance of pregnancy and childbirth, rural-urban migrant women are easily excluded; for instance, they may not hold a marriage certificate when they become pregnant even though they are socially married (i.e., a marriage ritual and banquet have been held in their hometowns). Those who are pregnant with a second or third child usually have difficulty in obtaining the permission from their hometown government to have a child. Migrant women also must apply for a "Shanghai floating population childbirth contact card" before applying for the permission. Even then, rural-urban migrant pregnant women may find themselves without access to maternity insurance. Their exclusion from the reproductive health care system is contradictory to the high demand for migrant labor in

¹⁹ The permission to have only one child has been repealed because of the end of one child policy in October 2015.

Shanghai. The data show that since 2005, the number of live births to migrants has exceeded that of permanent residents in Shanghai (Du et al. 2012).

Low-cost, maternity care (*pingjia fenmian dian*) was initiated in Shanghai in 2004 in response to a call from the United Nations to lower the maternal mortality rate (MMR). Even though Shanghai had enjoyed a comparatively good record of maternity health care, it was discovered that migrants were much more vulnerable to maternal mortality because of their lower education level and their lack of access to formal employment, as well as quality health care (Zhu et al. 2009). Migrants became an obstacle for the Shanghai government to achieve its goal on the global stage. I suggest that the launch of low-cost, maternity care served to construct the migrant population sector as one at risk—an outcome that Shanghai had neither expected nor wanted to publicize.

The NCLS (details see Chapter 5) and PJ Hospital are located along the borders between *Pudong* district and *Minhang* District (institutionally, NCLS belongs to *Pudong* District and PJ Hospital to *Minhang* District). (Figure 5) These two destinations have attracted an increasing number of internal migrants, who are inclined to visit underground delivery clinics, which charge RMB 350 (about \$50) for delivering a son and RMB 250 (about \$40) for a daughter. When it was discovered that the illegal deliveries resulted in a rise in the maternal, mortality rate in the city at large (Du et al. 2012), the *Minhang* district government was pressured to sponsor the PJ Maternity Hospital. After factoring in the subsidy from the local government (RMB 200) and another from Saving the Children (RMB 200), a woman needed to pay the hospital only RMB 600-800 (\$100-120) for delivery.

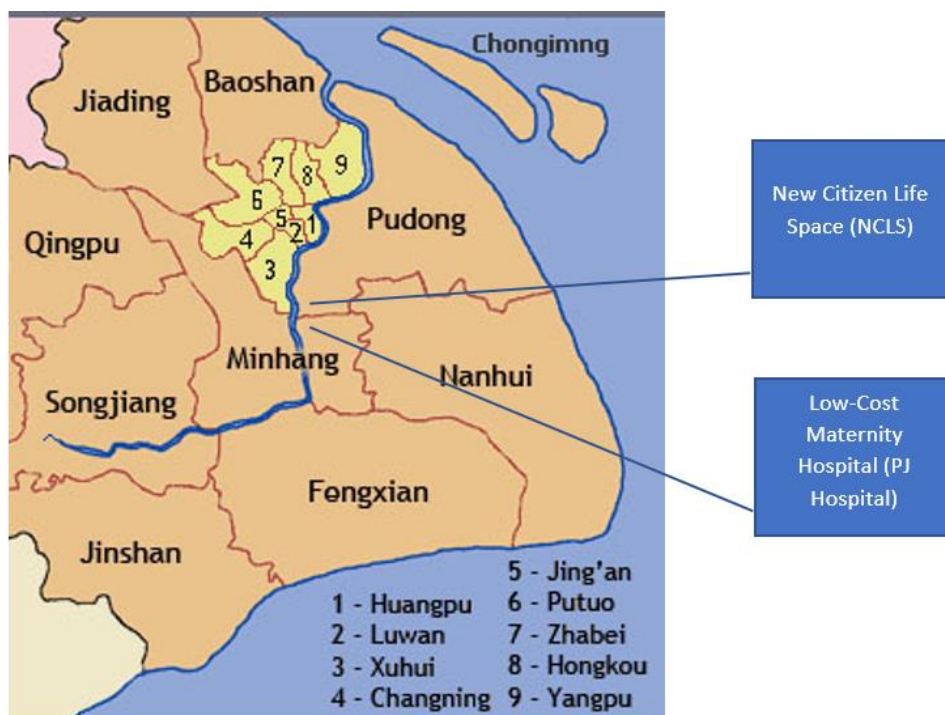


Figure 5. Map of Shanghai.

The border between Pudong administrative district and Minhang administrative district is also the Outer Ring Road/Xupu Bridge in Shanghai. As I will show in Chapter 5, NCLS is bounded by Xupu Bridge/Outer Ring and West Huaxia Road, which is the Middle.

Because of the difficulty to quickly locate sufficient migrant women to avail themselves of the hospital's low-cost, child delivery services when the program was just beginning, the hospital offered a free shuttle bus to bring pregnant women in for maternity care. This practice was reminiscent of the "village doctors" or "barefoot doctors" of the Mao era in China in the 1950s,²⁰ except that they were sent out to rural areas to offer the care. The low-cost, child delivery project learned to recruit migrant maternity patients in a way that was tailored to their

²⁰These health workers provided primary care services at the brigade level in rural areas after the People's Republic of China was founded in 1949. They usually lived in the rural areas. The barefoot doctors were dependent on central funding and made an enormous contribution to the improvement of overall health at the time in China. The free shuttle bus service reveals the poor, transportation access for rural-migrants in that area, and it also shows how much effort the government originally invested to *look for* and eventually *find* pregnant women.

culture. The results were incredible. Doctor Zhuang, the assigned associate chair, shared a series of numbers with me when we first met,

In 2004, we delivered around 6,000 babies. The number even hit 9,000 one year...on average, we served about 7,000 women every year, second only to the International Peace Maternity and Child Health Hospital of the China Welfare Institute (filed notes on November 4, 2014).

Yuxin (interviewee 57) recalled the unbelievable crowds of women who came to the hospital.

You know, although the old center opened at 8-9 a.m., we usually left home about 5 a.m. My husband drove the car, and my daughter and I always brought a small stool where we could sit and eat breakfast while waiting in front of the hospital (laugh). To our surprise, tons of people were already waiting outside. Lots of people.

Yuxin, now a mother of two young children, never worked after she got married. Her husband runs some small business of indoor renovation. Every day, she gets up at 5 a.m. to make some congee as the breakfast for her entire family. After breakfast, she takes her daughter to school at 7:10 a.m. When she comes back home, she takes care of her little son, washes clothes, etc. She told me that every time she saw the working women running to the subway station with their lunch bags under their arms, she couldn't help but feel jealous. However, despite these emotional moments, she doesn't regret having decided to have a second child.

The low-cost, child delivery service appeals to migrants not only because of the government subsidy, but also because of the leniency with regard to the state-required documents, such as the marriage certificate and the document of permission to have a child. For example, one 21-year-old pregnant woman (interviewee 23) told me that she and her husband hadn't applied for the marriage certificate because her husband hadn't reached age 22. Like

Yuxin, she had stopped working right after getting married. Even before marriage, she had worked only at some part-time jobs in a power cable factory or clothes factory from time to time. As the eldest child in her family and under pressure to get married at a relatively young age (as expected in rural areas), this young woman explained to me that it was “convenient” for her to have checkups in this hospital. A similar situation was experienced by Weili (interviewee 56), who delivered her first child at PJ hospital because she didn’t have the marriage certificate at that time.²¹

Although these young women openly shared with me why they had chosen the PJ hospital, most of the women I interviewed were less explicit in telling me that the PJ hospital is for *their kind of people*. For example, a couple of women had been told that *waidiren* should go there for childbirth. They noted, “*It’s like I know you, and you know someone with a baby. We all have babies at PJ hospital.*” This sense of belonging to “us”, that is, the *waidiren*, reveals the subtlety of what draws these rural-urban migrants to the hospital. As I mentioned earlier in a footnote, *waidiren* is a derogatory label. When I interviewed Doctor Zhuang in PJ hospital (as well as Ms. Yi and Ms. Chen in NCLS), they were all very careful with the terms they used to describe rural-urban migrants, by referring them either as “floating population” or “job seekers from other regions” (*wailai wugong zhe*). For instance, when I chatted with the doctors in the fetal-heart-rate-monitoring room in the PJ hospital, they called the migrants less “official,” by referring to them as “that kind of people.” By contrast, the migrant women were more likely to refer to themselves as *waidiren* or *our kind of people*. One migrant woman whom I interviewed

²¹ On my first day in the PJ Hospital, I also overheard that a woman had just given birth to her third child and it was a boy. Her husband was extremely excited because the previous two children were both girls. He and his sister told me that his wife had come for her first check-up the month before delivery. It is her second time to give birth to a child in the PJ hospital because it is much cheaper and there are no requirements for permission to have a child. Even though I had no opportunities to conduct interviews with these birthing women, I was constantly informed of their stories in the waiting room.

in the fetal-heart-rate-monitoring room even called herself a member of the “left-behind children” (*liushou ertong*).²² It is hard to predict whether it is because the powerholders (e.g., the doctors, Ms. Yi, Ms. Chen) treated me (a researcher) differently from those migrant women, especially those with whom I had spent a significant amount of time in the field. Nevertheless, none of the migrant women I interviewed knew the full name of the hospital; instead, they saw the hospital as a place for “our kind of people.”

Even though PJ aims to manage the public health pressure due to the migrant patterns at the institutional level, I discovered that how the hospital is operated exposes women to more risks. One reason is the privatization of the hospital system in urban China. Although the child delivery services at PJ hospital are government-subsidized, healthcare providers are nevertheless constrained by their dual roles as both doctors and revenue raisers, which prompted them to transform unproductive bodies of migrant women into productive consumers (Cooper 2011) through the relationship between doctors and infant formula sales representatives.

On the first floor of the hospital, half the space is for regular, prenatal checkups. Family members (including partners) had to wait outside, but formula salesmen could go straight into the checkup areas.²³ They gave every waiting pregnant woman a small sample of a pregnancy formula, a brochure, and a form on which they were asked to write their name, phone number, and due date. The doctors completely ignored their presence.

²² “Left-behind children” in China is a term used to describe children who remain in rural regions while their parents leave to work in urban areas. In this case, the pregnant migrant woman whom I interviewed saw herself growing up as a “left-behind” child when I asked her how she wanted to raise her child. She told me that she alone wanted to take care of her child because of her own unhappy childhood.

²³ One time, while I was sitting outside the checkup room for an interview, two saleswomen approached me and asked how many weeks pregnant I was. I told them I was not pregnant. They paused for a few seconds and asked if I was from the *** formula company. To their surprise, I shook my head again. They looked very professional, and told me they were *not* selling infant formula; they were simply *doing charitable business*.

Ren (interviewee 64), one of the salesmen, explained to me that there is no “*peinaishi*” (milk-distributing room) in PJ Maternity Hospital. A milk-distributing room is usually available in a standard maternity hospital. Certain brands of infant formula are offered to premature or newborn intensive care unit (N.I.C.U.) babies. However, in 2013, it was alleged that the staff of Dumex Baby Food, a unit of Danone, had paid bribes to Chinese hospital workers to forcefully feed newborn babies its infant formula. In other words, infant formula companies had offered free samples to hospitals to drive up their sales. It is estimated that mothers are more likely to feed babies with his/her first brand of infant formula. Therefore, a standard maternity hospital usually takes full responsibility for the sanitization and safety of the milk. In contrast, migrant families are themselves responsible if any adverse situations arise, such as lack of milk supply right after delivery or not knowing what to feed their newborn baby. Most top-tier, maternity hospitals in Shanghai have begun to let families bring in their own formula or to vigorously encourage women to breastfeed. Mothers who can afford the best maternity hospitals are also those who tend to purchase infant formula exclusively from overseas (Hanser and Li 2015). It is the migrant worker families, who are usually the least informed, who are the most vulnerable to the sales advice of the infant formula industry.²⁴

The low-cost, child delivery project resolved a dilemma by offering subsidized service. The numbers that Doctor Zhuang mentioned support the presence of a large quantity of rural-urban migrants in Shanghai and their undeniable huge demand for affordable and convenient childbirth. A biomedical setting tends to blur the boundary between normal maternity hospitals and low-cost ones, such as PJ Hospital. However, PJ’s spatial organization and its acceptance of formula salesmen in the checkup rooms expose migrant women to more invisible and

²⁴ The different risk perceptions of infant formula between middle-class mothers and rural-urban migrant mothers will be presented in a separate article out of the large project.

unexpected risks. The migrant vendors and their informal economy did offer some support to the migrant patient families, but their existence is still considered illegal and subject to the acquiescence of the hospital.

2.3.2 In the Delivery Room: Screaming and Disrespect

Unlike a hospital setting in the United States, each delivery room in a Chinese hospital usually houses at least two women almost ready to give birth. Only the affluent can afford a private delivery room. Throughout my fieldwork, I asked each new mother to elaborate her birth story, because they capture her most special and most vulnerable moments. The birthing stories of middle-class women are full of complaints, particularly the long waiting time and the limited access to an epidural. But the stories of migrant women are especially unforgettable, because many of them recalled being treated like animals (*chusheng*) and described the entire experience in the delivery room as terrifying (*kongbu*).

For instance, when I asked Yuxin (interviewee 57), whom I met at the NCLS, where I volunteered as an after-school program teacher (her daughter was one of my students), about her childbirth experience at PJ hospital, she immediately said, “*Bad. Of course, it's bad.*” She went on to tell me,

In the delivery room, there was one mom, lying next to me. The doctor shouted at her because she screamed all the time. The mom exclaimed, ‘I wanted to poo!’, and the doctor responded, ‘If you want to poop, just go for it!’ You know, doctors look very nice outside the delivery room, but inside, they are totally different. It’s like two separate worlds...their words are really insulting. In the delivery room, the doctor asked me, ‘Is it your first child?’ I told her it was my second. After she learned that my first child is a son, she said in a scary voice, ‘Do not have any more kids! It hurts, doesn’t it?’ She was really insulting and horrible. I could barely tolerate her behavior. I swear to you, only *waidiren* will have babies here! (06.21.15)

The migrant women's voices are rarely heard on parenting blogs and websites, which are dominated by middle-class mothers. Although the government subsidies available to rural-urban women are financially helpful, in the long run, their overall experience is one of 'discriminatory inclusion', because the environment of the low-cost child delivery hospitals disregards their emotional and cultural identities.

Feelings of insult and horror were also mentioned by Weili (interviewee 57), who was five months pregnant with her second child. Having delivered her first child at PJ hospital, she decided to deliver this child in a private, maternity hospital nearby. But it put her into another equally worrisome situation. Lacking maternity insurance, she had to self-fund all her prenatal checkups as well as the delivery. She sighed and said,

My first delivery was really cheap, only RMB 1000 (about \$150). The new hospital - I went there for one ultrasound. It's RMB 800. Last time, the doctor said I was a little bit anemic and prescribed some nutrition pills; that was several hundred RMB.
(ethnography notes)

Weili had been a worker at a frozen dumpling factory before she got pregnant. After she gave birth to her daughter, she quit her job and rented a small room in an "urban village"²⁵ where the NCLS is located. Her family recycles used furniture, metal, and cardboard boxes, and sells them to make money. Even though a little business can make some money, the prenatal checkups still put a strain on the family budget. Nevertheless, she would rather spend much more money on checkups and childbirth than experience the horrible memory of the PJ delivery room again.

While disrespect and insulting words are the major concerns for most migrant women, for some, the infrastructure of the hospital itself is worrisome. For instance, Tiantian (interviewee

²⁵ Urban Village (*chengzhong cun*) are villages that appear on both the outskirts and the downtown segments of major Chinese cities, and usually surrounded by modern urban constructions, such as skyscrapers. Details see Chapter 5.

61) used to be a volunteer health ambassador at the NCLS. Her job was to visit migrant families around the center and invite pregnant women and new mothers to attend lectures and activities in the center. Unlike most migrant working women who choose to deliver their children in Shanghai, Tiantian chose not to after she was informed that there is no “analgesic stick” or blood bank, even though her husband preferred the hospital, because of its lower cost. She was worried.

If any emergency happens, I would have to be transferred to another formal hospital. I was thinking, what if anything happens on the way to another hospital? Who is going to take that responsibility? To respect my life? (07.16.15)

When she ended up having a difficult childbirth with hemorrhaging, she felt so fortunate that she hadn’t chosen PJ hospital.

Even though the migrant women complain about the low-cost hospital, they are not clueless. They have their theories about what causes the rude attitudes and bad treatment. In most cases, they ascribed it to “too many people,” or “too many *waidiren* needing to deliver children.” Some of them suspect that there are migrant women who hide to deliver a child, or who deliver the baby secretly (*duozhe sheng*, or *tousheng*) and then live a poor or mediocre (*pingyong*) life in the “urban village.” A few see themselves as a burden to the doctors, even though it is they who are being shamed and disrespected. Although a few migrant women state reflexively that not being able to access maternity insurance is ‘unfair’, they also believe there is no alternative (*meiyou banfa*), because it is the policy.

2.3.3 Dim light in the Hospital? The Informal Economy and Childbirth as a Placed Activity

Before 1949, a child born in rural China was not considered to have attained a position in his/her extended family or community until a ritual was practiced by a well-regarded traditional female birth attendant (*wenpo*), similar to a midwife in the context of Western societies (Yang 2006). Since the 1950s, the *wenpo* has been replaced by professional biomedical obstetricians, who practice according to tenets of imported, Western, biomedical ideology and Chinese, domestic, population management. But, some practices, such as food taboos during pregnancy and practices of postpartum convalescence (“doing the month”), although still lack of Western traditions/medical attention to these areas, are very widely accepted. Even though there are regional differences in practices, childbirth remains as an activity filled with sociocultural meanings. It is a placed activity.

Place is an extensively-studied concept in sociology (Gieryn 2000). It is an agentic combination between people and the physical surrounding where social hierarchy is reproduced and sustained, social identity is generated, and resistance or revolution is grounded. The standardized biomedical setting of a hospital aims to offer a standardized and therefore *not* placed (Timmermans and Epstein 2010) environment for women; however, this spatial setting cannot localize the childbirth. On the contrary, it might disembody women’s autonomy to the childbirth experience and deprive them of bonding with their infants, as I stated in the previous section. Considering that hospitalized childbirth is mandatory to legalize a child’s citizenship in contemporary China, women and their families manage to have control of their bodies and childbirth within the setting of the hospital. It occurred with the help of two migrant vendors in PJ Hospital.

One of the migrant vendors is Shi, who came to Shanghai in 1998. She worked in a clothes factory for a couple of years before the business was downsized, leaving her without a job. Her former boss suggested she start some sort of business at PJ Hospital, which had just been established nearby. At first, she used the space of a security guard station as a mini-kitchen, where she cooked food for the maternity patients. After accumulating some money, she rented a three-bedroom apartment in a community adjacent to the hospital so she could expand her business.

Telling me about it, she joked,

My whole family is now working in a way similar to a factory assembly line. I work here from early morning to midnight every day, including during the Spring Festival. My daughter-in-law prepares meals at home, which my husband and my son take turns delivering to me here. My son is also a self-employed driver for patients. (fieldwork notes)

Then she handed me one of her menus and explained that

Meals in the hospital don't take the needs of migrants into consideration. The Shanghai food is too sweet and contains too much soybean sauce. You know, most of the migrants here are from Anhui, as I am. For us, da jidan (eggs cooked with fermented sticky rice, a meal for increasing milk supply) is required for new mothers. (fieldwork notes)

On first sight, the entire waiting area looked quite disorganized, with migrant relatives eating meals on benches, usually next to pillows or quilts, and chatting with each other about topics related to childbirth. However, after a few months, I discovered that this messy, informal area plays a significant role in supplementing the experience of pregnant women and their relatives, things that PJ hospital is unwilling to take into consideration. As the infant formula saleswoman, Ren, commented, "*She meets a need, and she also earns her profit.*" In other

words, the informal economy and family support squeeze into the space and re-shape the specificity of child delivery as a deeply culturally placed activity.

However, it is risky to idealize the roles of the vendors for migrant women because, to a certain degree, the existence of the informal economy is dependent on the acquiescence of the hospital. It is in line with the mutual help between migrants and their family members that scholars have discovered in terms of their overcrowded living situations. Chen (2010) argues that this kind of informal living arrangement is considered “illegal” but simultaneously “rational and moral.” This is largely because of the long-term demand for cheap labor from rural-urban migrants in big cities, such as Shanghai. In a similar manner, the relationship between the state and the informal support system that migrant women rely upon in the hospital can also be explained as “illegal but rational”. In other words, the PJ hospital, as an embodiment of the state, has the power to demarcate the boundary between what/who is allowed to exist and what/who is not.

Moreover, my data also suggest that the social support from the informal economy and/or family members might lead to a segregated childrearing culture that is not always beneficial to migrant women (see Chapter 5). For instance, Weili (Interview 56) was not able to successfully breastfeed her daughter because she lacked professional knowledge for dealing with cracked and sore nipples. By contrast, Tiantian (interview 61) used the tips she learned from the NCLS to deal with her breast engorgement. This does not mean that non-government organizations, such as the NCLS, are beyond the state surveillance in China. On the contrary, it is important for rural-urban migrants to have access to both the government subsidy and the social support that is outside of their ethnic networks. Nevertheless, the temporary, reproductive citizenship that is granted to migrant women does not empower those women; on the contrary, it ignores the

culture and emotions that matter tremendously for this large group of migrants, particularly so during the process of childbirth.

2.4 Conclusion

This chapter examined at how contemporary, changing governmental regulation influences the reproductive citizenship of internal migrants regarding their experience as “migrant birthing women” in Shanghai. Since the initiation of the personal ID system²⁶ and the strict, family-planning policy in the early 1980s, the reproductive preferences of rural-urban migrant women have been a major, political concern. Not under the regulation of either work units (in urban areas) or village government (in rural areas), rural-urban migrants are viewed as having created a loophole in the one-child policy. In contemporary Shanghai, women’s access to prenatal checkups and childbirth is closely regulated by a market-driven, bureaucratic, insurance system. Excluded from this system, rural-urban migrant workers are thereby pushed toward underground clinics, where the services are more affordable and accessible for uninsured migrants. Over the years, the number of babies born to migrants began to surpass the number born to ever-urban residents. This has created a public health dilemma in terms of the city’s ability to meet the huge demand for migrants’ productive labor along with the concomitant ability to meet the migrants’ need for reproductive services.

The PJ hospital’s affordability and its fewer requirements for documents of permission to have a child created an exceptional space for childbirth that attracted many rural-urban migrant families. At the same time, the resulting opportunity to regulate migrant women’s reproductive

²⁶ Before the initiation of a personal ID, people with *rural hukou* were not allowed to migrate from rural areas to urban areas out of personal intention. A person’s access to employment, welfare, and any other resources is closely tied to where his/her *hukou* is.

bodies in the process of caring for those who required maternity services allowed public health professionals to achieve their goals relating to mortality rates in keeping with UN guidelines. This enabled the state government to present a better image of China on the global stage. I contend that becoming pregnant offered a means for migrant women not only to gain attention from family but also to access medical intervention in Shanghai, thereby obtaining reproductive citizenship, an important component of biological citizenship. To be fair, the project did offer important services at affordable rates for almost a decade. However, my interviews and observations reveal that the spatial and managerial setting of the hospital rendered it incapable of meeting the emotional and cultural needs of pregnant migrants, especially during childbirth. This situation resulted in the persistence of discrimination against rural-urban migrants, despite inclusion in the medical care itself. Although informal businesses run by vendors, such as Shi, and onsite support by the families of the birthing migrant women can reshape their childbirth experience in positive ways, this support system unintentionally segregates these women from those in the urban-registered reproductive culture.

With a focus on rural-to-urban migrants' childbirth, this chapter has two major theoretical/empirical implications. One relates to the possibility for a discussion of reproductive rights and freedom in the context of reproductive citizenship in China. As stated earlier, under the one-child policy in China, every woman is forcefully sterilized and deprived to a certain degree of her reproductive right. But that does not mean there is no space for discussion of reproductive rights or freedom in the context of China. My data suggest that the baseline might be whether a specific pregnancy (including subsequent mothering) is respected and valued. As I have shown, beneath the normative, reproductive citizenship in China, a class-based and politically influenced, gendered burden has been cast on the reproductive bodies of rural-urban

migrant women. This gendered burden includes the discriminatory attitude they face in that hospital, which can be viewed as a sort of mental burden for migrants (Chen 2011). It also contains their invisible maternal labor. For instance, one migrant woman (Interviewee 58) waited for ten years before she had her second child. While she was thinking about that pregnancy, she went to the hospital to have her IUD replaced. The old one was removed, but she never went back to have the new one installed. How much invisible labor she had to go through to achieve motherhood, especially a second time! Wang and Blum have upgraded our understanding of the relationship between the neoliberal project in China and rural women's reproductive bodies. They conclude that the construction of ideal, reproductive citizens among rural women is currently achieved by a discourse of free and rational choices rather than of state control (Wang and Blum 2016). I agree with the general trend they have captured; however, by collecting samples among rural-to-urban, migrant women instead of rural women in the villages, I aim to highlight how migrant women's bodies are viewed in the eyes of the urban government.

A second aim of this chapter is to allow a greater audience to hear the voices of rural-to-urban, migrant women in China speaking about their very personal feelings and experiences during childbirth. In the literature of public health and population policies, their stories have been (too) heavily presented through the lens of family-planning policy.

CHAPTER 3: CLOAKING PREGNANCY: SCIENTIFIC UNCERTAINTY, DISTRUST, AND GENDERED BURDEN IN URBAN CHINA

3.1 Introduction

Tianxiang is one of the most popular brands of cloak in China. On its website, it says that “eight out of ten pregnant women in China wear the *Tianxiang* cloak.” Although the actual prevalence is unknowable, my observation and the data I present in this chapter illuminate that wearing a cloak during pregnancy has become a social norm for middle-class women in urban China. During the late 1990s, Xu Fangtao, a *fuerdai* (rich second generation)²⁷ and the founder of *Tianxiang*, noticed the popularity of radiation-shielding maternity clothes in Singapore²⁸ where she was studying. She snatched this business idea back to Shanghai with the help of her father. Framed as a technological but fashionable response to the ambivalent awareness of reproductive crisis in China, the silky, light-weight cloak, mostly made from special fibers (e.g., metal, silver, and pearl fiber), are believed to be able to block the radiation from radiation-emitted devices, such as laptops and cellphones. One of the most iconic advertisements of *Tianxiang* features a young pregnant woman standing next to a male astronaut (Figure 6). The slogan says, “*Tianxiang* will give the baby an astronaut-level protection.” This surreal but eye-catching advertisement was created and broadcast right after *Tianxiang* became a partner with China’s space exploration program in 2012.

²⁷ Rich Second Generation (富二代) is a popular term used to describe those who are born with a silver spoon in their mouths. In the context of China, it specifically refers to the children of the newly rich of the early years of China’s reform and its opening to outside world policy. Many wealthy Chinese send their children abroad for education. Xu Fangtao was sent abroad to Singapore for education.

²⁸ Again, the information is from Xu Fangtao’s biography online. The credibility is not 100% knowable. But, one of the mothers whom I interviewed did mention that one of her husband’s friends purposefully came all the way from Singapore to purchase several brands of cloak for research.



Figure 6. Photo from Google Search with “Tianxiang Fang Fushe Yi” as key word.

However, the popularity of the cloak market in urban China has also caused many controversies. Although wearing maternity clothes is common all over the world, why do pregnant women in China pay specific attention to electronic radiation? How was the reproductive crisis and fear over electronic radiation articulated in the first place, both by the market and by the scientists in China, despite that the association is counter to international organizations, such as the World Health Organization (WHO)? Do pregnant women who wear the cloak truly believe it is useful? With a focus on this popular piece of maternity clothes, this chapter aims to complicate our understanding of the gendered burden brought about by scientific uncertainty. This uncertainty is being reproduced in the context of post-socialist China where science and technology are treated as the Holy Grail (Yan 2012) but is simultaneously influenced by its history in socialist China and the competition between the Chinese state government and Western scientific knowledge. Although the data are drawn mainly from middle-class mothers, I end the chapter with a discussion of rural-urban, working-class mothers.

In urban China, the possible fetal risk deriving from non-ionized electronic radiation emitted from mobile phones, computers, WIFI, etc., was brought to the public's attention in the last two decades. In an online search of "electromagnetic field (EMFs)+ pregnant women" (*dianci fushe*/电磁辐射 + *yunfu* 孕妇) in newspaper articles contained in the China Academic Journals Full-text Database of the China National Knowledge Infrastructure (<http://www.cnki.net>) between 2000 and 2016, I found 102 related pieces. They showed that, starting from 2001, discourse about EMFs increased rapidly, focusing on the urgent risk of EMFs pollution and its likelihood of causing high rates of miscarriage, deformities, and cancer. For instance, *Science and Technology Daily*, the authority for science and technology in China, claimed that EMFs had become an “invisible killer” for public health (Wang 2011). In 2002, two national mouthpiece daily newspapers *Guangming Daily* and *People's Daily*, similarly argued that EMFs had become a new threat to the indoor environment. The former suggested people limit the time spent using their cellphones and make sure not to place multiple electronic appliances (e.g., TV, laptop, radio) in bedrooms. The latter recommended the use of electromagnetic-shielding products (Anon 2002; Chen 2002). In 2004, the *Health Times* published a piece titled “*Women are more vulnerable to indoor pollution*” where the EMFs from the working environment and household appliances is believed to disrupt the ecological balance of women's bodies and give rise to fetal deformities and miscarriage (Song 2003). In a similar way, the *United Times* reported two anonymous stories in one of its articles entitled “*Reproductive Crisis is Alarming*” in 2009 (Ji 2009). In that piece, one mother told the reporter that three of her six female pregnant friends ended up having miscarriages. Another female teacher told the reporter that the current environment was “terrifying” (*kongbu*) for fertility because five of her colleagues got pregnant at roughly the same time. But only she was lucky

enough to deliver a healthy child and the rest all had a miscarriage. Nevertheless, the reporter warned the readers that about 4%-6% fetuses were born with deformities/disabilities every year in China, and it means every thirty seconds one baby is born with a disability in China.

However, the media framing of the specific association between EMFs and fertility difficulties contradicts academic studies, which have portrayed a much more complicated picture of the recent rates of infertility as well as birth defects in China. For instance, Zhou et al. (2018) argue that the current infertility rate (15.5% among women at risk of pregnancy) in China is comparable with the results in some other countries, such as France, Australia, and Iran. By focusing on the low quality and declining quantity of sperm (Lamoreaux 2013, 2015²⁹), Lamoreaux mentioned that, in 2011, the People's Republic of China Ministry of Health reported a high rate of birth defects, and scientists have recently pointed to various environmental pollutants (e.g., indoor and outdoor air pollution, water pollution, DDT) (Lamoreaux 2016:194). In other words, these works suggest that there are emerging public and scholarly concerns in terms of the correlation between environmental pollution (due to rapid social and economic development in the past forty years) and a reproductive crisis in China. But these concerns still lack reliable statistical evidence.

The media framing of the specific association between EMFs and fertility also goes against the conclusions of WHO (World Health Organization 2007). For instance, according to the WHO, the deleterious effects of ionizing radiation (e.g., medical X-rays, ultrasounds) on the fetus are widely recognized by the public. But non-ionizing radiation is less understood (Jankowski 1986; Källén, Malmquist, and Moritz 1982). This type of radiation emitted by Wi-Fi

²⁹ <http://somatosphere.net/2015/10/making-a-case-for-reducing-pollution-in-china-or-the-case-of-the-ugly-sperm.html>

signals, computers, cellphones, printers, etc. is generally considered unlikely to harm the fetus (Foster and Moulder 2013; Poullietier de Gannes et al. 2012; Sambucci et al. 2010). A recent study conducted by the National Toxicology Program in the United States on pregnant rats also found no correlation between specific absorption rates (SARs) and negative reproductive outcomes (e.g., lower average fetal weight) (Grady 2018; Wyde 2018).

Therefore, the media framing of a reproductive crisis due to electromagnetic radiation pollution seems to lack scientific evidence. But the fear and uncertainty related to EMFs is not unique to China. Several scholars have pointed out that mobile telecommunication technology and mobile phone towers have resulted in local social movements in several European societies (Böschen et al. 2010; Kastenhofer 2011; Soneryd 2007; Stilgoe 2016). In the United States, the BabySafe Project³⁰ (Figure 7) calls people's attention to the harmful exposure to wireless radiation for pregnant women. In its online brochure, pregnant women are warned to avoid carrying a cellphone on the body, avoid placing a cellphone, wireless laptop, or tablet on the abdomen, and to turn off WIFI when not in use. Devra Davis, an environmental scientist and one of the leading activists in this field, warns pregnant women that the exposure to wireless radiation will cause negative behavioral outcomes (e.g., hyperactivity, learning disabilities, poorer memories) in their offspring.³¹ Very recently, a brand, Belly Armor,³² started to sell radiation-shielding maternity clothing in the United States. This brand includes a wider range of products, including maternity clothes, baby clothes, and men's boxer-briefs. On its website, one of the founders made a very "Environmental Motherhood" statement: a bank executive with an

³⁰ <http://www.babysafeproject.org/>

³¹ I also encountered a book titled *Dirty Electricity: Electrification and the Disease of Civilization* written by Samuel Milham. The book is mostly based on his research biography, and most of his findings (or speculation) have not been published in peer-review journals. Therefore, it seems that his conclusions lack credibility.

³² <https://bellyarmor.com/pages/our-story>

Asian-looking face trying to do everything during her pregnancy found little advice on how to protect her pregnancy from the radiation-emitting devices that surround her at home and work. After researching and teaching herself about the risks of wireless radiation-emitted devices, she and her co-founders launched Belly Armor (note: I went to look for the store in the New York City, but I was not able to find it. The address posted on the website is not the site for Belly Armor).



Figure 7. Baby Safe Project Logo

However, it is only in China that radiation-shielding maternity clothes have become a trend. Moreover, in responding to my questions, most middle-class mothers claim that they don't trust that the cloaks are indeed useful, even though they still choose to wear them for various lengths during their pregnancies. By using two bodies of literature - scientific uncertainty and intensive mothering - I argue that scientific uncertainty over the possible negative impact of electromagnetic radiation on pregnant women has created a space in China where state government, business agents, and the science community/social media negotiate for political, economic, and scientific power. Middle-class mothers do not believe the radiation-shielding maternity clothes are scientifically useful and reliable, but, under the influence of social networks and family members, they still wear the clothes. The examination of their contradictory

emotional experiences can help us understand what pregnancy and motherhood mean to middle-class women in contemporary urban China.

3.2 Literature Review

3.2.1 Scientific Uncertainty and the case of EMFs Radiation

In recent years, uncertainty and non-knowledge have been extensively examined by Western social scientists who are concerned about the advancement as well as challenges that science and technology has brought to our experience of health, the environment, and security ((Böschen et al. 2010; Daipha 2012; Decoteau and Underman 2015; Frickel et al. 2010; Kastenhofer 2011; Kimura 2016; McGoey 2012). Proctor and Schiebinger(2008) conceptualize it as *agnotology* and argue that “We need to think about the conscious, unconscious, and structural production of ignorance” (3). In general, risk assumes that the probability is calculable and known, whereas uncertainty is incalculable (Knight 2006). Recently, Daipha (2012) points out that even if the epistemic uncertainty could be eliminated, the ontological uncertainty can still exist due to “the fundamental randomness of certain natural or social phenomena” (16). In other words, even though the epistemic uncertainty might be sealed in a seemingly rational/scientific risk framework, the ontological uncertainty is never tameable (Zinn 2008). Daipha is talking about the ontologically unpredictability of weather; however, recent conversations on genetically modified organisms, autism, or electromagnetic radiation also point out that knowledge (e.g., the long-term consequences of GMO food and EMFs on our health and environment or the exact cause of autism) has not been settled in everyday life. As a result, scientific uncertainty/non-knowledge has generated a space for experts, policy makers, and suffering people to claim scientific capital, political authority, and biological citizenship.

The existent discussions show that on the one hand, scientific uncertainty is generative and performative (McGoey 2009) and can be used by people with power for economic gains (e.g., the classic tobacco industry) and political legitimacy. For instance, this kind of power is observed among medical experts who tend to police the boundary between what is known and what is unknown, as demonstrated in the case of the causality between vaccination and autism (Decoteau and Underman 2015). As this study shows, the medical (as a form of scientific) power was able to circumscribe the unknown in autism science to a genetic explanation and delimit the proposed environmental causes by parents as not worth further investigation. On the other hand, scholars have examined the institutional reproduction of certain kinds of uncertainties within the working scientists (Kempner, Merz, and Bosk 2011) or various health social movements (Frickel et al. 2010). For instance, Kempner and colleagues (2011) excavated the social process that gives rise to “forbidden knowledge” among working scientists due to their shared past controversies in science (e.g., Murray’s *The Bell Curve*). This forbidden knowledge remains as a kind of known unknown. By focusing on four interesting cases, Fricket et al. (2010) aptly summarized the institutional reproduction of uncertain knowledge that is advocated to be meaningful and important by social movements but disqualified by scientific community, based on standard scientific methods, such as their emphasis on the average-oriented air sampling, or individual chlorine chemical substance. Eventually, our society is full of a sizeable body of “undone science,” and the battle within the scientific community is never purely political nor intellectual (Bourdieu 1991).

The fear and uncertainty relating to EMFs offers an important window to examine the social influence of uncertainty/non-knowledge. As I mentioned at the outset, the mainstream of the scientific community, such as the National Toxicology Program in the United States and the

WHO have concluded that there is no conclusive scientific association between EMFs and brain cancer or fetal deformity, with but a few exceptions. For instance, epidemiologist Leeka Kheifets has recently co-authored a few longitudinal studies showing that there is an association between prenatal and postnatal exposure to cellphone use and behavioral problems in children (e.g., hyperactivity) (Divan et al. 2008; Swerdlow et al. 2011). Even though the association might be non-causal and due to unmeasured confounding effects, Kheifets and her team ask for more consistent research on this topic considering the widespread use of cellphones. In recent years, some social scientists in Europe (United Kingdom, Germany, Sweden) have placed their attention on local, social movements borne out of people's concerns of the unknown consequences from long-term contact with mobile telecommunication technology and mobile phone towers (Böschchen et al. 2010; Hermans 2015; Kastenhofer 2011; Soneryd 2007; Stilgoe 2016). They suggest that the potential, uncertain consequences from EMFs (as well as GMO food) should be understood as "post-normal science" that requires a more positive and democratic communicative environment between experts and lay people.

However, few researches have touched on how transnational knowledge flow has influenced the social control of non-knowledge. It is especially important in developing countries, such as China and India. For instance, the debate between leading anti-GMO environmental activist Vandana Shiva and *New Yorker* Journalist Michael Specter is inevitably entangled with an ideological discussion, such as how GMO technology is regarded as a Western weapon to colonialize Indian agriculture, and how the local activists' denial of GMO technology is allowing those who are already starving in India to die. A very similar conversation can be observed on Chinese social media (Guo 2007; Yang, Xu, and Rodriguez 2014). David Palmer (2007) argues that scientism is at the core of the CPC ideology, but a scientific fact in

communist China is never neutral but always ideological and political. His examination of the rise and fall of *qigong* practice between 1949 and 1999 reveals that the pursuit for “scientism” in China has always been entangled with the information imported from the Western world. In this chapter, the scientific debates presented by different media channels (i.e., CCTV, the state official media and independent social media) have a deep influence on the position of the mothers.

3.2.2 Intensive Mothering and Gendered Burden

Non-knowledge or scientific uncertainty related to pregnancy is an emerging field but still lacks some substantial attention. Like the ontological unpredictability of weather mentioned in the previous session (Daipha 2012), pregnancy is itself an ontologically uncertain process (e.g., for women who know they are pregnant, the natural miscarriage rate is 10-20%, globally, with variation in different locations and among women of different ages). Furthermore, since the biomedicalization of pregnancy, the experience of pregnancy has become encapsulated within the risk framework of biomedicalization (Rapp 2000). Women not only face natural miscarriages or stillbirths; they are also expected to apply scientific languages to the understanding of their own pregnancies. Moreover, out of ethical concerns, pregnant women are excluded from clinical trials in most circumstances. Athens (2015) documented the history why pregnant women are designated as a “vulnerable population” who could participate in clinical research but only under very limited circumstances. In the 1960s, a few tragedies were caused by thalidomide and diethylstilbestrol, two drugs prescribed to expecting mothers who ended up giving birth to babies with serious birth defects. In recent years, a group of bioethicists(Lyerly, Little, and Faden 2009) have been slowly conducting ethical and scientific research on pregnant women because they believe that the real ethics is the scientific neglect of this group of the

population. In all, pregnant women's bodies are ontologically and epistemologically viewed as unsettled, and the paradox adds more uncertainties to the experience of pregnancy.

A few studies on fetal alcohol syndrome (Armstrong 2008), morally imposed breastfeeding culture (Jung 2015), and maternal responsibilities for children with autism (Lappé 2016; Reich 2016) have showed the manifestation of the uncertainties in some settings. For instance, Armstrong (2008) contrasts the actual difficulties in diagnosing fetal alcohol syndrome with the moral judgement about pregnant women's alcohol consumption. Courtney Jung's (2015) widely publicized book *Lactivism* seeks to debunk the enormous importance to infants - physical, emotional, and intellectual - that is attributed to breastfeeding. She proactively argues that the medical literature that proves the health benefits of breastfeeding consist of either too small sample sizes or are due to compound factors (e.g., those who are able to breastfeed for a long time are more likely to have access to good community and be of a higher socioeconomic status) in the United States. The contemporary discourses about breastfeeding wed a deeply moralizing narrative about motherhood to a highly profitable industry that markets a vast array of consumer products, such as breast pumps, breastmilk storage bags and freezers, lactation consulting service, as well as the teas and supplements that are marketed to increase milk supply. As for the ongoing scientific exploration for the cause of children with autism, some upper middle-class mothers are considered to be the embodiment of neoliberalism by refusing state-mandated vaccination due to the hypothesized relationship between MMR and children with autism (Reich 2016). The recent discovery about the possible relationship between women's autoantibodies and autism even trigger expected mothers to test their autoantibodies as some of them could be blamed as genetically incapable to have a bear a healthy child (Lappé 2016:689). These studies tell us that pregnant women and/or nursing mothers are particularly being targeted

by the discourse uncertainties partially due to the social expectations about good or intensive motherhood (Hays 1996). As a result, anxieties might emerge among middle-class mothers due to what Blum has termed “small and unverified” knowledge (Blum 1999: 50), and in the long run, mothers are bearing excessive responsibility to use precautionary consumption to protect members from any possible exposure to toxics in everyday lives (MacKendrick 2010, 2018).

This feminist intervention into the moral burden and responsibilities placed on women due to scientific uncertainties is nevertheless powerful, but I argue it does not apply to other social environments. In my data, most of the middle-class mothers chose to use radiation-shielding maternity clothes out of precautionary concerns. However, it does not completely ease their anxieties to be erring on the “safe” side. In China, middle-class mothers also fear that market actors are being dishonest and that the government is concealing information for its own economic and political interest. By highlighting their emotional experience of *maodun*, I argue that the various epistemic cultures of nonknowledge is complicated (sometimes even distorted) by the circulation of domestic and foreign information in the social network in which they are situated and a combination of risks from preindustrial, industrial, and postindustrial societies (Yan 2012). *Maodun* originally comes from a famous Chinese allegory. *Mao* (矛) means spear and *Dun* (盾) means shield. In the allegory, the person who proudly announces that he has the best spear and shield in the world is challenged and asked what if he uses his spear to fight against his shield. I keep this idiom because it nicely captures people’s conflicted state of mind in which you cannot know what the right thing to do is, but you have to do **something**. The process of dealing with uncertainty generated a kind of gendered burden (Frickel et al. 2010: 457; Hanser and Li 2017) which has a large component of a conflicted emotional experience.

3.3 Findings

3.3.1 The Media's Reproduction of EMFs Scientific Uncertainty

Starting from 1998, EMFs has been generally framed as the fourth environmental pollution after water, air, and soil, and it is a technology pollution in China. At the institutional level, on May 7th, 1999, the Chinese State Environmental Protection Agency (CEPA) officially announced that EMFs is harmful to human health. On March 28, 2000, the Chinese State Economic and Trade Commission issued file No.189, stating that people need protection from EMFs. On August 6 of the same year, the China Consumer Association issued file No.9, warning that consumers need protection from electromagnetic radiation in everyday life. In response to these institutional regulations, some “not-in-my-backyard” (NIMBY) movements related to mobile phone towers started to appear in big cities (Hu 2002). In 2001, Liu, a consumer, even sued the Motorola company for not informing its consumers of the specific absorption rate (SAR) (Qiu 2006). However, a more prominent response is what Andrew Szasz called “commodified response to risk” (Szasz 2007:44) and includes EMFs-shielding eye glasses, cellphone protection, and textiles. Therefore, radiation-shielding maternity clothes are one of the most popular products. In short, these products are advertised as a scientific and consumeristic response to the perceived EMFs environmental pollution on pregnancy.

Before 2011, the overall argument on social media was that there were no standard regulations of the *product* radiation-shielding maternity clothes. Customers needed to use caution. It was not uncommon in China because the marketplace is generally believed to be filled with shoddy, counterfeit, and fake products. What was unique about the radiation-shielding maternity clothes is the involvement of government and scientific communities.

On December 18, 2011, “Truth Investigation” (*zhenxiang diaocha*/真相调查), a China Central Television (CCTV) program, announced that the radiation-shielding clothes in the market might be useful for single electromagnetic waves; however, when considering the real situation in which different waves overlap, the clothes did not necessarily work. The engineer Chen Feng (Figure 9) did an experiment in the news and concluded that the cloak would become a place where radiation was trapped and concentrated, which would cause more negative effects for pregnancy (Figure 8). Shortly after that, on December 22, the Shanghai Anti-Electromagnetic Association, the so-called first anti-electromagnetic association, stated publicly that the experiment on CCTV had been conducted by *unprofessional* researchers using *unprofessional* methods in an *unprofessional* environment (Figure 10). Considering that the two most popular cloak brands, Tianxiang and Octmami (October Mami), are both based in Shanghai, it is possible that there is something *guanxi* between the companies and the Shanghai municipal government, which compelled the Shanghai Anti-Electromagnetic Association to make such an immediate public announcement. In response to the pressure, on April 6, 2012, CCTV invited Liu, a member of China Engineering Academy, to rectify the argument they had previously made by claiming that radiation-shielding maternity clothes are effective and have no negative effects on pregnancy.

At roughly the same time, Fang Zhouzi, a popular writer who is well-known for his campaign against pseudoscience and fraud is considered as “science cop” in China, enthusiastically criticized the radiation-shielding maternity clothes as purely a commercial trick. In a similar manner, Guokr.com, a website most widely known for discovering and sharing scientific knowledge, also published several pieces in 2011³³ arguing that, based on a few

³³ (<http://www.guokr.com/article/82167/>)

scientific researches conducted by some Western institutions, the causality from cellphone radiation to fetuses was poorly established and there is no need for pregnant women to overly protect their bodies from the electronic devices.



Figure 9. Screenshot of Engineer Chen Feng on CCTV.

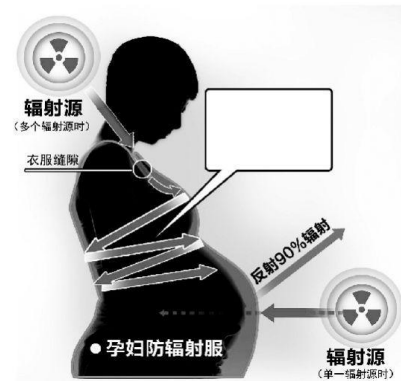


Figure 8. Cloak could absorb radiation

Descriptions: illustrates that the cloak might be able to reflect 90% of single source radiation, but multiple sources of radiation could sneak into the gap between the cloak and the body, and the “escaping” radiation would bounce inside the pregnant body.



Figure 10. Screenshot of Anti-Electromagnetic Radiation Association in a newsroom.

It is important to mention that based on 104 academic journal articles related to EMFs on CNKI, there is a persistent concern about the negative influence of cellphone EMFs on human health. Although only a few articles focused on male/female reproduction, the overall conclusion was to take a precautionary approach to cellphones, e.g., people might get brain cancer from leaving their mobile phones too close to their heads during sleep. In contrast, Fang Zhouzi and Guokr are two leading voices who strictly advocate for the mainstream (American), scientific conclusions about cellphone EMFs, i.e., there is no scientific evidence to prove the relationship between cellphone EMFs and brain cancer, miscarriage, or birth defects. Their education backgrounds and social positions can help us understand the struggles of this scientific field. Fang Zhouzi obtained a Ph.D. in biochemistry at Michigan State University in 1995. When he was in graduate school, he and several Chinese students in the United States published their own monthly journal and website, *New Threads*. It is a platform for a conversation about Chinese literature, but, more important for promoting scientific knowledge. Even though most of the time Zhouzi and his family stay in California, he is the leading figure supporting the promotion of GMO food in China. He also openly criticizes that Greenpeace is an “anti-scientific group,” and Chinese medicine is superstitious pseudoscience. In other words, his educational background and geographic location allow him to advocate for a kind of orthodox scientific attitude, which is very appealing to Chinese society, especially those who have a background in science and engineering.

Similarly, the CEO of Guokr has a Ph.D. in neuroscience from Fudan University in Shanghai. “Guokr” literally means nutshell. Inspired by Stephen Hawking’s book *The Universe in a Nutshell*, he started Guokr.com in 2010 to introduce the latest scientific and technological information to Chinese society. I calculated the posts and threats about cellphone EMFs on

Guokr (Table 4). It is obvious that people’s concerns about cellphone EMFs and brain cancer as well as pregnancy rose dramatically in 2011, largely due to the experiment on CCTV. However, compared with Fang Zhouzi, the arguments on Guokr seem to be more neutral (less personal) because those who wrote the posts and responded to the forum threads are anonymous. The very first post about cellphone EMFs is titled “*Scientific Uncertainty: from cellphone EMFs to Climate Change*³⁴.” Over the years, their main arguments are that there is no scientific evidence showing that cellphone EMFs will cause brain cancer or fetal deformity.

Table 4. Frequency table of blogs and forum threads related to EMFs on Guokr.com, organized by year.

	Blogs (N)	Forum Threads (N)
2010	2	3
2011	9	45
2012	2	43
2013	3	43
2014	7	27
2015	1	12
2016	1	8
2017	1	1
2018	1	1

In short, scientists, engineers, and public scholars who are presented through Chinese state media and social media feed into the reproduction of the uncertainty by claiming their political, economic, and scientific power. Their debates are largely based on two different but quite related things: 1) whether exposure to the EMFs from items such as cellphones and computers is risky for pregnant women and 2) whether the *product* radiation-shielding maternity clothing is protecting pregnant women from EMFs in everyday life? The scope of the discussion is not circumscribed within Chinese community.

³⁴ <https://www.guokr.com/blog/21476/>

I have summarized the tangled relationship among various public institutions about their opinions about the cloak in Figure 11. Relationship among State/City Government, Corporations, and Scientific Community, drawn by the author.. In general, three clusters, mutually dependent, created the uncertainties on social media and ultimately generated the feelings of *maodun* on mothers in my data. The first cluster is composed of the Chinese state government and Shanghai municipal government. On the one hand, CCTV, the state media, *contradicts* itself in the “Truth Investigation” in 2011 to the announcement made by Liu in 2012. CCTV is known for its contradictions in multiple cases. For instance, in July 2013, CCTV reported that areca is categorized as Group 1 (carcinogenic to humans) by the International Agency for Research on Cancer, and blamed areca for the surge of oral cancers in Hunan province. The news created a chaos for both areca farmers and factories. Ironically, within a short period of time, in 2014, CCTV invited an expert to state that areca is not carcinogenic. The state media even spoke highly of the Hunan areca farmers for their green agriculture. It is possible to assume that CCTV was under pressure right after its attack on the carcinogenicity of areca. On the other hand, there is a contradiction between the Chinese state and the Shanghai municipal government in terms of the scientific authenticity of the cloak. Notably, the public announcement made by the Shanghai Anti-Electromagnetic Radiation focuses narrowly on the professionalism of the experiment and its scientific method without directly disclosing (whether they know it or not) the credibility of Chinese state media itself.

The second cluster consists a variety of cloak corporations, including *Tianxiang* and *Octmami*. For example, as I stated at the outset, the founder and CEO of *Tianxiang* has deep roots in Shanghai. Although born with a silver spoon in his mouth, Xu Taofang was publicly appraised for her hardworking and innovation. She was considered a member of the second of

generation of successful private entrepreneurs (her father was among the first generation of private entrepreneurs after the 1978 Open and Reform). Based on limited resources about her,³⁵ she has a long list of awards and has assumed multiple positions in government-related agencies, such as the Shanghai Federation of Industry and Commerce and the Shanghai Youth Federation. Even though the exact prevalence of the *Tianxiang* cloak is unknowable, during fieldwork in Shanghai, I noticed that the *Tianxiang* cloak was constantly mentioned as a sponsor for several popular Shanghai TV programs. In short, these corporations support the marketing of radiation-shielding maternity clothes. They also have an interdependent relationship with the government.

The third cluster is the scientific community. I argue there are at least two groups of scientists: one group has direct affiliations with government and the other represents an independent community. In this project, the former is represented by the engineers Chen Feng and Professor Liu who were invited to “scientize” the statements made by CCTV. The Shanghai Anti-Electromagnetic Radiation Association played a similar role. Fang Zhouzi and Guokr represent the group whose major channel is social media and whose information is influenced by scientific literature written in English and outside of China. Considering that the Internet has been the first place for pregnant women to retrieve health information that is related to fetal development (Guo, Larsson, and Luo 2013), the entire turmoil and the ongoing debates on media have inevitably generated feelings of *maodun* within mothers, who are left to adjudicate multiple contradictory information.

³⁵ <https://baike.baidu.com/item/%E8%AE%B8%E6%B6%9B%E8%8A%B3>

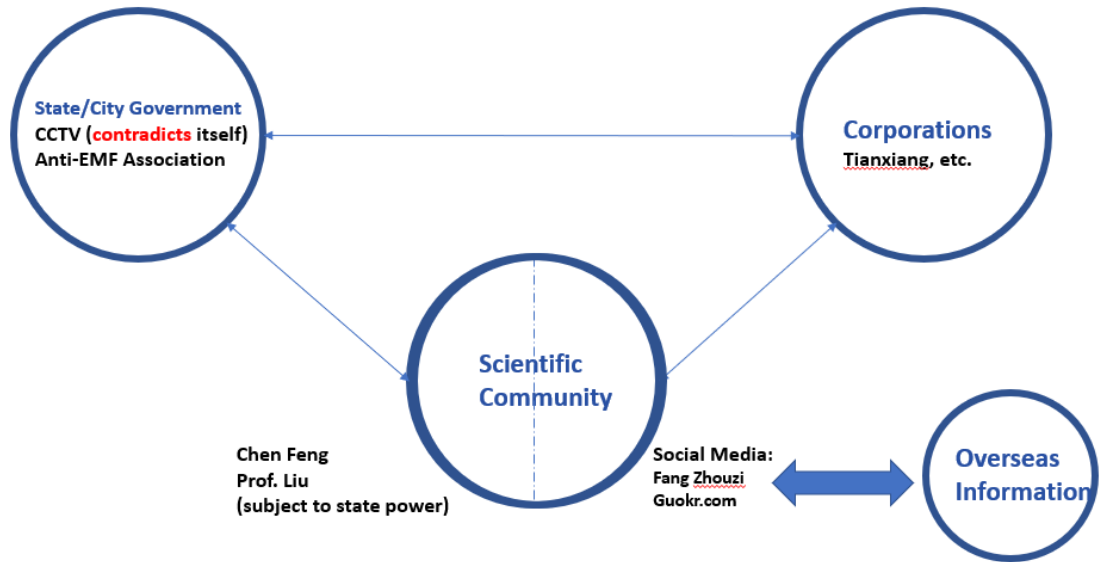


Figure 11. Relationship among State/City Government, Corporations, and Scientific Community, drawn by the author.

3.3.2 Variegated Feelings of *Maodun*

Many mothers mentioned “not feeling comfortable,” “not knowing if it is fake or not,” and “put a question mark on it” when the experiment on CCTV was broadcast and circulated on social media. It is partially due to their shock that the central government media was attacking a product that had been so widely used by mothers. However, their thoughts should also be contextualized in China, where the continuous food safety scandals have made middle-class people lose trust in the government’s willingness and ability to offer reliable information, or what Chinese sociologist Sun Liping coined as “the crisis of distrust” (Sun 2003). In other words, those mothers do not know if wearing the radiation-shielding maternity is indeed useful, and they are not sure to what extent they could trust the experiment on CCTV.

Several mothers entirely refuted the credibility of CCTV news. Meihua (Interviewee AH14) claimed that it is complete nonsense for CCTV to claim that the shielding clothes would

create a space where the radiations get trapped and concentrated. Her husband used to be a soldier and had some insights about the government. She told me,

What Chinese people really need is a sense of security. It makes sense to me why some companies sell the (radiation-shielding maternity) clothes. However, it is the economic interests that are underneath the whole picture.....I don't think the shielding clothes are as effective as the company has claimed, but I also don't believe the experiment on CCTV.

She then went on talking about two widely known food scandals involving infant formula in 2008 and “cadmium rice” in 2013.³⁶ In both cases, the government was under a storm of public criticism for hiding information for its own self-interest.

Tang (Interviewee AH07) also mentioned she didn't fully trust the CCTV experiment. Before she became pregnant, she had been in France for a couple of years pursuing her Ph.D. degree. After settling down in Shanghai, she described how her feeling of security gradually deteriorated along with her pregnancy. When she began her prenatal checkups, the doctor suggested she take Jin Ao Cong DHA, a health supplement. She was very excited because the doctor said the product was based on very recent scientific research at Fudan Medical University, and all pregnant women in Shanghai were lucky enough to benefit from the scientific research. To her surprise, after she looked up online, the DHA was said too possibly cause macrocephaly

³⁶ In September 2008, China's Health Ministry initiated a recall of powdered infant formula produced by the Sanlu Group. Some of the company's powdered milk had been contaminated with melamine, an industrial chemical, to boost measured protein levels. The damage was compounded by the delay of companies and government authorities to address and publicize the problem. Similarly, in late May 2013, rice laced with levels of the metal cadmium that exceeded national safety standards became another food scare in China. At first, the Guangzhou Food and Drug Administration (FDA) declared that it was not convenient to reveal the affected brands. Shortly after that, under the pressure of a storm of criticism online, a few names were released. It was noted that the long-term problem must be solved by cleaning up China's soil, because cadmium is used in nickel-cadmium batteries in various electronic gadgets. Unfortunately, China is a major battery producer. In other words, the ecological system has led the unintended damage on China's environment into its food system. However, consumers have no idea of the whole picture. In both cases, the central government is largely blamed for not being trustworthy and hiding information for its own interests (Hanser and Li, 2015; Tatlow 2013: <https://rendezvous.blogs.nytimes.com/2013/05/20/cadmium-rice-is-chinas-latest-food-scandal/>).

(large head in infants) and ADHD. In a similar manner, she purchased a piece of radiation-shielding maternity clothing, because she was told it was a necessity. The online search disappointed her again. She didn't fully trust the CCTV news, but her observation in France where pregnant women used laptop all the time but never wore the radiation-shielding maternity clothing made her decide to discard the cloak.

Even though the backgrounds of Meihua and Tang are special, and they can make their decisions based on what they regarded as *reliable* evidence, their fears that the government might hide some information for its own interest and that Chinese businesspeople are dishonest are very common among middle-class group in China. For most of the mothers, the feeling of *maodun* remained throughout their entire pregnancy. For instance, Mao (interview 1) wore the radiation-shielding maternity clothing throughout her first and second trimesters, but she recalled her persistent feeling of *maodun* during the entire of pregnancy,

I saw two reports online. One said the cloak is not very good for the fetus. The cloak absorbs the radiation and becomes a radiation-net outside the pregnant belly. But later, I saw another experiment video during which someone entered a space with radiation with and without the cloak. The result showed that the cloak does help to lower the radiation. (09.19.14)

Wen (Interviewee 3) also recalled her feelings of *maodun* after quite a few of her mother's friends kindly gave her their used cloaks along with the information to which she was exposed online. Moreover, her husband, whom Li claimed to have a more "scientific" mind, constantly told her that there was no scientific evidence supporting the cloak, even though she confessed to me that "as a mother, I still feel I would be irresponsible not to have worn it."

Xu (Interviewee AH11) questions the usefulness of the cloak more from her mundane working experience in an electronic home appliance company in China:

I wore the radiation-shielding clothes, but I didn't trust it is THAT useful. It is like air purifier. On the advertisement, it says the purifier can kill 99.9% of formaldehyde (an organic chemical widely used in furniture and wooden product can cause indoor air pollution), but, it might only be 80% or 70%. You can purchase a certificate of 99.9% in China.

Xu is among a small group of mothers in my data who had obtained only a three-year college degree (*da zhuan*), similar to the vocational training in the United States. But her explanation of her distrust was filtered through a specific nationalist view. Her working experience allowed her to see through the fractured regulation system of certification in China, which compelled her to view the “made-in-China” cloak with a suspicious eye. In another words, she distrusted the cloak market not just because of its scientific authenticity, but also its essence of being made-in-China, a common mindset shared by middle-class consumers in China (which I will further explain in **Chapter 4**).

Mothers might not exactly know the information from the experiment on CCTV in 2011, but many mothers who wear the cloak simultaneously expressed variegated degrees of distrust in the products. The way in which they frame their suspicion is innovative and filtered through their daily experiences. Most of these mothers accepted the idea that EMF is somewhat risky for pregnant women, but they have no certain ideas as to whether the CCTV news is truly reliable and whether the cloak, as a made-in-China product, is truly trustworthy. It might be difficult to completely capture their feelings of *maodun* considering that the interviews are conducted after they had had a healthy child. But, according to two middle-class mothers whom I followed throughout their entire pregnancies, both of them were wearing the cloak at each of our interviews.

3.3.3 Being a pregnant woman in China

Jiang (Interviewee 2) was thirty-three years old when she had her daughter. Her mother-in-law had bought her a piece of cloak right after her pregnancy was confirmed. Her previous pregnancy had ended as a miscarriage, and her mother-in-law wanted her to do everything she could to keep this baby. Even though Jiang was suspicious about the effect of the clothes, she noticed that carrying a healthy baby has somehow been extremely difficult. Quite a few of her friends had had stillbirths, and she believes the excessive use of mobile phones and computers might be a reason for that. In fact, after giving birth to her daughter, she got pregnant again, but unfortunately, she lost the baby right after the first trimester. Mothers in my sample share a lot of similarities with Jiang - they are suspicious about the effect of the clothes, but their experience of pregnancy is also deeply influenced by their social networks and family structures.

First, there is a perception of the high rate of miscarriage and/or birth defects shared among middle-class mothers. Many of my interviewees mentioned that more and more people around them had had difficulties in having a baby. As I mentioned at the outset, there is no scientific evidence indicating an alarming increase in the miscarriage rate in contemporary China; there is an increase in the infertility rate compared with decades ago. Even though more and more scientists are pointing to the association between exposure to various environmental toxins and a reproductive crisis (Lamoreaux 2016; Malley et al. 2017; Qian et al. 2016; Sun et al. 2016), the evidence is still vague and under exploration in China. Hence, the risk perception of a reproductive crisis is also likely to be a social and cultural phenomenon. One possible reason is the social consequence of the long-term, one-child-policy in urban Chinese society in which two extended families are focusing all their attention on one child. Considering that middle-class women tend to delay their pregnancies for education and/or employment reasons, which have

proved to lead to a rapid rise in the rates of miscarriage (Magnus et al. 2019) and infertility (Zhou et al. 2016), it is fair to say that there is public anxiety over reproductive outcomes (Fincher 2014), and a healthy (normal) pregnancy stands as a primary part. Meanwhile, mothering ideology in China is also deeply coupled with a national discourse on individual *suzhi* or “quality.” The term *suzhi* broadly refers to both individual and collective qualities valued in contemporary China and can range from physical stature to education achievement to morality (Jacka 2009; Kipnis 2006).

For example, Jiang (Interviewee AH17) had one abortion and two miscarriages before she had her son. When she got pregnant for the first time, she had no idea that she was pregnant and went for a regular checkup ultrasound. The doctor suggested she not get pregnant within half a year considering the possible residue of radiation inside her body. Soon after she found out that she had already been pregnant; she was shocked and decided to have an abortion just in case the baby could be disabled. She had two consecutive miscarriages, and she started to wear the radiation-shield maternity clothes while she was just trying to get pregnant for the fourth time. After she finally conceived, she attended a prenatal lecture in her maternity hospital. During the lecture, one of the sentences from an OBGYN left a deep impression, “*All of you are very lucky because there are a lot of women who want to be a mother but never get the chance due to biological reasons.*” Even though the doctors had mentioned no exact statistics, and Wang never investigated the data, she had had an ambient awareness of natural miscarriage and fetal deformity from her experience as well as the environment surrounding her.

For Jiang, the consecutive unsuccessful pregnancies increased her anxiety. For some other mothers, the biological uncertainty was sometimes intensified during the process of prenatal checkups. Guo (Interviewee AH08) works in a stock exchange where she was

surrounded by a lot of electronic equipment. She also had a rough experience with the prenatal checkups. She described to me a very interesting observation.

You know, every time I went for a prenatal check, I was told there was something wrong with my pregnancy. Usually, I saw a same group of mothers during each checkup as our due dates are very close to each other. Interestingly, when I went for a reexamination due to the problems of pregnancy, I saw a lot of similar faces. I was asking myself, ‘How come everyone has some issues with their pregnancies?’... To be honest, fetal deformity is such a scary phrase to hear for pregnancy woman.

Although she admitted that her anxiety might have been because her daughter was once mistakenly diagnosed as disabled (with only four fingers on one of her hands), as a pregnant woman, she felt inclined to minimize all the possible risks around her. Therefore, she bought two radiation-shielding maternity clothes - one for the workplace and the other for home. She did not dare go shopping at Uniqlo because of the security inspection at the gate.

Second, the experience of pregnancy occurs under the gaze of family members as well as social networks. The media framing of the negative impact of electromagnetic radiation pollution on pregnancies creates a social environment in which the surveillance of pregnant women becomes a public experience. Ying (Interviewee AH13) had two radiation-shielding maternity clothes, one of which had been purchased by her mother. Whenever she was placing an iPad on her belly, her husband would remind her of the radiation. She said, “*No one would ask you why you wear the clothes. It is a thing that every pregnant woman must do... . I have never seen a pregnant woman not wearing the shielding clothes.*” Li (Interviewee 6) described a similar scenario. She is an avid reader of *Guokr*, but she also realized that quite a few of her acquaintances could not get pregnant easily after getting married or only succeeded after seeking infertility treatments. When she was using her iPad, her mother always anxiously reminded her to put on the cloak. Even though Li believed that the radiation-shielding maternity clothes was

barely useful and that being over-anxious did nothing good to pregnancy, she nevertheless followed her mother's suggestions "*just in case.*" The same is true for Yin (Interviewee 43), who believes that many disabled children are the result of genetic abnormalities, such as the quality of the embryo. But considering that nearly every pregnant woman in her circle wore the cloak, Zhang followed suit for some sort of psychological comfort. In other words, for women such as Ying, Li, and Yin, being pregnant in their social networks and under the gaze of their family members, it seemed to be more rational to adopt a seemingly unscientific gadget.

It is worth mentioning that three mothers (Interviewee AH19, Interviewee AH21, and Interviewee 47) in my sample wore the clothes because they wanted to get a seat on buses or in the subways. In a metropolitan city such as Shanghai, buses or subways are always packed with people, especially during the rush hours. Therefore, working mothers want to protect their fetuses from any possible accidents in that environment. For instance, Qu (Interviewee AH19) told me that,

At the beginning, my belly was not very big. I took subways to work, and it was a long trip. I didn't want to spend money on taxis every day. So, I wore the shielding clothes so that people could immediately recognize I was pregnant and (hopefully) gave me a seat.

None of them truly believed the function of radiation-shielding maternity clothes was to protect them from radiation. But living in a giant city like Shanghai, mothers like them devised a contextualized social meaning in using the clothes. In my opinion, it reveals the intricate but contradictory mindset shared by middle-class mothers: they feel they are entitled to some respect as pregnant women and they do not trust that contemporary Chinese society is able to offer them what they are expecting. As a result, they conjure some innovative uses of the cloak as a way to communicate (silently) with society about their pregnancies: they know when to "turn on" their

pregnancy and when to “turn it off.” (For instance, Xing [Interviewee 48] wore the cloak underneath her uniform - especially during the first trimester- because she did not want to disclose her pregnancy as a professional doctor.)

Both the individual and the network-influenced perception of the uncertainties in pregnancy derive partially from the Chinese traditional reproductive culture “*baotai*” (keep the fetus) (Bray 1997: 278). The culture can be traced back to the Tang Dynasty (years 618-907) when pregnant women were disciplined to lie in bed, avoid any physical exercise, and take certain kinds of Chinese medicines when needed to protect the fetus from any accidents during the first trimester. This traditional culture is reinvigorated when it coincides with modern risks, such as environmental pollution and unsafe food. For example, in 2012, Tencent Online News extensively reported the abuse of Utrogestan to treat miscarriage in China.³⁷ According to the report, due to the high expectation to having a healthy child combined with the high percentage of women in the labor force, the number of pregnant women who are prescribed some medical intervention to *baotai* increased by 60% within four years in Nanjing, and by six times in Qingdao. In 2015, the largest and most reliable online social platform of medical knowledge, Lilac Garden (*dingxiang yuan*), also stated that the culture of *baotai* comes from families’ anxiety about having a healthy baby. Nevertheless, *baotai* is continuously considered to be a social norm by many families, and the pressure on women to keep the fetus (especially within the first trimester) at any cost is exponentially high. It is especially so for working women, because they are more vulnerable to environmental pollutions, such as food safety, indoor decorations, as well as electronic radiation.

³⁷ <http://view.news.qq.com/zt2012/htt/index.htm>

3.3.4 Risk Perception: a Class Act

The data from rural-urban migrant mothers demonstrate a quite different picture. Not all rural-urban, migrant, pregnant women wear the radiation-shielding maternity clothes, but they all have heard of it. Five out of twenty-eight migrant mothers told me that they wore the cloak for various periods of time. Four out of five wore the cloak because of the pollution in their working environment (i.e., textile factory or semiconductor factory). They described their working environments as noisy, dusty, and polluted. Some mothers (i.e., Interviewee 24 and Interviewee 61) even told me that it was quite common for the female workers in factories to wear the cloak during pregnancy. Only one mother (Wang Interviewee 51) told me that she wore the cloak because she was watching TV or using her cellphone. Her husband had bought her the cloak. She considered it as a psychological comfort. Her husband was an English teacher in a private education agency, and she had worked in a small, private company before she got pregnant.

However, none of the migrant mothers mentioned that they didn't trust the usefulness of the cloak. By contrast, some of them expressed a feeling of pride. For instance, Tiantian (Interviewee 61) wore the cloak when she was working in the factory during her pregnancy. Whenever she watched TV at home, she put on the cloak as well. She was very proud of herself because, unlike the *typical*, rural-urban, migrant women, she believed she had paid attention to her prenatal health. Working as a health ambassador (volunteer) in the NCLS, she shared with me her opinions about the cloak,

At first, I thought being pregnant is nothing special. But it is wrong. Pregnancy is a very important period, including diet, exercises. Then, for instance, we all watch TV and use a cellphone or laptop, right? They generate very strong radiation, really strong. Some people do not believe these. I do. Because, I learned it while I was working as a health ambassador. I was convinced that regardless you are pregnant or not, those electronic devices have very strong radiation. In my previous factory, pregnant women also wore

radiation-shielding maternity clothes. It is good for your physical and mental health. Before, I knew nothing. But I learned a lot from being a health ambassador.

Here, she mentioned the radiation and cloak before I asked her about it. When I challenged her that only Chinese women wear the cloak, she then shifted to a discussion of market uncertainty. She acknowledged that there are lots of “fake” (cheaper) cloaks in the market, because the price ranges from RMB1000-2000 (\$150-300) to RMB 200-300 (\$30-45). Hers cost RMB680 (\$100). In other words, she emphasized that she had purchased a cloak of comparatively good quality.

Banner (Interviewee 62) also wore the cloak. Her husband had purchased it because her work required interaction with a laptop and some printing machines. She also praised herself for her concern about her prenatal health. Over time, she noticed that some young women in her community wore the cloaks during their pregnancies. When she had her first child ten years ago, she did not wear and had not heard of the cloak at home. However, she treated her second pregnancy differently because she had learned something modern and scientific in Shanghai. Plus, her working environment was full of chemical smells and noises.

Among the middle-class pregnant women in my data, there are some similarities and some differences. The similarities include their general concern about the possible association between electronic radiation and birth defects (or some fertility problems). The cloaks were also very likely to have been purchased by their husbands or close friends because of their attention to the children (culture of keeping the fetus). However, one stark difference was how they responded to my questions. None of the rural-urban migrants in my sample mentioned that they did not trust the cloak, whereas middle-class mothers were *eager* to tell me that they wore it but

they themselves did not believe the cloak was useful. On the contrary, some of them tended to consider that wearing the cloak was a badge of honor. In my opinion, one possible reason was how these two groups of mothers strategized and brought their social and cultural capital into the interview. Middle-class mothers interpreted my questions as a test of whether they were a “responsible” as well as “scientific” enough mother. Because they were more likely to have been exposed on social media to the debates about the credibility of the cloak, they were eager to defend the intricate balance between being responsible and being smart/savvy/scientific. In contrast, rural-urban migrant women interpreted my question as a test of whether they cared about their pregnancy because they were less likely to be exposed to the online debates as much as those middle-class mothers (that is, there was a network divide). It also had to do with their awareness of the general social stigmatization of rural-urban migrant women being less knowledgeable and caring little about reproductive health.

3.4 Conclusion

This chapter examines why so many middle-class pregnant women wear radiation-shielding maternity clothes in urban China, even though most of them do not truly believe the usefulness of the clothes. By using two bodies of literature: scientific uncertainty and intensive mothering, I argue that the scientific uncertainty about the possible negative impact of electromagnetic radiation on pregnant women has created a space in China where state government, business agents, and the scientific community negotiate for political, economic, and scientific power. Radiation-shielding maternity clothing was invented and advertised as a scientific and commodified response to this collective fear in China. Mothers are not only afraid of the possible association between EMFs and miscarriages or birth defects. The traditional *baotai* culture (keeping the fetus) also intensifies the concern about a healthy pregnancy,

especially for middle-class mothers who are more likely to delay their pregnancies due to higher education and employment. However, the battle over EMFs and the usefulness of radiation-shielding maternity clothes in China is complicated because of the prevalent distrust over the government's ability and willingness to offer reliable information and regulate the market. The CCTV experiment and continuous debates left women unsure of how to adjudicate the contradictory information. A few mothers do not fully trust the radiation-shielding maternity clothes because of the introduction of scientific evidence from Guokr or Fang Zhouzi. As a result, this double exposure to uncertainties enhances mothers' feelings of *maodun* and conflicted emotions. One of my interviewees said, "I wore the clothes; therefore, I have done my best." Therefore, facing the uncertainties that are usually out of their control, mothers feel relieved that they have fulfilled their "partial responsibility" for the health of future generations (Lamoreaux 2016:206).

Class also influences mothers' risk perceptions. Rural-urban, migrant, (or less privileged) pregnant women do not have frequent access to computers and cellphones. Therefore, they do not perceive a close risk from electronic radiation for their pregnancies. However, those who do wear the radiation-shielding maternity clothes unanimously regard it as a way of being a responsible mother who cares about the overall healthiness of her pregnancy. By contrast, in answering my questions, middle-class mothers defend their positions that they wear the clothes because someone (either relatives or colleagues) ask them to and they have an ambient awareness that it is becoming more and more difficult to get pregnant and have a healthy child. However, they also seem to prove to me that they personally, as a middle-class, well-educated woman, do not believe it is useful. They cite the information from Guokr.com or the reality that

pregnant women in the United States or Europe (i.e., developed Western societies) do not wear the cloak.

CHAPTER 4: “DELAYING MY BABY’S CONTACT WITH CHINA’S ENVIRONMENT”: INFANT CARE AND THE MORALITY OF MIDDLE-CLASS MOTHERING

4.1 Introduction

I interviewed Jiang in the summer of 2013 when she was thirty-four years old with her three-year-old son. She has a master’s degree and was working for a government bureau responsible for food safety inspection. She breastfed her infant son for ten months and started to add infant formula when he was six months old. What is unique in her infant feeding is that she intentionally use three different formula brands because she believed that “*at this moment, not a single brand can be fully trusted, and I want to distribute risks.*” Aside from this belief, she was assured that by watching her diet, her body could filter out all the pollutants from the environment and produce fresh breast milk. However, to my surprise, toward the end of our interview, she told me a joke she had once read online. It hypothesized a food-poisoning accident in an American restaurant. All the American customers were affected. The exception was a Chinese man. That Chinese man even helped save all the Americans. Later, a journalist interviewed this Chinese “survivor,” who sarcastically replied, “I need to thank China, thank Melamine, and thank Sanlu Formula. Thanks....” Jiang commented that, “*This is the **da huanjing** (large environment) people are facing in China. You get caught easily. There is no way to completely opt out of it, and we need to get used to it gradually.*” *Da huanjing*, a commonly spoken phrase, emerges repeatedly in my interview. In mandarin, it refers to a combination of the physical, political, economic, and social environment.

We can learn much from Jiang's story. One thing that stood out for me was the contradiction of her perspective. She made a great effort to provide her son with the safest infant formula and the purest breast milk, yet she still believed that the "*da huanjing*" in China is unavoidable, and, to a certain extent, has shaped the way Chinese people think about the domestic environment as well as the world. How can we account for the strategies mothers are using to *delay* their babies' contact with the "*da huanjing*" in China? To what extent can we explain the morality and the limits of agencies perceived by middle-class mothers (as well as families) in urban China?

In recent years, numerous studies with a focus on education have detailed the struggles and anxieties of middle-class parents (especially mothers) (Jin and Yang 2015; Kuan 2015; Yang 2018) in urban China. These studies highlight that with the privatization of education since the 1990s, the one-child-centered family structure, the emergence of middle-class families, as well as the global-local circulation of a modern, global parenting culture have converged. They have pushed middle-class parents, particularly mothers, to invest tremendous time, emotion, and energy in their children's education to minimize their uncertain feelings and optimize their children's future. In other words, they are learning intensive, helicopter mothering from other sources. But these studies have also unveiled that scientific mothering, intensive mothering, and/or over-parenting cannot diminish the anxieties exhibited by middle-class parents. These studies bring to mind C. Wright Mills (1951), who insightfully pointed out that the "inarticulate malaises" felt by the new, white-collar class in postwar America cannot be solved unless they can understand that a commodity and/or pop culture-oriented mindset will not free them from their traps. This is because it is the political and economic power elite who have deprived the white-collar class of their political and economic independence. In other words, the mismatch

that leads to their feelings of malaise can only be accounted for beyond their personal orbits and must be coped with in collective and innovative actions: that is by using sociological imagination as the very first step (Mills 1959). According to C. Wright Mills (1951), it is fair to argue that intensive mothering strategies will by no means solve the problems that middle-class mothers are facing. This is because the uncertainties they are facing are simply the symptom of a larger structural and cultural shift.

Little research has touched on the early stage of childrearing in China. Based on data I have collected, I discovered that during the early stage of infant feeding and infant care-giving, middle-class mothers have a kind of resistance to and negotiation with China's environment. They coin this "*da huanjing*" - the constellation of risks posed by the contaminated food system, the polluted environment, and moral decay (Yan 2014) that has been haunting them since the onset of pregnancy. They are reluctant to have their little babies have contact too early with the "toxic" environment in China, even though they know that eventually their children will have to adapt to the "*da huanjing*" regardless of how awful or flawed it is.

In this chapter, using theories of environmental sociology and the morality of mothering, I will focus on two concepts, *da huangjing* and delaying, to examine the internal contradiction middle-class mothers experience at the early stage of infant care. First, Mills (1959) uses *milieu* to refer to the vaguely understood social environment in postwar America that changes so swiftly and under which people often feel their private lives are trapped. The concept of *da huanjing* is quite similar to this term. It allows us to see the traces of macro-level forces in the micro-level actions of well-intentioned mothers who are very focused on their babies' well-being. However, the term adds the connotation of the natural environment, such as air/water pollution, and food safety. Second, time is a core concept that "gives experiences of contamination its form and

meaning” (Auyero and Swistun 2009: 111). The gradual incubation of contamination/pollution allows the “social production of toxic uncertainty” to take place due to the insecure ground, the soothing/comforting effect of daily routine and the labor of confusions from various actors (e.g., doctors, lawyers, media) (Auyero and Swistun 2019). In contemporary America, the slow development of toxicity also enables the formation and legitimacy of a “body burden” (Mackendrick 2018). Therefore, people’s experience of being contaminated and polluted in a toxic environment has a lot to do with time. Auyero and Swistun (2009) compare the poor Flammable residents to Tiresias (in Greek myth), a powerless witness who becomes highly involved in anticipation but has no power to take action other than waiting and submission. By contrast, in this chapter, I argue that the affluent mothers in my sample are adopting their economic and social capital to *delay* their children’s contact with the Chinese *da huanjing*. On the one hand, similar to waiting and submission, delaying is also giving away any individual/collective agency while hopefully waiting for something good to come from *others* (Auyero and Swistun 2009: 129). On the other hand, I emphasize that *delaying* is probably one of the most agentic actions that the middle-class mothers could take in contemporary Chinese society. Here, the *delaying* strategy shares a mindset with “precautionary consumption” (Mackendrick 2018), but I will further discuss the difference between delaying and precautionary consumption by situating this concept in China.

4.2 Literature Review

4.2.1 Internalized Contradictions and Environment

Contemporary literature shows that one feature of the emerging middle-class group in East Asia is its **duality**: politically conservative yet economically progressive (Koo 1991; Li 2013; Walder 1995; Zhou 2002). This body of literature argues that this group of people tends to

mimic a Westernized, middle-class lifestyle through consumption while remaining conservative in the domain of political issues. As is shown, China's unprecedented economic development in the past forty years has produced a burgeoning middle-class, which can be defined by their purchasing power (Zhang 2010). Lacking political freedom under China's authoritarian system; however, middle-class people have an inclination to cope with uncertainties through avenues of consumerism (Hanser and Li 2015; Johnson et al. 2017).

However, by applying this *duality* to mothers' attitudes towards environmental degradation as well as food safety, I excavate the nuances of duality in a more global context. The environmental degradation caused by industrialization is not unique to China. In the late 1970s and early 1980s, for instance, the United States witnessed a massive wave of environmental health movements (e.g., Love Canal, anti-environmental, racist movements) which pressured the government to implement a series of environmental regulation laws and institutions (e.g., EPA, Superfund) (Szasz 1994). But during the past two decades, this wave of political action gave away to a more neoliberal and consumerist approach to coping with environmental crises (Szasz 2008). One of the consequences of this approach is increased social stratification. On the one hand, affluent mothers are showing a commitment to natural parenting, such as the increased emphasis on (natural) breastfeeding (Wolf 2011) or anti-vaccination (Reich 2016). On the other hand, poor parents are being blamed as scapegoats for the rising rates of environmental illnesses, such as asthma (Sze 2006), in less privileged communities. The environmental health movements in the 1970s and 1980s did surmount the pollution from the drastic industrialization in the United States after WWII. However, the neoliberalism that followed globally transported industrial pollution to developing countries (such as China) and forged an individualist approach internally to environmental crises and risks.

A close examination of environmental degradation in China reveals a different story. The environmental pollution that the Chinese middle-class faces is indeed at a higher level of magnitude compared with their counterparts in developed countries. For instance, according to Environmental Protection Association (EPA), the current standards for particulate matter measuring less than or equal to 2.5 micrometers in diameter (PM 2.5) in the United States is 35 $\mu\text{g}/\text{m}^3$ (micrograms per cubic meter) for a 24-hour period and 12 $\mu\text{g}/\text{m}^3$ annually. In China, the current standards for Class 2 (urban areas) are 75 $\mu\text{g}/\text{m}^3$ (for 24 hours) and 35 $\mu\text{g}/\text{m}^3$ (annually). But the higher standard does not make the air quality in China “look” better. In 2013, most of the days had an air quality index (AQI) higher than 100 (which is unhealthy for active people and those with respiratory disease). January 12 had an AQI as high as 755 in Beijing based on the standards of American EPA. As a comparison, according the EJSCREEN (Environmental Justice Screening and Mapping Tool) under the EPA, even the air quality in what are called “sacrifice zones” in the United States will be considered cleaner. These are areas (usually populated by poor African American or Mexicans, e.g., the Ironbound in New Jersey) subject to horrendous environmental pollution in order to provide a cleaner environment for the rest of the nation.³⁸

The severe pollution/contamination in China is partially the result of the larger world political-economic order under which China is still viewed (and positioned) as the largest world factory. Moreover, some rural areas of China as well as Hong Kong have been used as the dumping site for a large quantity of the world’s e-waste and plastic waste.³⁹ The consequences can be explained through the framework of ecological unequal exchange (Bunker 1990) . Bunker

³⁸ It is impossible to talk about air quality without scrutinizing time. The air quality varies minute-by-minute, day-by-day. Here, I’m referring to the comparison between average air quality in contemporary China and that in a “sacrifice zone” in the United States.

³⁹ Plastics Pile Up as China Refuses to Take the West’s Recycling.
<https://www.nytimes.com/2018/01/11/world/china-recyclables-ban.html>

argues that all the efforts to “develop” the Amazon Basin have resulted ironically instead in its “underdevelopment,” because the natural resources have been extracted from the Amazon Basin to be transformed and consumed in other regions around the world. In the end, the resource-exporting region loses the value in its physical environment and then decelerates its economy. For instance, China is one of the less developed countries burdened by SO₂/CO₂ emissions, land pollution, and water pollution because it is participating in the unequal world economic system by extracting its own cheap labor as well as environmental resources (Yu, Feng, and Hubacek 2014).

But the ecological costs China is facing are also arguably the responsibility of the Chinese state. One example is illustrated in the well-known documentary, “Under the Dome,” self-financed and produced by former CCTV journalist, Chai Jing, in 2015. This documentary is viewed as the equivalent to the *Silent Spring* (1962) or *An Inconvenience Truth* (2011). It was censored in mainland China soon after its release. In the documentary, Chai Jing openly criticized failed state regulation of pollution in interviews conducted with governmental personnel and environmental professionals, but also through her own story. Her unborn daughter developed a tumor in the womb, and Chai suspected and explored its connection to domestic air pollution. The tumor was removed after the baby was born, but, like many middle-class parents, Chai had to “confine” her daughter to indoor spaces when the levels of particulate matter in the air (PM_{2.5}) were measured to be unhealthy for children. The image of her daughter curiously looking at the smoggy sky through the window aroused the sympathy of the entire society (Figure 12). Although the figure of an environmental activist/mother has been well recorded in the United States (e.g., Lois Gibbs in Love Canal), Chai Jing was the very first to articulate the connection between motherhood and environmental protection. In addition to air pollution, the

continuous food safety scandals related to contaminated water, soil, and infant formula were widely believed to be connected to the sloppy regulation system in contemporary China.



Figure 12. Chai Jing's Documentary

Description: This is one slide of Chai Jing's documentary. The subtitle says: Sometimes when I got up, I saw my daughter standing at our balcony window, smacking on the glass. This is her way of telling me she wants to go outside; I think one day she will ask me, "Mama, why do you keep me shut inside? What is out there? Will it hurt me?"

China is taking following a state-led, authoritarian environmentalism path without deepening her democracy (Zinda et al. 2018). Grassroots protests over pollution in China have been well documented. This is especially in rural areas because of the unequal distribution of industrial pollutants in domestic China (Johnson, Lora-Wainwright, and Lu 2018). In urban China, a successful protest against a multibillion yuan, paraxylene (PX), petrochemical plant in Xiamen in 2007 is considered a transformative event, which led to a wave of environmental protests across China. One example is the protest against a Maglev Train Extension in Shanghai in 2008 because of people's concerns about health and failing property values caused by radiation (Steinhardt and Wu 2015). These scholars argue that the environmental protests in China appear to reach a wider audience and be more tolerated by the state; however, these

studies also show that the protests relied heavily on cooperation from the state (e.g., the CCTV media), social media, and urban elites as well as scholars. In other words, the state still conditions (even if it does not determine) the formation and development of these protests for the sake of “harmony” and “social stability.” In the early 1980s, some scholars (e.g., Schnaiberg 1980) hypothesized that the socialist environmentalism might be better equipped to cope with an environmental crisis such as climate change due to its strict up-down regulation system. But whether this is possible, especially in the contemporary format of socialist China, is open for debate.

In sum, middle-class mothers in urban China face a higher level of environmental pollution and a nascent awareness of anti-environmental-pollution collective action (mostly in the name of NIMBYism other than in the environmental justice framework). Because of their strong economic power and strictly limited general political power, they are more likely to use consumption as a coping strategy. By engaging their feelings of internal contradiction and their negotiation with and resistance to the “*da huanjing*,” I argue that middle-class mothers are caught between feeling that their consumption power is enabling them to access an imagined “middle-class” lifestyle that is dominant in the United States while, at the same time, acknowledging that their babies’ health is doomed because of the polluted and toxic environment in contemporary China. This kind of internal contradiction is due partially to the feature shared with the middle-class in other countries, but it is also specifically related to the influence of globalization and the history of China.

4.2.2 The Ecological Ethic of Reproduction and Environmental Motherhood

Historically speaking, our perception of children has changed a lot (Ariès 1962/2013). In the 1960s, the word *parent* was used merely to describe a relationship, but, soon after that, parenting (or mothering) was communicated to us as a specific job that needs to be taught and learned. One of the most classic descriptions is Sharon Hays' intensive mothering (Hays 1996), which she defined as a kind of child-centered, labor-intensive, expert-guided, and expensive labor. In contemporary society, mothers constantly juggle among numerous concepts brought by the latest child, psychological studies, such as sleep training and attachment parenting. Society puts enormous responsibilities on parenting (especially mothering), and poor parenting can serve as a scapegoat for social ills. Parents have become trapped by the politicized, parenting culture in a risk society.

One origin of the anxiety comes from the belief that an innocent baby (Miller 1997; Zelizer 1994) will be polluted by contact with a toxic and instable environment (Dow 2016; Mackendrick 2014; MacKendrick 2010, 2018). In Europe, for instance, Katharine Dow (Dow 2016) proposes the *ecological ethic of reproduction* to describe the concerns of a group of well-educated women who are planning parenthood in Scotland. Instead of the biogenetic elements passed on from generation to generation, they are more concerned about whether "it is responsible and ethical to bring children into a world that has been severely damaged by human actions and which has stretched, dwindling, and unequally distributed resources" (655). In Dow's description, the women who are working in the conservation centers constantly apply the lens of an ecologically stable environment to gauge the morality of parenting, because what worries them the most is "whether a person born in the future will be able to make a good life" (654). From a different perspective, mothers in the United States adopt various practices (e.g.,

shopping for organic food, carefully examining their diets) to avoid polluting their unborn babies and then feeding the babies organic foods in the early months of their lives (Cairns, Johnston, and Mackendrick 2016). Nevertheless, in both scenarios, women are under severe moral judgment in terms of how they think of reproduction and to what extent they go to protect their babies who are brought up in this environment.

However, very little research has focused on the mothers and their understandings of reproduction and environment in a country that is suffering from severe pollution. In fact, the environment in the United States or European countries is still being imagined or fantasized by most, middle-class, Chinese mothers as a clean and dream environment for raising the next generation. One mother (AH07) who obtained her Ph.D. in France told me that she originally didn't plan to have a child because of her disappointment about and fear of the toxic Chinese environment that ranged from baby food, air, water, etc. Her anxieties and disappointment were shared by many of my interviewees, even though all of them eventually had a child. According to contemporary Chinese culture and family structure, it is still not considered a meaningful reason not to have a child simply because of the environment. How do mothers in contemporary, urban China deal with the tension of raising a child in an environment that is considered toxic but also inevitable?

In the following, I will first show how middle-class mothers in urban China make great efforts to delay their babies' contact with a "Chinese" environment that is believed to be unsafe, toxic, polluted, and not to be trusted. These strategies include 1) mobilizing personal networks to purchase infant formula from overseas; 2) spending copious amount of time studying online stores to ensure that the foreign-brand infant formula they purchase online is real; 3) watching their own diets while breastfeeding; 4) installing an air and/or water purification system at home.

However, almost all of these mothers simultaneously believe that all such efforts are only temporary solutions. Some even joked that their babies might need to be exposed to the “*da huanjing*” earlier so that they can build up an immune system. Second, I will delineate an underlying moral framework that guides these strategies. Anna Lora-Wainwright (2017) interprets the resignation of farmers in a severely polluted, Chinese, rural area as an important alternative form of activism: resigned activism. In a similar manner, even though the practices of the middle-class mothers in my data seem to care only about their own children, and their behaviors may possibly be perpetuating the “toxic” environment that they hate, their efforts to delay their babies’ contact with China’s environment reveal their understanding of what a good mother should be and which socially acceptable solution a mother might adopt in contemporary China to protect her baby.

4.3 Background: From 2008 to 2013 and on...

It is difficult to keep track of all the food safety scandals that have occurred in China during the past decade. The Sanlu infant formula scandal in 2008 marks the beginning of national as well as global attention to this issue largely because it caused severe health problems to many infants (by January 2009 the government’s estimation was that approximately 300,000 children had been affected). The scandal was first hidden by the state government during the 2008 Olympics and later whistle-blown by a New Zealand-based partner dairy company (Hanser and Li 2015:117-18). Since then, food safety has become a topic about which everyone in China complains. For instance, during my fieldwork in late May 2013 in Shanghai, there were news reports about rice laced with levels of metal cadmium,⁴⁰ and in April 2014, dead pigs were found

⁴⁰ <https://rendezvous.blogs.nytimes.com/2013/05/20/cadmium-rice-is-chinas-latest-food-scandal/>

floating in a river in Zhejiang Province (near Shanghai).⁴¹ During my writing, there was an outcry about faulty vaccinations⁴² and a scandal about child abuse in a high-end kindergarten in Beijing.⁴³ This news undoubtedly infuriated parents (especially middle-class mothers, judging from my social media feeds) all over the country, not to mention dozens of small, food scandals that usually appear in the daily news.

Equally important is the attention paid to the air pollution in China. The beginning of the story is similar to the Sanlu scandal. In early January 2012, the U.S. Embassy reported the PM 2.5 in China, and it was much higher than the indicator released by the municipal government. The bad air quality, as well as the disparities, immediately caused a public outcry. Chinese citizens started to joke that the PM 2.5 provided by the Chinese government was inaccurate and used to pacify Chinese people and stabilize the society. Unfortunately, a year later, in 2013, China experienced one of the most “deadly suffocating” air pollution events in human history.⁴⁴ One article reported that more than half of the days in 2013 had had an AQI that was higher than 150 (unhealthy for general population), and, on January 11, the AQI hit almost 500. According to the WHO, the recommended exposure is 25. The pictures of ordinary people blanketed by heavy air pollution in China went viral online. As a response, in September 2013, the State Council issued the “Air Pollution Prevention and Control Action Plan,” which mandated a 15% to 25% PM 2.5 reduction by 2017. Since then, state-led environmental reforms have made some progress, such as a massive anti-smog campaign in Beijing and nearby provinces (e.g., forcing roughly 10,000 factories to suspend production, or keeping even-or-odd numbered license plates

⁴¹ <https://www.theguardian.com/environment/chinas-choice/2014/apr/17/china-water>

⁴² <https://www.theguardian.com/world/2018/jul/23/china-outcry-over-sale-of-250000-faulty-vaccines-prompts-investigation>

⁴³ <https://www.nytimes.com/2017/11/24/world/asia/beijing-kindergarten-abuse.html>

⁴⁴ <https://qz.com/159105/2013-will-be-remembered-as-the-year-that-deadly-suffocating-smog-consumed-china/>;
https://en.wikipedia.org/wiki/2013_Eastern_China_smog

off the roads) before the Asia-Pacific Economic Cooperation (APEC) in 2014. The blue sky that appeared during the conference was called APEC blue, a reference that it was wonderful but fleeting.

Nevertheless, the discussions about the food safety, water, and air pollution have been one of the top quality-of-life concerns throughout the entire country (Li and Tilt 2017). This is especially so among well-educated, middle-class parents with young children, because they are more likely to be exposed to a cosmopolitan worldview. The reference group with which they compare their own lives is always what is happening among (white, middle-class) families in the United States as well as in some other developed countries.

4.4 Findings

4.4.1 The Strategies of Delaying I: Shopping Our Way to Safety

In general, middle-class mothers opt out of domestic brands of infant formula, and, for fear of adulteration, most also opt out of the foreign-brand, infant formula that is available in the domestic market. They extend their networks (e.g., relatives who are residing overseas, friends or friends of friends who are living outside of China) to purchase the formula in person. They carefully select the formula through a virtual marketplace such as Taobao. They purchase formula and other baby products directly from foreign websites, such as Amazon.com or CVS.com (they are popularly termed “online, overseas shoppers” [haitao 海淘]), or a few of them use maternal stores (similar to Babies-R-Us in the United States) for baby supplies. According to my data, the popularity of these four strategies follow the same order. Personal networks are the most trustworthy and a lot cheaper, and the virtual marketplace requires close examination and comparison. *Haitao* is said to be one of the necessary skills for new mothers in my data and it requires that the mothers have some basic understanding of foreign languages, be

familiar with transnational money transactions, and be patient with the entire process. Finally, the maternal and child store (muyin dian 母婴店) carry some mainstream, foreign-brand, infant formulas that are imported to China, but they are also more expensive (than those from personal networks) due to the import tariffs.

One of the main reasons that middle-class mothers are opting out of the domestic formula market is their distrust of the problematic Chinese market, particularly its domestic, food regulation mechanism. Simply put, the formulas in the domestic market, regardless of whether they are Chinese brands or foreign brands, are all supposed to have passed the inspection of the government. In contrast, consumers who purchase the formulas through the venue of the virtual marketplace, such as through buying agents (*daigou* 代购) or *haitao*, take full responsibilities for their babies. The latter might look riskier because the consumers are dealing directly with a foreign product with no “protection” from their own country. But my data show that they trust formula from almost any country, as long as it is not made or packaged in China. For instance, many mothers preferred the German brand Aptamil, because Germany is believed to have rigorous rules for any products they make (in fact, Germany is the first country that endorsed the precautionary principle and enacted the Clean Air Act). Some mothers chose the Dutch brand Nutrilon, because the Dutch cows are thought to be raised with pure water and in fresh air. A few other mothers chose a British brand, a French brand, or an American brand by following the online information or word-of-mouth recommendations from their moms’ groups. It is also important to mention that a mother may use German formula purchased in Hong Kong (the Hong Kong version Aptamil) or in Russia (the Russian version Aptamil) because they trust the cows from Germany as well as the regulation system in any (developed) country outside of China. For instance, Ma (Interviewee 37) fed her daughter with the American brand, Mead Johnsons

formula, with cow milk from the Netherlands and sold in Hong Kong. In fact, she had no idea that it is an American brand. She was simply looking for a Netherlands branded formula that was not packaged or sold in the mainland Chinese market. Middle-class mothers actively participated in what Hanser and Li dubbed “gated consumption” (2015) at the cost of tremendous time, energy, and labor spent on the entire process. As one mother said, *“I don’t want my child to enter the (toxic) Chinese environment too early. Babies still have some choices, and I don’t want her to get in touch with the Chinese problems too early.”* (Interviewee AH13). Similarly, another mother confessed, *“Maybe things are getting better in China. However, there must be some loopholes in this process. I don’t want to risk my son’s health. Babies’ kidneys are very fragile, and milk is their staple food.”* (Interviewee 47).

Most of the mothers also extended this gated consumption to solid baby foods, such as rice cereals and some other baby food. For instance, out of fear after the floating, dead pigs, one mother chose a German brand of pork for her daughter (Interviewee AH08). Another mother (Interviewee AH06), who works in a government bureau, carefully selected a well-known domestic meat brand, Aisen (爱森), because, according to her knowledge, Aisen was the only designated brand to offer meat to foreign athletes during the 2011 World Aquatics Championships in Shanghai. She also purchased meat from some special supply channels, which export meat to Hong Kong.⁴⁵ If a mother lacks any professional knowledge of food, such as Wen (Interviewee 3), she would try her best to buy snacks for his son through online *dai gou* on Taobao. She said, *“I specifically buy snacks without any Chinese characters on the packages. I feel more secure that way.”*

⁴⁵ This practice of special supply began in the 1950s to serve food to high-ranking government officials and selected intellectual elites when food shortages were a regular part of everyday life (Yan 2012: 723).

When it came to pureed fruits and vegetables, however, some mothers in my sample opted out of the market for processed foods and used fresh or organic ingredients to make homemade purees for their children. They were not concerned with the quality of the foreign-brand baby food, but they believed that the additives used to extend the food's shelf life are not good for a baby's health. For instance, Beini (Interviewee AH09) said,

The food safety crisis is very hard to completely avoid. Therefore, from the very beginning, I made all of my son's baby food...I tried my best to buy organic carrots or potato and smash them by myself." Yuan (Interviewee AH21) claims that "my daughter lives her life in this environment. I can barely control its pollution to my daughter, but as for food, we cook by ourselves, and do not use packed baby food.

A separate chapter is required to show the complexity of this massive network organized among the government, virtual marketplaces, and billions of consumers in China. But the narratives reveal that one obvious consequence of the 2008 scandals for middle-class mothers is their purely consumption-oriented, collective action. There is no way mothers can get rid of this influence on their role as consumer/mother/activists. The entire network of middle-class mothers is located in their communities, their workplaces, various virtual marketplaces (e.g., Taobao or JD), and in online mom's groups. It constantly encourages them to actively address their fear of consumption. For instance, Guo (Interviewee AH08), told me that right after she went back to work, she was converted by a group of mother colleagues to replace Fisher-Price wipes with a South Korean brand because the former is not alcohol-free. Another mother, Kelly (Interviewee 53), has been a member of an online mom's group since her pregnancy. All the mothers in that group gave birth to their children in the same hospital, and they first started to chat under Babytree.com, a website equivalent to babycenter.com in the United States. She received much help from the site when she had difficulties in breastfeeding. But soon after, this group facilitated her to *haitao* German Apatmil formula. As a kindergarten teacher, she has a busy, working

schedule and was not able to take advantage of all the bargains. Luckily, as she said, some mothers in the group taught themselves simple German and shopped the formula from its official website for the working mothers, such as Kelly, in this group. In a slightly different manner, another mother reported that she had not weaned her daughter until she had found an ally on a QQ-based mothers' group to locate an online formula source, in other words, to find an ally to *haitao* together (Interviewee AH23).

Even though middle-class mothers seem to have all kinds of networks on which to rely to access their trusted foreign products, the entire process is still a chore and burden. Moreover, none of them fully believes it is a sustainable solution. They all mention the temporary nature of these solutions and even the absurdity of these gated, consumer practices. The temporary nature comes primarily from the instability of solving domestic problems by shopping in the markets overseas. For instance, Jenny (Interviewee 47) got pregnant at roughly the same time as her sister-in-law who has a cousin living in Australia.⁴⁶ Her first several tins of formula were mailed directly from Australia. However, in 2014, the Australian government set strict limits on the number of tins of baby formula Chinese customers could buy, because of their “insatiable” demands. As a result, Jenny had to switch to Aptamil, thanks to her husband who has a friend in Germany who agreed to help. Unfortunately, the formula shipped from Germany was held at the Customs for three months, when she was forced to buy two tins from Taobao. At the time of our interview, she was still not sure if the formula from Taobao was genuine.⁴⁷ What made things

⁴⁶ I know you might need to read this sentence several times. The giant, coordinated network among relatives and friends was also quite mindboggling for me during the interview.

⁴⁷ I confirmed with several of my interviewees what they mean by “genuine.” According to their descriptions, “genuine” means that the formula is exactly what the brand claims it to be. In other words, they don’t want the formula inside the tin of Aptamil to be adulterated with any other brands of formula. They know the same brand of infant formula sold in China can be different from that sold in some other countries due to different standards. For instance, many interviewees mentioned that the formula sold in China seems to be a little bit sweeter than that in Hong Kong, and many tried to avoid the extra sweetness.

even worse was that the friend suddenly had to move back to China. Ultimately, Jenny's husband purchased sixteen tins of formula at once when he was on a business trip in Australia. The first choice of one group of mothers is the Japanese brand Meiji formula, based on their perception of the high quality of made-in-Japan products as well as the physical similarity between the Japanese and Chinese races. However, all of the mothers in this group chose to give up Meiji right after the Fukushima nuclear disaster on March 11, 2011. This illustrates that the strategies of shopping in the overseas market overseas entail many uncertainties that are beyond the control of these mothers.

In terms of the feeling of absurdity, one mother, Guo (Interviewee AH08), summarized it very well,

..... I do believe today's generation has some problems. They eat New Zealand infant formula and sit on a German car seat. Not long ago, my daughter didn't have a very good appetite. I was very anxious, and my mother-in-law went to ask the pediatrician who told her to buy *Bao Ying Dan* (Keep Babies Compound), an ancient Chinese medicine formula for young children. It is available only in Hong Kong. Therefore, I had to mobilize my network to find some friend in Hong Kong to send me this *Bao Ying Dan*.

Throughout the interview, she reported that the pressure to purchase foreign products was from her mother-in-law, but it seems that the entire network around her, including friends, her mom's group, and family members, all led her to solve the problem through consumption, especially shopping for something overseas. Li (Interviewee 6) told me that quite a few of her friends immediately switched to imported groceries or organic foods once they got pregnant. At first, she and her husband could fully understand this phenomenon because most parents were raising an only child in an environment of a food safety crisis. However, she asked herself, "*Could we do*

that for their entire lives?” She paused for a few seconds, and then said, “*It is all up to your economic conditions.*”

For some women, of course, food safety concerns, and in particular, the possibility of purchasing contaminated, or substandard, infant formula in China provided a strong incentive to breastfeed as long as possible, or at least until a safe source of infant formula could be secured. Deng (Interviewee AH23), for example, described her anxieties over when to wean. Because of her concerns about domestic infant formula, she waited to wean her baby until she had secured what she considered a reliable source of safe, foreign, infant formula. Linlin (Interviewee AH12) was still breastfeeding her second child when the interview was conducted. But her first child was born in 2008, and the Sanlu scandal erupted after she had already breastfed her daughter for a year and was able to wean. Without a strong network to facilitate gated consumption back then, she was very scared and decided to breastfeed her daughter for another year.

Facing an omnipresent food safety crisis, one of the main strategies adopted by middle-class families to delay babies’ contact with the toxic Chinese environment is to shop overseas, especially for formula and baby products. On the one hand, they mobilize their networks and do research online to determine the safe choices for their babies; but, on the other hand, they also acknowledge that this strategy is not sustainable, and each step requires a lot of work. An imagined and fantasized foreign market⁴⁸ is believed to be able to solve the issues they are facing

⁴⁸ I have mentioned “imagination” multiple times so far in this dissertation. Here, I want to further theorize it from two perspectives. **First**, I am deeply influenced by Lisa Rofel’s book *Desiring China*. In this book, she pointed out that the desiring (female) Chinese subjectivity is partially constructed by “domesticating cosmopolitanism through consumption.” A powerful example she gave is the emerging space of Starbucks coffee shop in China. Inside Starbucks (back then), Chinese people would somehow forget they were still physically in China and thought they had walked into some Western space/corners. Therefore, (intentional or nonintentional) imagination plays an important role in China’s economic development at the very first place. **Second**, the “imagination” has been materialized in different ways. For instance, in Li Zhang’s *In Search of Paradise* and Julie Sze’s *Fantasy Island* (“One City, Nine Town” project in chapter 4), they both mentioned it’s quite common to see names/styles such as “Thames Town”, “Victoria Houses”, or “Canary Wharf” in the newly developed residential areas. These spatial

in China when they are raising a child, but being physically in China adds ironies into their fictionalized lives.

4.4.2 The Strategies of Delaying II: Air Purifier and Water Purifier

As mentioned earlier, China is suffering from real air and water pollution. By *real*, I am not neglecting people's concerns about the public water systems (e.g., lead poisoning and the Flint, MI water crisis) or indoor air pollutants in the United States (Szasz 2007). We must agree that environmental degradation is a global challenge. However, the uniqueness of the issues in China is that the air pollution is so severe that people sometimes joke, "*We are waiting for the wind to blow off the pollution.*" Besides, China takes a more state-lead mode of making environment-related policies with very constrained space for public political actions (Zinda and Liu 2018). As a result, middle-class families are in some ways quite similar to those in the United States who rely on commodities - mainly air purifiers and water purifiers - to create a less contaminated environment for their newborns. The Chinese nevertheless tend to have more contradictory feelings about this strategy.

Quite a few mothers reported that they would check a PM2.5 indicator before they took their babies out for a walk. If the PM2.5 were higher than 100 or 150, most of them chose to stay at home. A home air purifier is quite a new thing for most Chinese because Chinese society prefers the outdoor, natural environment rather than a highly regulated, indoor environment. For instance, Beini (Interviewee AH09) said, at first she didn't see the point of putting an air purifier at home. However, after she gave birth to her son in June 2012, China suffered from severe air

projects, although look weird and surreal to Westerners, are a strong manifestation of people's imagination of an external world as a symbol of modernity. I also noticed a similar "world map" when middle-class mothers talk about the shopping of foreign-brand infant formula. In all, I argue it is a fictive life and is achieved largely through consumption.

pollution at the end of 2012 as well as in early 2013. Therefore, she decided to use an air purifier. She said, *“I cleaned the machine once every one or two weeks. Whenever I saw the dirt on the filter, I couldn’t stop but think the dirt could all have been inside our bodies if was not for this machine.”* She was willing to spend money on an air purifier because she could see that the machine had prevented the amount of pollutants inside their room from entering their bodies. Mao (Interviewee 1) who gave birth to her daughter in March 2013, right in the middle of heavy air pollution was also willing to buy an air purifier. In early 2014, she noticed many of her colleagues kept coughing, and she immediately made a connection. “My instinct told me that it was related to the air pollution *da huanjing*.” Like Beini, she started to check a PM2.5 indicator on her iPad and put a mask on her baby’s face.

However, some mothers have a more conflicted feeling about the air purifier. For instance, Ying (Interviewee AH13) argued that an air purifier wouldn’t make a difference, nor would keeping her son at home all the time. She told me that the son of one of her colleagues had been diagnosed with asthma when he was very young. The advice offered by the pediatrician was *“Either take your son abroad for a month or look for a valley in some rural area.”* In the end, that colleague took her son back to her rural hometown and let her son stay there with her parents for several months. Hou (Interviewee 42) also held a different view although she was also planning to install an air purifier when she was still pregnant. Unlike Ying, Hou said as a Chinese she had been used to the environment. Moreover, she confessed to me, *“Honestly, right now there is little good (clean) natural environment in China, maybe in some rural mountain areas. This then contradicts what you want to give to your children, the real happiness. Right?”* In her opinion, her child will have to repeat what she and her generation have been experiencing. Here, she is also pointing out the rural-urban divide and the seemingly incompatible urban,

cultural environment and a healthy, natural environment, which I will focus on in the next chapter.

Out of my interviewees, only one mother (Fu Interviewee 52) mentioned Chai Jing and her documentary. Similar to all middle-class mothers, she had installed an air purifier when she was pregnant. But she noted her admiration for Chai Jing and said she would be willing to attend some activities if there were those organizations.

It's important to warn the society of the importance of a healthy environment for the next generation. However," she continued, "in reality, there were no such opportunities, no such organizations, and I had no strength to look for these activities.

As a white-collar, rural-urban migrant, she works as an education consultant, and her husband is a medical representative. Because of strict household registration (*hukou* 户口), their child would not be entitled to Shanghai *hukou* even though the child had been born in Shanghai. In that way, under the contemporary system, the child would face many difficulties in being admitted into a public kindergarten and schools. She was seriously considering having the baby in the United States so that the child (as a foreigner) would be treated more fairly in Shanghai. Although eventually her daughter was born in Shanghai, her mindset left a deep impression with me. If the *hukou* system had already made her (with very modest income) want to spend a considerable portion of her money to give birth in a country that she had never been to, to what extent would she have spare energy to take more "radical" actions about environmental degradation, the "radical" actions that would come with potential political consequences in China?

4.4.3 Moral Dilemma of Delaying

Before I provide an analysis of the morality of middle-class mothering, I want to briefly outline the narratives of two upper-middle-class mothers, whom I unintentionally recruited during my fieldwork.⁴⁹ Their monthly household incomes are about six to eight times more than the average of the middle-class families I interviewed (ranging from RMB10,000 to RMB 40,000) and ten to fifteen times more than the average disposable household income in Shanghai of about RMB 9,000 per month in 2016⁵⁰. One family, Ya (Interviewee 44), made about RMB100,000, and the other, Liu, (Interviewee 46) about RMB150,000 per month. When I interviewed Ya, her family had already been exclusively eating Japanese rice for three to four years and allowed only imported beef in the kitchen. Their family had also installed a water purifier and used bottled water when outside. She prioritized the food system in European countries and Japan (in spite of the Fukushima disaster), so she *haitaod* Japanese Meiji formula for her daughter. When asked why she did not migrate to a foreign country (so that her life didn't have to rely on food from overseas), she said, "*China is a lot more convenient than any other country. Service is too expensive in foreign countries. But here, you don't need to do anything. You can use money to solve all your problems.*" In contrast to Ya, whose father had been educated overseas and who herself used to work in a French corporation, Liu was a businesswoman who ran a physical and an online store. When she was pregnant with twins, she ate one RMB 170 (\$25.75) sea cucumber on a daily basis. Her home was equipped with an air purifier as well as a water purifier. She drank only bottled water (Kunlun Mountain Club, one of

⁴⁹ I recruited mothers at the immunization center of community-level clinics. Immunization is a free public service for all the children living in Shanghai regardless of their *hukou* or nationality.

⁵⁰ *Shanghai Statistical Yearbook*, <http://www.stats-sh.gov.cn/tjnj/nj17.htm?d1=2017tjnj/C1001.htm>. The data are for the annual average disposable household income. I divided them by 12 and times 2 because all of the families in my sample are heterosexual married families.

the most premium, bottled water brands in China), and the formula she selected for her daughters was the most expensive formula available on Taobao. She chose this brand because she said, *“Too many people in Shanghai are choosing Apatmil. You know, in China, whatever gets popular, all the counterfeit emerges swiftly. A2 is a new brand, and I heard it is ‘Hermes’ in the field of infant formula industry.”*

Although this is an extremely small sample size and it was not my intention to make generalizations about upper-middle-class mothers living in Shanghai, we can still see that they do not seem to have the same level of burdens that most middle-class mothers in my sample have talked about. They take life in China for what it is. With the help of economic power, they can make full use of the benefits of Chinese society (e.g., the labor of cheap, rural-urban, migrant workers) to shield their children’s lives from all the foreseeable pollutants and risks in the long run. In contrast, middle-class mothers whom I have detailed in the previous sections have to constantly negotiate so that what they have done is meaningful for their children as well as for their parenting. Is it necessary to delay their children’s contact with the toxic Chinese environment? What responsibilities and morality do middle-class mothers tend to see in parenting in contemporary urban China?

According to my data, the first theme to emerge is their internal conflicted feeling about being a new parent in contemporary, urban China. I argue that this kind of internal, conflicted feeling derives from two origins. The first is the limitation to use an individualized approach (i.e., consumption) to address a collective crisis. Following Andrew Szasz’s well-known concept, inverted quarantine, a growing body of literature on parenting/mothering in North America has uncovered the shortsightedness of creating a material bubble in which children are believed to be shielded from the external environment that is full of risks and uncertainties. Although some

parents perceive the risks to their own children to be measurable and manageable (Reich 2016: 236), many parents who practice inverted quarantine see its limitations in the long run (Mackendrick 2018). For instance, Mackendrick and Stevens (Mackendrick and Stevens 2016) have argued that consumers are not simply fooled by their inverted quarantine choices; on the contrary, they use consumption to come up with a “contingent boundary” so that they can control the craziness and carve out an intimate space outside of it, which they can intentionally ignore. It is similar to the pragmatic acceptance coined by Anthony Giddens by which he states that for people living in the modern world, the temporary gains are all that can be planned or hoped for. Meanwhile, he points out that it comes with a psychological cost, a numbness that frequently reflects deep underlying anxieties (Giddens 1990: 135). Thanks to the cocooning/liberating psychological effect of consumption (Bauman 1988), consuming “eco-friendly” products eases or normalizes the underlying anxieties on a daily basis. These themes are also prevalent in the context of urban China. For instance, one study that surveyed individual strategies against air pollution in Beijing (Johnson et al. 2017) shows that although more than half of the participants cope with hazy weather by growing more green plants (506/853 responses) inside and by using an air purifier at home (515/853 responses), the perceived effectiveness of these strategies is not as strong as the option to move into less polluted places. In other words, they similarly see the constraints of their action.

On the other hand, however, by focusing on a group of middle-class mothers in fast-developing China, my data also allow me to capture another layer of the internal conflicted feeling of being a Chinese consumer who can reach out to the outside world (especially the market), but still physically living in China. Gerth (2003) describes that starting from the late 19th century to the early 20th century, the ideas of nationalism and consumerism have been

feeding each other into the construction of the modern nation of China. With a focus on the National Product Movement in the early 20th century, Gerth discovers a growing sense of empowerment through the consumption of national products (*guohuo*) and the non-consumption of foreign products (*yanghuo*). To cleanse the history of being humiliated by various foreign imperial states, the weak Chinese government, which could not use the tool of imposing tariffs, mobilized the entire nation to cleanse the “presence of any foreign capital” (p.48) from the products, regardless of how symbolic it was. At that time, a national product (*guohuo*) was defined as “made in China, made by Chinese workers, using Chinese materials, under the direction of Chinese managers, and in Chinese-owned factories.” Ironically, these criteria are exactly what have been used by the mothers in my data to purge any presence of “Chineseness” in infant formula.

Although some literature has shown that the role of foreign brands and foreign products has been swiftly changing and sometimes even transposed (Tian and Dong 2011) due to China’s social transformation in the entire 20th century, I argue that the tension between consumerism and nationalism has never left the mindset of Chinese consumers, especially the middle-class consumers. To borrow Gerth’s concept, the “nationalistic visuality” that Chinese consumers were socialized to see in any products has never fully dissolved. Some studies have focused on the “ambivalent consumer” (Garon and Maclachlan 2006), particularly in post-war Japan and South Korea where people were constantly negotiating between the desire for consumption (an American-style consumerism culture) and the fear of losing their tradition (e.g., frugality). Women, particularly mothers, are especially bounded under the social expectation of a “proper consumer patriotism” (Nelson 2000: 144). The role China has been playing as a global factory during the past several decades and the ingrained image of the low-quality of made-in-China

products (Hanser 2011) have twisted and strengthened the consumerism/nationalism tension. Middle-class consumers are the ones who are being especially torn because of their desire for cosmopolitan tastes and the social expectation on them to strengthen the economy and the symbolic status of China. For instance, the quotation from Guo (AH08) that I mentioned before, during which she believes the current generation has some “problems” because they are equipping their children with all kinds of products that are made and shipped from outside China. Here, the problem is no longer the label as a “treasonous consumer” that would be put on her, as happened a century ago. Instead, the subtle belief in the purity of the Chinese race by using Chinese “national products” is deeply embedded (or has been socialized) into the minds of most Chinese people. In fact, it’s ironically common to have found that the products purchased outside of China are still made-in-China (so, Chinese “national products”) due to globalization. In other words, the feeling of ambivalence shared by most of the middle-class mothers has a lot to do with the geopolitical location in which they are situated. They are mobilizing all kinds of networks to secure the safest products for their children. However, they are also stung by the pressure from domestic nationalist rhetoric as well as the international judgement of Chinese consumers (e.g., the limits set on the number of formulas Chinese consumers may buy).

A second theme is that under the authoritative political system in China, it is hardly possible for any self-organized collective action to sway the politics. Not to mention, that society is changing so fast that people are already exhausted by keeping up with it and trying to make ends meet and their expectations to materialize. Nevertheless, people are accustomed to normalizing the real situation. For instance, mothers in my sample are resisting their babies’ contact with domestic infant formula, air pollution, and unfiltered water. But when taking a close look at their narratives, their unspoken deeper concern is that they do not want to risk their

babies' health to pay for the loopholes in Chinese development. In other words, they do not want to sacrifice their babies' health for various economic, social, and political experiments in China.

One of my interviewees (Interviewee AH06) was working for the government. She told me,

One of China's biggest problems is OEM (Original-Equipment-Manufacture). For instance, infant formula factory A is not able to process so much formula; therefore, A will outsource some work to factory B. But the Commission for Discipline Inspection is only responsible for factory A. As a result, you cannot really tell the formula you have purchased is from A or from B because all the formula will be labeled as A

She later openly argued that it is a challenge faced by developing countries and it is one of the realities that China is facing. In other words, even though her knowledge leads her to consider this *da huanjing* as "normal" for China as a developing country, she doesn't want her daughter to be influenced by this environment when she was so young.

In the end, when the ideal future is unforeseeable, and the foreseeable future is unpleasant, I argue that delaying stands out as a manifestation of taking parental responsibility as well as responding to the gendered burden placed on mothers. On the one hand, delaying shows that mothers acknowledge that their actions are temporary - that using consumption as a solution and being a Chinese consumer to use consumption to address the domestic challenges are temporary. In other words, delaying, which requires tremendous investments of time and money, nevertheless demonstrates their love and commitment to their children. Those mothers pack their disappointment, confusion, and conflicted feelings into their small hopes for the future, either that their children will be able to build a stronger immune system⁵¹ or for a possibility that China will change into something better.

⁵¹ I want to thank Crystal Patil, one of my committee members, for her comments on this statement. I noticed there is a whole excellent body of literature (especially anthropology) on the discussion of immune system, especially

4.5 Conclusion

In this chapter, I use *delay* to conceptualize the strategies that middle-class parents have adopted to protect their little children from the possible contaminated, domestic, infant formula, air pollution, and low-quality water. I argue that on the one hand the delaying mindset is empowered by their strong consumption capacity as well as extensive social network. On the other hand, the delaying mindset is constituted by their awareness of the limitation of being a middle-class Chinese consumer in a hope to address the domestic crisis in a market that is outside China. Rising as a middle-class consumer in post-socialist China, my respondents reveal a unique internal conflicted feeling. Their economic power is deeply intertwined with the economic development of China, but they have a constrained political space to address their dissatisfaction. I contextualize this “economic progress, but political conservative” dilemma in the literature of global environmentalism as well as the coupling of nationalism and consumerism in China (East Asia). I argue the middle-class mothers in my data use various strategies to *delay* their children’s contact with China’s environment, including the polluted environment, fractured regulatory system, and the ruined morality of businessmen. Middle-class mothers in the United States also use precautionary consumption (as an individualized strategy) to protect their children. But they are immune from the dilemma that is brought about by an historical burden and the globalized market.

how the discussion has permeated into our culture and shaped our understanding of self and non-self, our bodies and the external “foreign” world. Here, I am simply paraphrasing that the mothers I interviewed believe that when their children grow older, their immune system would become stronger and more resilient to the external pollutant environment, or here, Chinese *da huanjing*.

CHAPTER 5: RURAL-URBAN MIGRANTS AND INFANT FEEDING: BUILDING UP A “LAST MILE” LIFE SPACE FOR THE MIGRANT COMMUNITY

5.1 Introduction

In the previous chapter, I described the infant-caring strategies of middle-class families. I conceptualize their strategies as a way to *delay* their children’s access to the China’s environment by using a considerable volume of capital (especially economic capital and consumption-oriented, cultural capital), even though they are fully aware that their children will eventually have to integrate completely into the China’s environment. In this chapter, by contrast, I will focus on the infant-caring strategies of a group of rural-urban migrant families, whom I interviewed during my fieldwork. Most of the participants were recruited from NCLS where I conducted a three-month, participatory observation as an afterschool program volunteer. A separate group of mothers was recruited at the vaccination room of a community-level clinic.

I will first contextualize the location of NCLS against the drastic urbanization and flow of rural-urban migration in Shanghai. The location serves as the epitome that captures the *informality* and *temporality* of their everyday lives as rural-urban migrants in China. I will then summarize their strategies of breastfeeding and formula feeding and compare them with those adopted by middle-class mothers. The discussion of their infant-feeding strategies will be followed by a short analysis of their perception of the environment. Finally, I will explain the differences between the two groups.

5.2 Background and Literature Review

In chapter 2, I used the rural-urban migrants' reproductive rights and childbirth experiences to explain how the *hukou* system has constituted their lack of welfare rights in Shanghai and how the friction between the *hukou* system and the changing pattern of migration constitutes their resistance to low-cost, maternity hospitals. In this chapter, I will continue the discussion by focusing on how the *hukou* system has shaped working-class migrants' living spaces and social networks.

5.2.1 Urban neoliberalism and the Environment in China

There is no doubt that the development of contemporary urbanization is closely related to neoliberalism. Harvey (1989) refers to urban neoliberalism as the delinking of cities from national states in a way that makes the cities themselves responsible for economic growth. As a result, urban governments have taken advantage of urban spaces as an important profit-seeking tool (Castells 1983; Lefebvre 1974/1991). In the Global South, mega-events, such as the World Expo in Shanghai in 2010, epitomizes the aspiration of big cities to become "worldly cities" (Samara 2009, 2015; Broudehoux 2007; Zhang and Zhao 2009). These mega-events are deeply orchestrated by local government whose role in producing the growth of cities has also been detailed closely (Ren 2008; Samara et al. 2013).

One of the most discussed scenarios of neoliberalism and enterprising urban governance in Shanghai is the housing market (He and Wu 2009; Weinstein and Ren 2009). Weinstein and Ren (2009) summarized three important and interconnected regulatory reforms – land reforms, housing reforms, and demolition policies - that have completely transformed Shanghai's urban space through gradual but consistent privatization and deregulation. Between 1949 and 1978, the Chinese state owned the land *and* the land use rights. Starting from 1978, however, Shanghai,

one of the representative coastal cities, started to experiment in the land reform by separating land use rights from land ownership. Soon after, private sectors were allowed to obtain the land use rights for seventy years in residential programs and for fifty years of commercial development. In 1998, the Chinese Central Government issued a so-called 1998 Notice. It ended the public housing provision and stimulated the public and private sectors to build housing as a commodity to sell at market prices. Another state regulation, the 1991 Demolition Regulation, guaranteed the local governments the right and power to displace residents without seeking their consent. The massive enforced demolition (especially the second wave of demolition in preparation for the 2010 Shanghai World Expo) deepened and orchestrated the gentrification process in Shanghai (He 2007). In other words, the Shanghai city government (as well as many other city governments in China) benefited from the socialist legacy that both land and land use belonged to the state. They launched what Weinstein and Ren (2009) claimed to be “the largest privation effort in the world” (413)⁵².

The entire spatial transformation not only created a new group of middle-class homeowners (Zhang 2010; Zhou 2014) and some forms of housing rights activism (Shao 2013), but also many different forms of informal housing options, such as the urban village (*chengzhongcun*). The analytical concept, urban village, first emerged in Shenzhen in the 1990s

⁵² Anyone who was born and grew up in Shanghai between the 1980s and 2010s could tell you a personal story that is related to the massive, housing privatization and demolition. To briefly summarize my story as an example: my parents and I used to live with my grandparents, my uncle, and my aunt (on the paternal side) in a small, two-bedroom place. We all registered in **ONE** *hukou* book (household registration book). Later my parents and I registered in a separate *hukou* book in order to get more quotas for food due to the planned economy. I vividly remember a day in 1998 when my grandfather approached my dad to talk about some very serious issue. I was too young to understand the complexity of the conversation. But I do remember that it was about my grandfather's decision to purchase the two bedrooms. After that, we still lived under the same roof; nothing changed, but we started to split the utility bills. In the early 2000s, my father purchased a small two-bedroom in the opposite building. In 2008, our entire neighborhood was assigned to be used as a parking lot for the 2010 World Expo, and my whole family faced the demolition. It was during that period that I started to realize how important *hukou* is and how “unlawful” creative people can be about *hukou* in order to secure more compensation from the government.

when the Shenzhen Special Economic Zone (SPEZ) took a piecemeal approach to acquiring land for development from local villages out of the demand of urbanization. Local villages took advantage of several loopholes in the policy to build unauthorized houses and rent them to rural-urban migrants who, in most cases, could not afford houses in the formal residential areas and ended up concentrating in urban village areas (Li 2002). This kind of informal rental market in the name of an urban village was also prevalent in Shanghai (Chen, Sun, and Fang 2018). Shanghai, one of the largest industrial cities, was once considered to be a “safety zone” during the First World War (the late 1910s), the Sino-Japanese War (1937-1945), and the Civil War (1946-1949), and accommodated a large number of refugees from all over the nation. These internal migrants gave rise to various kinds of shantytowns scattered along the boundary of the city’s foreign settlements in Shanghai (Lu 1995: 564). These shantytowns are like the current informal housing options in terms of their *function*, because they all provide poor migrants with affordable and temporary housing. However, they are significantly different in terms of their *formation*. The *hukou* system was initiated after 1949 to control the rural-urban migration flow in socialist China. At the beginning, only homeowners with *hukou* could negotiate for demolition compensation (Weinstein and Ren 2009). The *hukou* system facilitated and complicated the formation of stratified housing rights in China.

In short, this growing body of literature posits that the unprecedented transformation of land reform and the housing market is an important background for understanding the *informality* and *temporality* of the living spaces of working-class rural-urban migrants in Shanghai. However, very few urban sociologists have incorporated the literature about environmental studies, especially the environmental justice framework. A few urban geography scholars (Shen et al. 2017; Xiao et al. 2017) have contributed to our understanding of

environmental justice in Shanghai with a specific focus on public, green space access (e.g., urban park access). They argue that public, green space access is associated with social status (such as education level, employment status), but the access to Shanghai's public parks remains equitable. These studies assume that as long as the rural-urban migrants stay in close proximity to urban, public parks, they have an equal share of the green space. But these studies focus primarily on the Shanghai Central City (within the Outer Ring Road) and fail to capture the complexity of the *mobility* of rural-urban migrants.

Li Zhang (2010) noticed that community greenery (*lühua*) has a special meaning for the emerging, middle-class homeowners in the 1990s because of their memories of the “gray” urban life under Mao. The longing for green space means a “denunciation of the impoverished gray past and the desire to launch a new, enriched way of living” (96-97). In fact, “Building Green” has been one of the major goals in the previous several “Five-Year-Plans” of the Shanghai municipal government.⁵³ In 2002, it was reported that the per-capita green coverage of Shanghai had surpassed that of Tokyo, with a successful transformation of per-capita green coverage within ten years from “a piece of newspaper” (1 square meter) to “a piece of room” (6.5 square meter). Shanghai also uses various technologies and innovations to drastically increase “green space” by adding trees planted on the terraces of buildings⁵⁴ or the skyscrapers.⁵⁵ In short, a strong government-led, eco-desire emerged during the process of globalizing the urban spaces of Shanghai.

⁵³ This is not unique to Shanghai however. Several reports show that China has been struggling to achieve a balance between urbanization and arable land since the late 1950s. In the major cities, the balance is more between the urban sprawl and the green belt/green wedge/green shields. <https://blogs.wsj.com/chinarealtime/2015/01/08/china-amps-up-an-old-dream-of-green-belts/>

⁵⁴ http://www.chinadaily.com.cn/china/2017-07/18/content_30150648_6.htm#Contentp

⁵⁵ <https://www.theguardian.com/cities/2016/aug/23/inside-shanghai-tower-china-tallest-building-green-skyscrapers>

In this chapter, I use ethnographic work to detail both the external and internal living spaces of a group of rural-urban working migrants in an urban village. The village was slated to be torn down by the government and converted into a green wedge in a grand, ecological-commercial development project. Their migration experience reveals why they ended up living in this urban village, how the village was viewed as a chaotic place, and how they coped with the impending eviction.

5.2.2 Class and Eco-Desire

In *Fantasy Island*, based on studies about several failed eco-projects in Shanghai (i.e., Dongtan, the Nine-Town Project, the World Expo, and Chongming Island), Julie Sze (2015) beautifully coins the term *eco-desire* to capture the emotional habitus that is circulating in urban China. Eco-desire is “the fusion of desire, projection, profit, and fun-in certain top-down versions of eco-development” (2015). Unconstrained by spatial and temporal limitations, eco-desire travels between past and future, between rural and urban, and between individual and national (Sze 2017). This idea is in lockstep with ecological modernization, a concept proposed by Spaargaren and Mol in 1992 to argue that the environmental problems can best be solved through further advancement of science, technology and industrialization (e.g., solar energy, biodegradable/compostable plastic bags). In the context of China, it is also a state-sanctioned impulse to make urban growth desirable and a trend not to be feared (Sze 2015: 135) by people domestically and on the global stage. The strategically government-led plan to “Build Green” in Shanghai is one example of eco-desire.

I consider eco-desire as a kind of emotional habitus, because of the similarities I see between eco-desire in China and nativist environmentalism (Pellow and Sun-Hee Park 2011) in the United States. Nativist environmentalism, in short, is a combination of racial exclusion and

environmental privilege. In *The Slums of Aspen*, Pellow and Sun-Hee Park (2011) describe a widespread Aspen logic in the United States, an illusory hope to address the ills of contemporary capitalism with a somewhat greener capitalism. The logic believes that the ecological goals can be achieved without confronting the brutality and violence that capitalist necessarily imposes on (marginalized) population and ecosystems. Eco-desire similarly points at the tension between China's visions of its eco-future/eco-projects with its possibly predictable environmental disaster. But, considering the global pressure to address the crises of climate change and environmental degradation, the pressure to maintain high-speed, economic development and in response to the Party's call for "an ecological harmonious society," eco-desire is effective for unifying and reproducing the emotional habitus that people have in their everyday lives.

However, I argue that Sze fails to fully explain class-stratified eco-desire. We cannot assume a unanimous risk perception of climate change or environmental degradation (e.g., Auyero and Swistun 2009). In a recent interview with the environmental photographer, James Balog, on the podcast Fresh Air,⁵⁶ Balog confessed that the people on Tangier Island of Chesapeake Bay - a small island that is drowning island because of rising sea levels - ideologically opposed the concept of climate change because they perceive the rhetoric of climate change to be a tool made up by the pointy-headed intellectuals in the cities to make the government more powerful. Similarly, I argue that we should also acknowledge the complexity of eco-desire. Rural-urban migrant women, whose living environment is directly exposed to multiple, urban, environmental pollutants and whose unique migration between cities and rural areas also constituted their eco-desire, which could be quite different from what is shared/fantasized by the dominant, middle-class ideology.

⁵⁶ <https://www.npr.org/2019/02/06/691967491/environmental-photographer-focuses-on-protecting-the-climate-and-its-people>

5.2.3 Class, Motherhood, and Infant Feeding

The social construction of “good” mothering is always inflected in a way that represents certain forms of economic, social, and cultural privilege. Infant feeding, one of the crucial moments for the mothering performance, is no exception. Linda Blum (1999) described an American context in which the changing ideology of breastfeeding is continuously racialized and classed. Infant formula was once marketed as a scientific method for infant feeding and adopted by white, middle-class women as an option to free their bodies from maternal labor after childbirth. However, the natural parenting turn, characterized partially by a turn to “natural” breastfeeding, was soon institutionalized by the American Academic of Pediatrics in 1997 and strengthened by medical, scientific research on the small (sometimes even inconclusive) benefits of breastfeeding, such as higher IQ or visual acuity. White mothers, who were able to afford the time and the revived, breastfeeding prescription, have a higher rate of breastfeeding.

In a similar way, the definition of “good” mothering in contemporary China is intertwined with class (if not racial/ethnic history). Hanser and Li (2017) argue that the emerging breastfeeding culture among middle-class new mothers in Shanghai is not only a strategy to “delay” children’s contact with China’s environment (e.g., the domestic formula market), but also a performance to put modern mothering ideals into practice. It is important to mention that modern mothering ideals are deeply embedded through the communication of newly introduced Westernized information with more traditional childbearing practices (Brainer 2017, Lan 2014, Kuan 2015). My two previous analytical chapters have also demonstrated the influence of Westernized information on middle-class mothers. As a comparison, a handful of public health studies (Zhao et al. 2009) have pointed out both subject (e.g. The lack of awareness of maternal health) and object (discriminative structural barriers) challenges that rural-urban migrant women

are facing in utilizing maternal health care. In this chapter, I aim to add two additional important variables: the migrating experience and the migrant mothers' lack of access to a mom's group.

5.3 Findings

5.3.1 The Urban Village and Informal Lives of Migrants in NCLS

Geographically speaking, NCLS is bounded by Xupu Bridge, West Huaxia Road, Jiyang Road, and Xupu River in Pudong District, Shanghai. It's a part of Sanlin Town of Pudong. The director of the NCLS, Ms. Yi, estimated that approximately 100,000 rural-urban migrants were staying in that area. The area where NCLS is located can best be described as an "urban village." In 2016, the Shanghai municipal government launched a massive "demolition-of-unauthorized-buildings" project based on five categories: unauthorized land use, unauthorized architecture, unauthorized plantations, unauthorized residences, and unauthorized businesses. The first three categories were discussed by the Shanghai People's Congress in 2009 and officially put into practice in 2014 to regulate informal urban space, whereas the latter two were added in 2016 to extend the regulatory power from space to *people*, - more accurately to rural-urban migrants (Chen, Sun, and Fang 2018: 116). Pudong area was *the* target of this demolition project because to the dense concentration of rural-urban migrants. In fact, in 2016, the Shanghai municipal government set a goal to bring the population in Pudong to fewer than 5,550,000, particularly aiming for the negative growth of rural-urban migrants.⁵⁷

However, reading through the reports of the Shanghai Planning and Land Resource Administration Bureau that are distributed on sina.com, I notice that the massive "demolition-of-

⁵⁷ "Demolition of the "Three Unauthorized" 12,000,000 square meter in Pudong this year". March 14, 2016. Eastday website. <http://shzw.eastday.com/shzw/G/20160314/u1ai9255963.html>

unauthorized-buildings” project belies another important story of Shanghai. The entire Sanlin Town was to be reconstructed into a Shanghai 3.0 business and living center, following the Bund, considered to be the 1.0 version and Pudong Lujiazui Financial and Trade Zone the 2.0 version.⁵⁸ To illustrate: the Bund made Shanghai one of the *first* financial centers of mainland China, because, in the early 1900s it housed the headquarters of most, major, financial institutions from all of the world. Pudong Lujiazui, sitting directly across the river from the Bund, was developed in the early 1990s as the *new* financial district of Shanghai, featuring a unique and ideal location for finance and global trade on mainland China (The Bund also symbolized the semi-colonialization history of Shanghai). In contrast, the 3.0 version highlighted the combination of *ecological* as well as economic development (e.g., green energy, smart city), echoing what President Hu Jintao coined at the Seventeenth National Congress of the Communist Party in 2007 as *shengtai wenming*, or an “ecologically harmonious socialist society.”

I am including recently released construction maps (Figure 13). In the photo to the left, Area 1 will be transformed into the Qiantan Development Project hosting a 124,000 square meter mall developed by Hong Kong Swire Properties and Shanghai Lujiazui Finance & Trade Zone Development. Qiantan is currently predicted to be the top land for investment in Shanghai. Guijing Village, where NCLS was sitting, is located at the right upper corner of Area 4, adjacent to Area 1, Area 5, and Area 2. An enlarged version of Area 4 is shown in the photo to the right, demonstrating that most of the space of that district will be used for Relocation Resettlement Housing and Backup Land for Urban Development. The urban village of NCLS would be

⁵⁸ http://www.sohu.com/a/210326028_99931226

demolished and reconstructed into Sanlin Wedge Green Planting Points. On March 12 2017,⁵⁹ city leaders, including Han Zheng (then Party Secretary of Shanghai) and Yin Yicui (then Chair of the Shanghai Municipal People’s Congress) participated in voluntary tree-planting activities on the land of the future wedge green space. It was reported that this *environmental* project will transform the messy illegal construction of endless urban villages into an open, large-scale, eco-leisure public green and become a “green lung” for Pudong Area.⁶⁰

In late 2018, the entire NCLS was relocated into another urban village in Sanlin Town. The rental contract that NCLS now has with the village government is for three years, hinting at the possibility of another demolition when the contract expires. After the demolishment of the community, those migrant families had to either move to another place in Shanghai or to another region in China. I revisited the NCLS in December 2018. During my conversation with Ms. Yi and Ms. Chen, I was told they had lost in touch with many of their previous members. Threatened by the demolition, the friendships and/or connections created by NCLS seem to have been very fragile and temporary. To paraphrase what Ms. Yi told me, without a physically “living community,” there was very little “community life” to be built. At the new site, they are recruiting new members in that urban village.

⁵⁹ March 12 is Chinese Arbor Day. It was originally designed in memory of Sun Yat-Sen. <http://www.top-news.top/news-12771400.html>

⁶⁰ https://www.sepb.gov.cn/hb/fa/cms/shhj/YWB/detail_login.jsp?channelId=2245&docId=101565. According to a recent report from the Shanghai Environmental Protection Bureau, between 2000 and 2017, there has been an increase in leafy coverage equivalent to that of the entire Amazon rainforest. China and India lead in increases in greenery; China alone accounts for a quarter of the global net increase. If so, we need to ask whose land has been converted into greenery and who has access to enjoying the greenery. It is a question of environmental privilege and environmental injustice.



Figure 13. Design Planning of Qiantan.

As an institution, NCLS took form in 2010 under the sponsorship of the giant, British, pharmaceutical company GlaxoSmithKline China branch (which focuses mainly on selling drugs and vaccinations in China) and the Xintu (meaning “new path”) Community Health Organization, a non-governmental organization. The state mission of NCLS was to help rural-urban migrants get accustomed to urban life, eliminate domestic violence, and promote the general health - especially the reproductive health - of the large number of migrants. A report manuscript required by the government and written by a college student hired by Ms. Yi summarized the goal of NCLS: to build up a “last mile” life space between the floating rural-urban migrants and Shanghai. The term “last mile” originally described the final link in the supply chain of management and transportation tools that are used to bridge goods from a transportation hub to their final destinations. It vividly captures the existing spatial and social isolation that rural-urban migrants are experiencing in Shanghai.

My first day at NCLS was on May 18, 2015, a day of heavy rain. I took the Line 8 subway, got off at Yangsi Station, and then walked through West Shang Pu Road to enter the village. Even though West Shang Pu was called a “road,” for me it looked like a narrow alley but

was being used as a two-way path for two buses routes (No. 978 and No. 1060). Whenever the bus arrived at the station to drop off or pick up passengers, it inevitably created a temporary chaos in the middle of West Shangpu Road. It also added more noise and air pollution. On both sides of West Shangpu Road, there were many, migrant-owned, small stores, sitting one after another. After three months of ethnographic work, I noticed a pattern that in the early mornings and late afternoons, those stores offered breakfast, “ready-to-eat” dinner plates, and traditional snacks (e.g., pancakes). Most of the customers were the migrants who were living in that area. On my way walking to the NCLS, an abandoned public laundry room and several garbage transfer stations also got my attention. I had never seen a public laundromat in Shanghai before. I had no idea who was using it considering that most rural-to-urban (female) migrants often wash their clothes by hand. The laundromat was completely open with no doors, and there were only three or four washing machines, which looked quite obsolete.

The overall environment of the urban village is indeed chaotic and informal, with which I am not unfamiliar. Part of my memory of Shanghai is always reserved for the 1990s, when outdoor markets with street vendors were my favorite places to walk around. However, what is worth mentioning is the indoor environment of the migrant families whom I visited and interviewed. I will describe the indoor living environment of five domestic migrant families.

The first woman is Weili. She was five months pregnant with her second child when I first met her. Her first child had been born in the low-cost maternity hospital, which I described in chapter 2. Born in Anhui province, Weili was the oldest of four siblings in her family. She had finished only five years of elementary school, because the nine-year, compulsory education was

not made into law until July 1, 1986.⁶¹ When she was thirteen years old, she moved in with a 63-year-old woman and took care of her. She worked as an “elderly caregiver” for ten years before she met her current husband and migrated to Shanghai with him. In Shanghai, her first job was at a frozen dumpling factory. She worked day shifts and night shifts interchangeably on a weekly basis for a short period time until she became pregnant with her first child. While looking for an affordable place to raise her family and conduct some business, her family found a small room in the urban village where the NCLS is located. They started to recycle used furniture, metal, and cardboard boxes to make a living. When I visited her home as her daughter’s afterschool teacher, she frankly told me that most of their furniture was from recycled pieces, but then quickly emphasized that her choices had been very deliberate (for instance, she showed me the sturdy cooking ware and a small fan that functioned very well). Their “bedrooms” were set up in a tiny space in the attic. Like all Chinese parents, she proposed to show me a photo album of her daughter and had also hung several portraits of her daughter on the wall. Facing the upcoming demolition, Xu’s family was considering moving to another city because her husband had some friends to help them start up some new business there.

The second woman is Qiu. She was working as a shop assistant in a large shopping mall. Her son was in the second grade and attended my afterschool program. She worked every other day, from 9 a.m. to 10 p.m. Her husband was working in the Shanghai Free-Trade test area, which is geographically on the opposite end of Shanghai from the NCLS. Therefore, he came home irregularly, depending on his workload. As a result, most of the time their son was cared for by his grandfather. It was during that initial visit that I acquired a deeper understanding of the

⁶¹ I want to emphasize that even after the nine-year compulsory education was made into the law, it was still common for girls in rural areas to be persuaded to give up education opportunities to her male siblings for the sake of the family.

meaning of unauthorized buildings. The family's utility fees were much higher than the market price because of the early development of the urban village. Both the monthly rent and utility fees were paid to the "landlord" (or, a local villager, as I described before), a middle-man between rural-urban migrants and the local government. The "landlords" profited over fissures between the policies on the ground and huge, domestic, migration flows. Facing the upcoming demolition, Qiu's family was looking for some place nearby so that she and her husband could maintain their jobs, and her son could continue with his school.

The third woman is Zhang. It was quite difficult to find her place because I could barely tell the difference between the residential area and the industrial area. When I arrived at the exact address I had been given, I saw only a very old-fashioned squatting toilet, several piles of

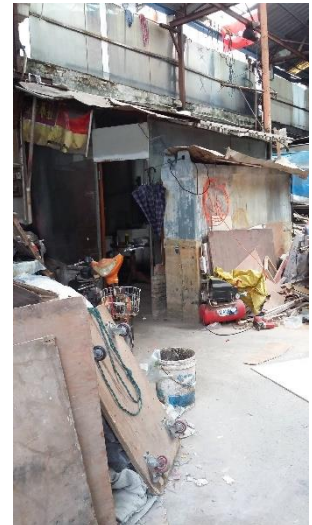


Figure 14. Wang's Living Environment.

abandoned metal, and an extremely tiny room (Figure 15). Summoning up my courage, I shouted the kid's name and he showed up timidly with his elder brother. Later, I learned that his parents were doing some business of making chairs. The spacious area, with all the abandoned metals was their warehouse. They had been living here for about ten years. The upcoming demolition

seemed to be a big challenge for them because they had to relocate their home as well as their business.

The fourth woman is Yalan (Interviewee 60). Her daughter was in the same class with Qiu's son. She and her husband worked in a very small factory (with about thirty workers), six days a week, from 8:00 a.m. to 7:30/9:30 p.m. Since her sister-in-law owned the factory, her family got the chance to live for free in a very small room right next to the factory. Yalan had migrated to Shanghai in the early 1990s and first worked in a state-owned factory. In the late-1990s, China drastically restricted its state-owned enterprises by shutting down some and privatizing others. Yalan was one among the millions of (both urban and rural-urban migrants) factory workers who were laid off. The only difference is that the laid-off workers who had an urban *hukou* were either reimbursed or immediately began to receive monthly retirement pensions, whereas rural-urban migrant workers, such as Yalan, received nothing. Nevertheless, her family appreciated the free housing, except that they had to use the bathroom or cafeteria in the factory. When I visited her home, she was very proud of her own "interior decoration" (Figure 18 and Figure 19), especially the little pink bed canopy she had prepared for her daughter. On the wall next to the bed, there were several pictures of Sleeping Beauty and Little Mermaid. Facing the demolition, the factory was scheduled to relocate soon, and Yalan and her husband were looking for some job opportunities outside of the factory. (When I revisited her, I learned that Yalan was working as a TV shop assistant in a large shopping mall.)



Figure 15. Yalan's Living Environment.

Descriptions: On the left is several photos of Yalan's daughter and two of her diplomas. One shows her dancing talent and the other simply says she was awarded the title "smart baby". On the right, Yalan's daughter is playing with Zhang's son. The photo was taken to highlight the indoor decoration, such as Micky Mouse, flowery and pinky patterns.

The last woman I want to highlight is Banner. When I met her, her first child was in the elementary school and her second child was about two years old. She and her husband made money by designing and creating advertising banners. They had migrated to Shanghai in 2006. Because their workshop made significant noise, residents in their previous neighborhood had complained and forced them to move out. Afterwards, they had found the current spot in the urban village, because the space was considered to be a warehouse, where noise and pollution were not prohibited. In fact, Banner's family had received no complaints since they had moved in. Their bedrooms were located inside the warehouse. When she became pregnant with her second child, she tried to stay away from the noise and the chemical odor, but it was not until the last trimester that her family rented a very small room nearby for her postpartum recovery. Facing the upcoming demolition, they were gradually shifting all the business online so that they needed only to accept orders and ask some small workshops to complete the work.

The homes of these five families are only a few examples of the overall living conditions of rural-urban migrant families in this specific urban village. On the one hand, the families are

involved in various informal economies (e.g., recycling; small factories; or informal business). These businesses provide a variety of services *in* the migrants' community as well as *for* the migrants living in the city. It is similar to Zhang's description of the marketplace function that slums are serving in post-colonial India (Zhang 2018: 881). In all of these cases, it's always the men/husbands/fathers who are the breadwinners. After having a child or children, the women either stay at home or help their husbands with the business. The labor division by gender is still dominant among migrant working-class families. On the other hand, they live in the informal, rental market wherein noise, pollution, and living conditions are ignored and exchanged for actual affordability and availability of living space.

In Julie Sze's book *Noxious New York*, the four communities (Bronx, West Harlem, Brooklyn, and Sunset Park) are all located in mixed-use districts, largely due to the "nonconforming uses" of the 1961 zoning resolution. This zoning resolution grandfathered the previous communities located in "unrestricted" zones under 1919 zoning policies and re-categorized some of the communities as "residential" zones, even though the residents (mostly poor and African Americans) are still living next to various noxious facilities, such as incinerators or landfills. In other words, the seemingly neutral, zoning policies have worsened the living environment of people of color in New York City, an example of what is termed "environmental racism."

In comparison, informality highlights the overall outdoor and indoor environments, in which the working-class, rural-urban migrant families have been living in urban China. There is no zoning policy in China. Instead, some urban studies scholars have highlighted the temporary nature of the urban village, as an equivalent to slums in other developing countries, used as a pool of cheap labor that drives the continuous unprecedented urbanization (e.g., Zhang 2018, Qin

2011). It's a place full of environmental chaos but also economic opportunities. The outdoor environment is subject to unregulated traffic, noise, and pollution, but the indoor environment is conditioned by higher utilities fees and mixed use of residential and industrial purposes, to name a few. More important, working-class migrant families have little rights as renters. All these elements are important, because they influence the practice of infant caring and mothering of the migrant mothers in my field, which I will discuss in the next section.

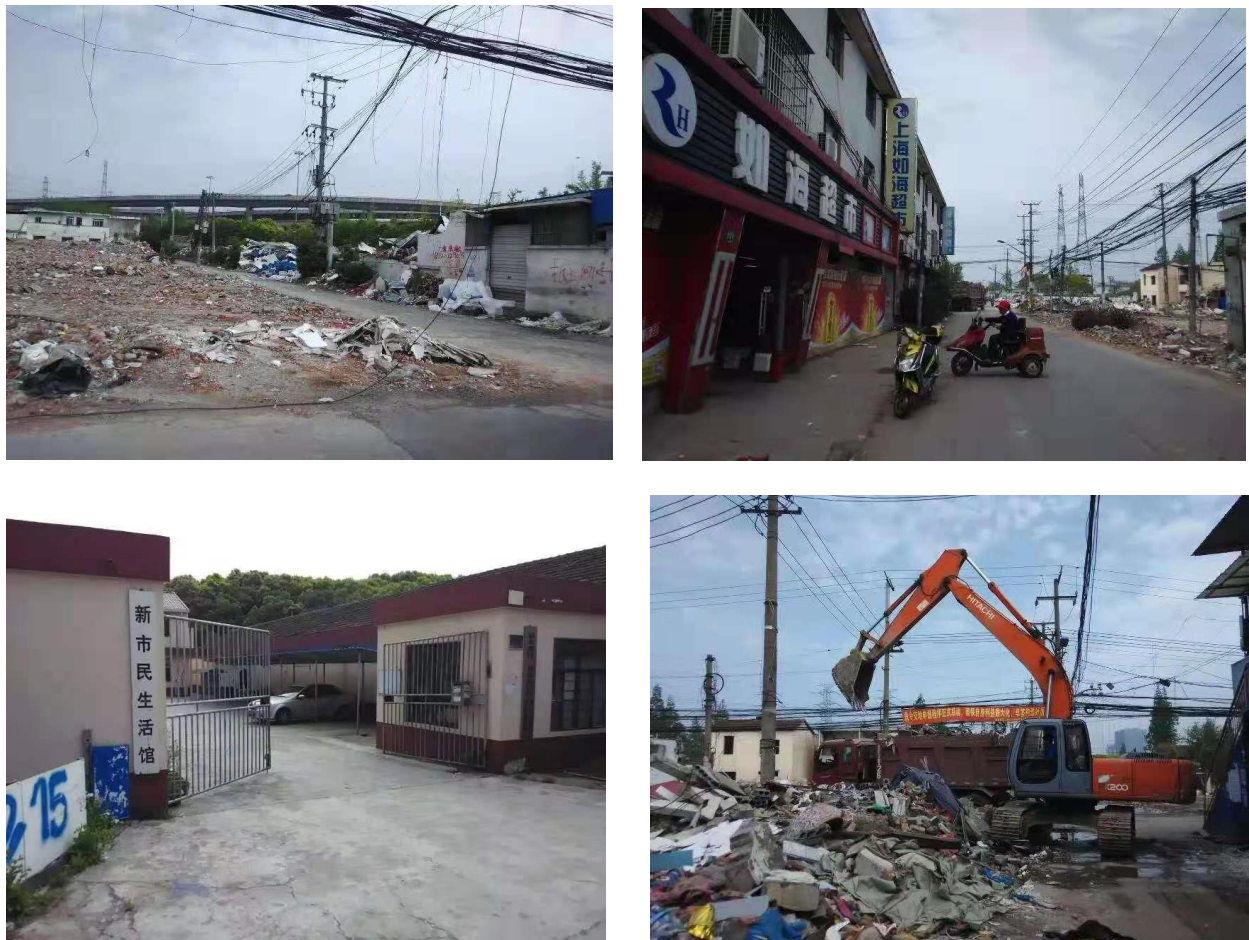


Figure 16. NCLS as well as the Urban Village during demolition.

Descriptions: were taken by Tian, the director of Xintu Community Health Organization, and shared with me upon my request. The upper left and lower left demonstrate the in-process demolition. It is worth mentioning that the upper left shows one of the entrances of the urban village, and it is surrounded by highways. On the other side of the highway are standard residential buildings. The upper right is the West Shangpu Road I described previously. The closed supermarket was the only supermarket in the urban village. On the right, the migrant-owned small stores have already been demolished. The lower right shows the entrance of NCLS.

5.3.2 Infant feeding: breastfeeding and infant formula

In the previous chapter, I argue that the well-educated, middle-class has an almost unanimous pattern of delaying their children's contact with China's environment, largely by using their consumer power and strong social networks. They do not trust the infant formula manufactured and/or packaged in the domestic market and turn to markets overseas. Meanwhile, middle-class, urban mothers are latching onto the ever-increasing body of information and knowledge about breastfeeding/breastmilk and infant formula. The knowledge and information free them from the (Chinese) traditional understanding of infant feeding; however, it also exposes them to another set of uncertainties that derive from the combination of technologies and the constantly changing, social expectations of motherhood.

By comparison, the pattern of the rural-urban migrant is not so linear. Part of it has to do with the unequal structural distribution of opportunities between middle-class, urban and working-class migrant mothers in China. According to my data, the mothers' groups among middle-class women are mostly formed of their college friends, colleagues, or the acquaintances found on reliable, online, parenting platforms. In other words, the emerging, mothering culture (such as the WeChat public accounts about breastfeeding or distinguishing baby products) is shared (so produced and reproduced) through the *guanxi* among middle-class mothers. In sharp contrast, none of the rural-urban, migrant women in my data had attended high school, not to mention college. In addition, because of the *hukou* system, unstable migration experience, and strict, domestic, labor division by sex, migrant women rarely maintained any connections with their previous co-workers in the workplaces. Their extended family members became the main *guanxi* of migrant mothers. As a result, their perception of the safety of (domestic) infant formula is not influenced very much by their mother peers, who seem to live under the same sky.

Their strategies are also not as “unified” as those of middle-class mothers in my sample. In the following, I will support my arguments with evidence from their understanding of breastfeeding and their perceptions of the lack of safety of foreign as well as domestic infant formula.

A. Breastfeeding: not so glorified

Like the United States, China has been going through a long-term battle in the past decades over the anxieties of the “breastfeeding problem” (Hanser and Li 2017). The anxieties were particularly exacerbated by the 2008 infant formula scandal. In an effort to boost breastfeeding by new mothers, the 2013 China State Council announced the goal of raising the six-month exclusive breastfeeding rate to at least 50% by 2020, instead of launching a massive regulation on the market of domestically produced infant formula. In fact, the latest NHSS report shows that the 6-month exclusive breastfeeding rate in 2013 had risen to 58.5%; especially surprising was the growth in breastfeeding in urban areas (62%), then higher than in rural areas (55.4%). Some studies have found answers in the shared general fear of infant formula among middle-class mothers (Hanser and Li 2015) and their internalized, new, breastfeeding culture (Hanser and Li 2017). However, it is equally important to examine what is going on with rural-urban migrant women. They seem to be sealed off from the emerging culture of breastfeeding, including the medical discourse about the benefits of breast milk, the maternal emphasis on the emotional bonding between the mother and the baby through breastfeeding (Blum 1999), and the circulating information about breastfeeding on various social media platforms. Working-class migrant mothers lack the access to social networks where they could be connected to a world of information about mothering/parenting that belongs to a different class.

All of my rural-urban migrant mothers agree that breast milk is better than infant formula, but none of them emphasized the *efforts* they made to breastfeed, nor did they mention

the *technologies* they adopted to facilitate breast- milk feeding (e.g., using a breast pump to build up a milk supply, pumping breast milk at work, or storing breast milk safely). All but one middle-class mother relied on a breast pump to achieve/extend breastfeeding, but none of the migrant mothers have used one. The breast pump is still considered an alienated product as well as an expensive investment for migrant mothers.

For instance, cracked nipples and engorgement are among the common issues mentioned by breastfeeding mothers. However, middle-class mothers and rural-urban migrants tend to attach different values to these issues. For middle-class mothers, cracked nipples or engorgement are verbalized as significantly painful obstacles that they endured so that they could breastfeed their children longer, which significantly defined their embodiment of being a good mother (Hanser and Li 2017). But that was not the case for rural-urban migrant mothers. For instance, Gaotiao (Interview 59) breastfed her son for thirteen months without any help of a breast pump. But she didn't see that as a badge of honor. Instead, she thought it was not a good idea because, for a while, "*there are hard pieces* (she meant a "clogged milk duct")," which made her believe that "*the breast milk might not be good for her daughter.*" Weili (Interview 56) had a very similar description. She told me,

I was only able to breastfeed for several days after I had my daughter. She sucked a lot and my nipples were all cracked and could barely heal. I tried to take several days off, but they got worse if I resumed breastfeeding. Eventually, there were some hard pieces in my breast, and it was not good. So, I weaned. If I had known it would be so painful, I would not even have started breastfeeding. (Fieldwork notes)

Neither Gaotiao nor Weili knew that the hard pieces are in fact "clogged milk ducts," a normal symptom for breastfeeding mothers, and could be treated with medication and/or a breast pump. Instead, they believed that the hard pieces would lower the quality of their breast milk.

Another example was an unfortunate situation in which a newborn was unable to digest regular infant formula. It caused tremendous distress to Fei (a middle-class mother, Interviewee AH04) and Yuxin (a rural-urban migrant mother, Interviewee 57). However, their coping mechanisms and strategies were fundamentally different. Fei was a strong advocate of breastfeeding when she was pregnant. She had read books and insisted on an early latch-on right after she gave birth to her son. However, she soon realized that she had difficulties in breastfeeding, and the regular infant formula caused her son severe diarrhea and skin rash. Not willing to give up breastfeeding, Fei talked to her friends and colleagues until one of her male friends, who was himself a father, suggested that she use a breast pump to build up her milk supply while feeding her daughter with extensively hydrolyzed infant formula. Fei's husband later found a seller on Taobao where the extensively hydrolyzed formula is cheaper than that in a regular grocery store. Yuxin faced the same problems after she had her second child – her shortage of milk supply and her son's weak digestive system. With no extensive, supportive, social networks and without searching for any information online, Yuxin managed the whole situation on her own. She took her doctor's advice and fed her son the same brand of extensively hydrolyzed infant formula that Yuxin had used, but the one that she was told could only be purchased in the hospital (which was then more expensive). Meanwhile, because she did not have a breast pump, nor did she know she could use a breast pump to build up/maintain her milk supply, her breastfeeding didn't last long.

B. Infant formula feeding

Gaotiao, whose perception of extended breastfeeding I discussed in the previous section, fed her son with *Feihe*, a domestic brand, infant formula, while she was trying to initiate

breastfeeding. She recalled it was only RMB 40 per tin, and her son was growing well. When I challenged her choice of *Feihe* because of its bad reputation, she said,

In my opinion, it's all psychological, it's all about how you feel. The formula that were brought from overseas through your friends or relatives, they were all made in China, it's not reliable... A higher price doesn't determine the quality of an infant formula. What's more important is whether it works well with the child. An expensive brand of infant formula doesn't mean it is necessarily good. It just means the price is high.
(07.10.15)

Another migrant mother, Banner (Interview 62), whom I previously described running a small business by making advertising banners, also mentioned *Feihe*. When she was weaning her second child, she used Dumex formula. But she recalled that one of her neighbors was using *Feihe*, despite at that time this brand was reported to have been adulterated with melamine. Deng continued, “*But her child (the neighbor's child) looked pretty good. So, it's all psychological, it's all about how you feel.*”

Dumex was not Banner's first choice. In fact, Banner was the only migrant mother in my sample who managed to have someone purchase infant formula from overseas. She had established some networks with a few of her clients who frequently flew between China, Hong Kong, and Singapore for business. When Banner was pregnant with her second child, one of her clients proposed to bring her some infant formula from Hong Kong. But Hong Kong placed a restriction on infant formula consumption at roughly the same time. The client then switched to the same brand of formula sold in Singapore. Therefore, Banner's child was fed temporarily with Wyeth. At this point, I might conclude that as long as a mother has some sort of networks, regardless of her socioeconomic status, she will also prioritize infant formula from overseas. But, what challenges my seemingly impeccable hypothesis is that Banner also applied for the free infant formula from the NCLS (which I will discuss in the next section), even though she

confessed that she called the customer's service of that company to make sure that the formula distributed at the NCLS was real. In other words, Banner's strategies are extremely hybrid. She specifically took advantage of her some social networks to purchase infant formula from other Asian countries temporarily, but she also witnessed one of her neighbors whose child was perfectly fine after being fed an infant formula with a bad reputation. Meanwhile, she didn't give up her opportunities to receive free infant formula from the NCLS.

I argue that Banner is a perfect case that captures the risk perception and risk evasion of working-class, rural-urban migrant mothers who still have quite limited economic capital and social networks, but who are not entirely strangers to the consumer as well as the motherhood culture in Shanghai. They might not have a stable group of mothers who share a similar mindset to continuously synchronize each other's knowledge of the world and consumption patterns. They also do not feel the pressure to participate in the game. But they are aware of what is going on outside of their small, informal world through mass media, word-of-mouth communications, and the quotidian life in Shanghai.

C. NCLS: Distributing Infant Formula

After I became a volunteer at the NCLS, my first job assignment was not to help migrant children with their homework. My first assignment was to collect all previous NCLS online blogs and compile them into a file for the annual inspection from the government. After closely reading all these blogs, I noticed they regularly distributed free items (e.g., infant formula, oversized Levi's jeans) to the migrant community. Through my interviews, I was also frequently told that families could receive free infant formula at the NCLS. Ms. Yi later explained to me that the free items were from Shanghai Charity Foundation. In most cases, these items were

either close to the expiration dates or ruled out from the mainstream market (e.g., the closest equivalent would be thrift stores in the United States). The infant formulas were all close to the marked expiration dates. Ms. Yi and Ms. Chen needed to rent a truck to collect all the items from Shanghai Charity Foundation, sort them out, and advertise the items on WeChat (a social media platform). They did this to at least earn back the money they had spent on renting the truck. Among all the items, Ms. Yi told me that infant formula was the most popular item. This was also evident on the blogs because they kept a record on how many migrant families had received the free infant formula from the government. They also posted pictures of formal receivers on their blog.

At the end of 2014, the NCLS received a batch of Beingmate formula from the Foundation. Beingmate, a domestic brand of infant formula based in Hongzhou, is the only infant formula brand that was included on the list of “the most trusted Chinese brand products” on May 10th. The day is the so-called Chinese Brand Day and was first designated by the China State Council in 2017 in an effort to promote the reputation of Chinese-brand products on the global market. The slogan of Beingmate is, “Beingmate, a safe choice for Chinese mothers.” Each family with a child could receive two free tins, and, if they needed more, each extra tin cost RMB 20 (\$3) (as a comparison, the same brand infant formula costs about RMB 200 in the grocery stores). Gaotiao had purchased several tins when she was weaning, because she believes “the infant formula was sent from the Foundation to help ‘*our kind of people*’.” So does Weili who at first purchased a huge, family-sized Dumex infant formula (1200g) for RMB 100 from the grocery store before switching to the Beingmate. She used the formula as a supplement of nutrition when she was pregnant with her second child. She also stocked up on several tins for her sisters in her hometown. Gaotiao also used Beingmate. She had difficulties in breastfeeding

right after she gave birth to her son. Her younger brother was then sent to the grocery store where someone recommended Beingmate to him. It worked well for her child.

In short, working-class, rural-urban migrants in my sample relied on local grocery stores and the donated formula when they were weaning or having difficulties in breastfeeding. None of them collected information online or discussed the selection of infant formula with other peer mothers. Compared with middle-class mothers, they did not study or research a reliable channel to purchase the infant formula that they believed was safe enough. Instead, their first choices were usually made by one of their relatives in a grocery store. They prioritized whether the formula fit their children instead of building up a barricade to make sure the formula was not “tainted” by anything related to China’s environment. These two groups of mothers, who were segregated from each other in terms of the infant-feeding culture, were not even joined by the marketplace.

5.3.2 Class-stratified Understanding of “an Ideal Environment” to Raise a Child

Based on my data, I have discovered that rural-urban, working-class migrant mothers prioritized the “social environment” compared with the “natural environment” when they were asked what the ideal environment would be in which to raise their children. For instance, Xigua and Gaotiao (Interviewee 58 and 59) both acknowledged that the “natural environment” of Shanghai is not ideal. But they still decided to raise their children in the urban “social environment” where they believe the children could easily access museums, shopping malls, and English-speaking volunteers. In *Distinction*, Pierre Bourdieu once highlighted the importance of “geographic space” and compared the cultural capital between farmers and bourgeois. He discovered that “the distance of farm workers from legitimate culture would not be so vast if the specifically cultural distance implied by their low cultural capital were not compounded by their

spatial dispersion” (1986: 118). In other words, migrant mothers acknowledged and verbally advocated for the importance of culture capital when they considered the future of their children. By comparison, middle-class mothers were silent about the “social environment” but purposefully highlighted their dissatisfaction with the “natural environment” of Shanghai. They simply took for granted their entitlement to the educational resources in Shanghai. They did not need to specifically verbalize it. For them, an emphasis on the desire for a greener natural environment seemed to confirm their privileged status in China but also signified their performance in an “environmentalist motherhood.”

The unique migration experience between urban and rural areas sometimes also helps migrant mothers challenge the illusionary eco-desire held by middle-class mothers. For instance, Banner, whose background I briefly described in this chapter, shared with me one of her observations. Her family returns to their rural hometown every year before the Chinese New Year. There, she noticed that the leaves were always coated with a layer of white dust. She believed, *“there is no difference between living in the city and in the rural areas. It never occurs to me that I have to take the da huanjing into consideration before making a decision on whether or not to have or raise a child.”* Banner’s argument is very interesting because it is both right and wrong. It is right because several scholars do point out that the industrial pollution is more severe in rural areas (Lora-Wainright 2017; Steinhardt and Wu 2015). It is wrong because there is still a huge variation among different regions in rural areas. For instance, Xigua and Gaotiao described their hometowns with much fresher air and spaces to grow their own vegetables (although they still prefer Shanghai for its “social environment,” as I described in the previous section). How can we then account for the variation and how can we understand the eco-desire of rural-urban migrants?

Here, I found the comments that Sze (2017) made on Chai Jing very useful. In chapter 4, I explained the importance of Chai Jing's documentary *Under the Dome* to herself and to the entire Chinese society. Sze acknowledges Chai's contribution but still argues that her feeling of nostalgia is a specific type of eco-desire. Chai is a rural-urban migrant. But unlike the working-class migrants in my data, she is also a very educated, seasoned journalist. Chai knows so well that Beijing (as an urban city) has offered her tremendous freedom and opportunities. In her documentary, she reminisces about the pure, rural environment of her childhood. Sze argues that Chai Jing's motivation to protect her daughter (environmental motherhood) is filled with complicated emotional entanglements with the drastic urbanization (polluted environment) and her longing for a pure, rural environment that probably no longer exists. Hence, even though I do not have a large sample of data to fully explain the class-stratified perception of environmental pollution or what constitutes an ideal environment among working-class migrants, my data do suggest that they have a "relational anchoring" (Auyero and Swistun 2009) in verbalizing their perceptions. Unlike middle-class mothers, the working-class, migrant mothers rarely anchor their explanation in a comparison to the environment outside of China. Instead, their explanations are based on their adjudication between what they see in Shanghai and in their hometowns. By either highlighting the social environment of Shanghai or complaining about the severe, industrial pollution in their rural hometowns, their explanations are pro-urban; or, to put it in another way, they prioritize development over environmental protection.

5.4 Conclusion

In this chapter, by using the ethnographic work obtained from a group of rural-urban, working-class migrant mothers in an urban village, I explore their class-stratified perceptions of

breastfeeding, the safety of domestic infant formulas, and an ideal environment in which to raise their children. I find the rural-urban, migrant mothers' infant feeding strategies are not very much influenced by their peer group mothers, as is shown by their description of breastfeeding and their perceptions of several, domestic brands of infant formula. These perceptions have much to do with their constrained disposable income, but that is not the entire story. Rural-urban migrant mothers are also sealed off from the information cluster generally shared by middle-class mothers. In which they synchronize each other's awareness and knowledge of the emerging (Westernized) mothering culture. Because of this kind of network divide, working-class, migrant mothers are also cut off from the social network that sustains the "gated consumption" among middle-class mothers.

Mackendrick (2018) sharply pointed out that lower-income, working-class mothers in the United States look up to middle-class women and treat infant feeding as a "concerted cultivation," a concept Lareau (2013) originally coined to describe the education practiced among parents in higher social and economic classes. Even though the lower-income, working-class mothers in her sample are still financially stable (e.g., working as a nanny in a wealthy community), her findings nevertheless show that precautionary consumption culture trickles down and mothers participate in a basic level of precautionary consumption with the help of some creative budgeting. My sample seems to be more mixed. I argue it has a lot to do with their migrating experience and the information flow, which originates from outside of China.

CHAPTER 6: CONCLUSION

6.1 Summaries

The dilemma between economic development and environmental protection has been a prominent challenge for rapidly developing countries. It is an especially huge challenge for China, because of its authoritative political regime, its significant role in the global economy, as well as its endorsement of the Westernized, modernization project. My dissertation has addressed this dilemma through a specific case study of the early stage of the mothering experience of two groups of women in Shanghai. Using data sources that range from news media stories, interviews, and ethnography, I have demonstrated that the past forty years of unsettled and drastic economic and social development in post-socialist China have exposed people to a variety of modernization risks with Chinese characteristics. These risks and uncertainties have created a unique space where mothers not only perform good mothering but also claim their distinctive socioeconomic status, knowledge, and position. Middle-class mothers tend to see the environmental pollution issue and food safety problems as “Chinese” problems rooted in the economic and political paths China is taking. They do so without questioning modernization itself. In other words, they place their blame on the Chinese poor regulatory system as well as on the perceived, *low suzhi* of (migrant) workers. Besides, they share a common uneasiness with China in terms of the tension between economic development and environmental protection. Their practice of mothering is facilitated by their economic power but constrained/blinded by their political weakness. Consumption is a key strategy because of their economic power and their belief in modernization. By contrast, rural-urban, working-class migrant mothers show a fragmented performance of good mothering because of the discriminatory social structure, their limited disposable income, and their lack of access to the emerging knowledge of mothering that

is dominated and communicated among middle-class mothers through networks and on social media.

In the first analytical chapter, chapter 2, I paint a general picture of the ideological, reproductive citizenship in contemporary, urban China and describe the lack of health rights among rural-urban migrants due to the long-term consequences of the *hukou* system and *suzhi* discourse. By focusing on the birthing experience of a group of rural-urban, migrant women in a government- subsidized, maternity hospital in Shanghai, I demonstrate that the unresolvable tension between large numbers of rural-urban migrants and strict, state policy offers the migrant women temporary access to their reproductive citizenship. But it nevertheless imposes a gendered burden on rural-urban, migrant women's reproductive bodies and places uncertainty on their reproductive experience. I use "*discriminatory inclusion*" to describe their experience. This chapter serves as a background to help readers understand the importance of the *hukou* system and the *lingering* reproductive policies in urban China.

Chapter 3 focuses on the relationship between pregnancy and environmental degradation with a focus on radiation-shielding, maternity clothes (*cloak*). This chapter reveals that the scientific uncertainty about the possible, negative impact of EMFs on pregnant women has created a space in China where state government, business agents, and the scientific community negotiate for political, economic, and scientific power. I argue that the cloak was invented and advertised as a scientific and commodified response to the modernization risk with Chinese characteristics that is experienced by pregnant women in China. Mothers are not only afraid of the possible association between EMF and miscarriage or birth defects. They are also subject to the traditional *baotai* culture as well as the ambient awareness of the reproductive crisis due to China's polluted environment. As a result, middle-class mothers wear the cloak even though

most of them claim that they do not truly believe in its usefulness, because of their exposure to media news as well as their endorsement of Western, orthodox, scientific knowledge. Middle-class mothers wear the cloak because of their concern about China's environment, but they simultaneously verbalize their distrust in the cloak *product*, because of their exposure to social media news that features mainstream, scientific knowledge in Western societies. Therefore, most of the rural-urban migrants do not wear the *cloak*, because of the structural barriers they are facing (underemployment, lack of access to electronic devices). But a few migrants who did wear the *cloak* consider it a badge of honor and a manifestation of responsible motherhood.

As a continuum to chapter 3, chapter 4 and chapter 5 focus on the second case - infant formula. Chapter 4 describes how middle-class mothers mobilize their consumption power and extensive social networks to delay their children's contact with China's environment by feeding their children exclusively with foreign-produced/packaged infant formula, installing air and water purifiers, and extending breastfeeding. I contextualize their seemingly individualized approach to the risks in the context of contemporary China where the middle-class is the economic beneficiary of China's development. However, there is no political space or political intention to address the challenge collectively. Instead, middle-class mothers embrace the dilemma by *delaying* their children's contact with China's environment. I argue *delaying* is a manifestation of middle-class motherhood when they are facing the inevitable polluted Chinese environment. *Delaying* also shows their awareness of the *temporality* of the consumer approach when physically living in China.

As a comparison to chapter 4, chapter 5 focuses on infant feeding by a group of rural-urban, working-class, migrant mothers. This chapter demonstrates the hybrid infant-feeding strategies of migrant mothers. The risk perception of rural-urban, migrant women and their

feeding strategies are very little influenced by the mothers in their peer group. This is shown by their perception of breastfeeding and their embrace of several, domestic brands of infant formula that were once reported to be of low quality. It has much to do with their constrained, disposable income, their migration experience, and their disconnection with the mothering culture that is emerging on social media, which bridges mainstream, Western knowledge for the group of middle-class mothers.

In this concluding chapter, I discuss some of the common threads and insights that link all the analytical chapters (especially from chapters 3, 4, and 5) and demonstrate how these common threads contribute to the literature on global, environmental justice, environmental risk perception, and Environmentalist Motherhood. These threads are: 1) environmental justice in the context of globalization; 2) risk perception and the flow of international information; 3) modernity and toxic uncertainty; and 4) the dilemma of Environmentalist Motherhood.

6.2 Global Environmentalism, Environmental Justice, and China

In her book titled *China's Environmental Challenges* (2012), Judith Shapiro proposed two interesting questions for her readers.

“Do people in developing countries such as China have an inherent ‘right’ to the same living standards as those in the developed world? If so, what mechanism should be in place so that such equity can be achieved?”

“Can China develop first and clean up later, as much of the developed world did, or is this no longer an option given the limits of the planet’s resources? Can the international community reasonably expect the global South to follow a different path than that of the

developed North? Does the developed world's standard of living have to change if we are to keep from planetary ecological collapse?"

Even though I believe Shapiro could have framed the questions in a better way (for instance, I don't think the so-called "clean-up" ever happened in the United States, other than the relocation of the ecological burden), these two questions nevertheless touch the core of the discussion of environmental justice in the global context. In the United States, environmental justice is defined as an alternative "not-in-my-backyard" (NIMBYism). Simply put, NIMBYism emphasizes the protection of individual property values, whereas the environmental justice framework highlights the issues of race, land, power, and health. In the global context, according to the literature of environmental history, certain levels of pollution and environmental degradation seem to have been inevitable (therefore, expected) during the rapid, economic development of almost every currently developed country (e.g., DuPuis 2004, Zimring 2015, Houck 2009, Shapiro 2002). This is then used to justify why residents in developing countries have to make a choice between two seemingly exclusive options: economic development or environmental protection (e.g., Dietrich 2013, Lora-Wainwright 2017). But the discussion of environmental justice is more than a discussion of temporality. For instance, it might be fair to say, from the perspective of humanitarianism, that it is "unfair" to deny the newly rich and the middle-class populations in developing countries a standard, Westernized (or Americanized) lifestyle. In reality, however, our (only) planet is unable to afford that. Part of the reason is that the Westernized (or Americanized) lifestyle is, itself, unsustainable.

The Chinese government is well aware of its dilemma. As a rapidly developing country, China plays a significant role in the global economy. It is one of the major, manufacturing sites for products, such as toys, textiles, and electronic devices. For decades it has been one of the

main dumping sites for global plastic wastes and global e-wastes.⁶² It is the intermediary in the conversion of “illegally” harvested timber into fine pieces of furniture with the FSC SPELL OUT logo for its European consumers.⁶³ It is also producing a rising number of middle-class consumers. In this interdependent relationship, anything that happens to China has a consequence for the entire world. For instance, when China announced in 2018 that it was ending the importation of plastic waste for the sake of domestic, environmental degradation, it created chaos in several developed countries, such as Britain and the United States. Those countries had been used to offshoring a significant part of their waste, because of the pressure they faced in their own countries (e.g., stricter regulation and resistance from local environmental activists). At the same time, some less developed Asian countries, such as Malaysia⁶⁴ and the Philippines, started to become the new dumpsites for the waste. This inevitably added an ecological burden on those regions, which had already been suffering from air pollution.⁶⁵ The other side of the same coin is that the rise of middle-class consumers in China and their newly established tastes for durian and chocolate, for instance, have partially caused the declining durian biodiversity in Thailand⁶⁶ and the cocoa crisis globally.⁶⁷ This can also explain why so many countries set limits on how much infant formula a Chinese consumer could buy after the 2008 Sanlu incident when many, middle-class, Chinese consumers looked for safe formula overseas.

⁶² <https://www.npr.org/templates/transcript/transcript.php?storyId=395815221;https://99percentinvisible.org/episode/national-sword/>

⁶³ <http://www.sixthtone.com/news/1003369/how-illegally-harvested-timber-is-greenwashed-in-china>

⁶⁴ <https://www.bbc.com/news/world-asia-46518747>

⁶⁵ <https://www.nytimes.com/2019/01/30/world/asia/pollution-thailand-bangkok.html>

⁶⁶ <https://www.chinadialogue.net/article/show/single/en/11055-Riding-the-durian-Belt-and-Road-Risky-times-for-Thai-agriculture>

⁶⁷ <https://www.theguardian.com/lifeandstyle/2014/nov/21/cocoa-crisis-world-chocolate-stash-melting-away>

Therefore, in the face of domestic pressure for a better environment and the global, moral burden to address the urgent, climate change challenge, China has launched several top-down, centralized approaches to these environmental challenges. The result has been a mixed message. On the one hand, right after the severe pollution year in 2013, the Beijing government encouraged its residents to reduce the holiday tradition of launching fireworks during the Chinese New Year; many cities (including Shanghai) have followed suit up to today. Near the end of 2017, tens of thousands of polluting factories were forced to close in a mad dash to meet the year-end, air pollution target, which had been set in 2013 to cut down by 15-25% PM 2.5 emissions by 2017. As a result, millions of rural-urban migrants lost their jobs with no compensation. On the other hand, China took top-down action to restrain the growth of the coal-fired industry. Beijing closed its four major, coal-fired power plants in 2016. However, it was reported that hundreds of China-backed, coals-fired, power plants have been built up in other countries, such as Pakistan, as one of the projects of the One Belt One Road Initiative. Nevertheless, it is painful to articulate the dots between globalization and environmental injustice. At this moment, it is difficult to predict how the Chinese government is going to balance the dilemma between development and environmental protection, difficult to know whether the dilemma will be able to be tamed and resolved under the shelter of an “ecologically harmonious socialist society.”

6.3 Risk perception in Contemporary China

As demonstrated in chapters 3, 4 and 5, the aforementioned dilemma played an important role in shaping the risk perceptions of my research participants in Shanghai. Like the rural residents in the Cancer Village or Guiyu village (one of the most important dumpsites for global e-waste), where pollution was seen as a part of environment and then part of the *everyday life* for

survival, middle-class mothers as well as rural-urban migrants also consider the *da huanjing* as inevitable. In the context of this project, the baseline of their risk perception is similar: both middle-class mothers and rural-urban migrants are aware of the 2008 *Sanlu* incident and food safety crisis, and both have physically experienced nation-wide, environmental degradation, such as air pollution. However, due to structural barriers, they are situated in different clusters of networks, where the information to which they are exposed varies and complicates their risk perception.

In chapter 3, middle-class mothers doubt the usefulness of the radiation-shielding maternity clothes because their counterparts in developed countries (e.g., the United States, France) do not wear the cloak as discussed by the public figure, Fang Zhouzi, and on the Guokr.com website. Both are transporting to China orthodox, scientific and technological knowledge from the United States and European countries. This information ruined the credibility of the *cloak*. In chapter 4, after the 2008 *Sanlu* incident, middle-class mothers selected infant formula from overseas based on their perceptions of foreign countries (obtained in their workplaces, their vocations overseas, etc.), and they relied on the availability of their social networks outside of China.⁶⁸

⁶⁸ It is interesting to examine the recent, global impact of the news about glyphosate pesticide and Quaker oatmeal products. In 2018, Environmental Working Group (EWG) conducted two rounds of research on oatmeal-related snacks, such as cereals and energy bars, and discovered that the glyphosate pesticide (categorized as probably carcinogenic by the International Agency for Research on Cancer [IARC]), in oatmeal products passed the benchmark set up by EWG (the maximum daily intake of glyphosate in food is 0.01 milligrams). EWG also pointed out that the health benchmark set up by EPA in 2008 was outdated. The news was translated and circulated in various Chinese newsfeeds, because China is one of the biggest markets for Quaker oatmeal. On *People.cn*, one of China's mouthpiece media, it was stated that Quaker oatmeal is safe to eat. The Center for Food Safety in Hong Kong also stated that its benchmark is in line with that of U.S. EPA and that Quaker oatmeal is safe to eat. In short, the transnational information flow complicates people's risk perception and their perception of safety.

Middle-class families are the major beneficiaries of economic development (in other words, they are the justification for China's development), and they are also the major critics of environmental pollution and moral decay. They also suffer from pollution and moral decay. They perceive the risks to be a "Chinese" problem without criticizing modern development itself. The "Chinese" problem includes the lax regulation system, the moral decay resulting from social transformation, and the low *suzhi* of the Chinese (working-class, rural-urban migrants). Because they have little political power to change the political regime in China, they use a consumerist approach to cope with the perceived risks. The consumerist approach is nevertheless rooted in their imagination of an outside, Western society as a (currently) more regulated and clearer environment.

Rural-urban, working-class migrant mothers consider themselves neither the major beneficiaries of economic development nor the major critics of environmental pollution. Unlike those who are still living in rural areas (Lora-Wright 2013, 2017; Tilt 2015), rural-urban migrants are dependent on the urban environment to make a living, although they are aware of the increasing pollution in some rural areas. They are also shielded from the outside, Western society, because of structural barriers and the network divide. As a result, they rarely perceive the risks as a "Chinese" problem. Instead, their risk perceptions are hybrid and more related to their daily encounters and class position.

6.4 Modernity and Toxic Uncertainty

The variance in risk perception is related to another core concept: toxic uncertainty. People generally do not deny the existence of some level of environmental pollution and/or toxins, but it is difficult to channel their risk perceptions into any collective action. Scholars have pointed out multiple possibilities. In the context of the North America, many discussions have

focused on “scientific uncertainty,” such as the debates about the safety of accumulating - from multiple pathways - low-dosage toxins (e.g., Vogel 2012); the negotiations between scientists and (lay people) activist groups about the appropriateness of data collection methods; the analytical model (e.g., p-value) or the benchmark within which safety can be assumed or within which toxins can be tolerated; or the intentional ignorance about internal radiation caused by the geopolitical relationship between Japan and the United States (Kimura 2016). In the context of developing countries, the discussion is more diluted in what Auyero and Swistun (2009) coined as the “social production of toxic uncertainty.” It could be the “deep capture” internalized by pharmaceutical corporation employees in Puerto Rico (Dietrich 2013), where the pro-toxin (pharmaceutical) industry way of thinking has become pervasive and invisible. It could be the “toxic nature” in *Guiyu* (Lora-Wainright 2017), because the toxins from the recycling of e-waste are deeply mixed in the drinking water, the air breathed, and everyday routines. It could also be the “continuing pileup of things” (such as misinformation and the gradual changes occurring with pollution) in the Argentina shantytown described by Auyero and Swistun (2009). In his later work, Auyero (2012) calls it violence due to “tempography.” In my opinion, it is a different version of “anticipation” (Adams et al 2009), because waiting for the “future” in Flammable ironically stops those poor residents from avoiding severe pollution on a daily basis. They have been abandoned.

Nevertheless, this specific uncertainty related to gradual, environmental pollution or climate change corresponds to what Murphy (2004) terms a *dance* between nature and (human) culture, two autonomous actants (Latour 1999, 2000) continuously influencing each other with improvisation. Between the human agents and natural actants, I argue there exists a space for all kinds of possibilities. For instance, McKendrick (2011) argues that the gradual knowledge and

awareness of the body's burden gives rise to the individualization of risk, because exposure to toxins could take place for an entire lifetime and throughout a mundane life (118). The space is also where morality is being contested (Lora-Wainright 2013), because the rural residents in the Cancer Village have ambivalent feelings about the drastic, Chinese industrialization, which requires a set of moral rules that are so different from their experience and memories of socialist China.

In the context of this project, I aim to describe the contour of this *dance* between nature and human (culture) through two case studies. The case of the *cloak* could be viewed as a commodified response to a gradually developing awareness of electronic pollution as well as to general, environmental pollution. The case of infant formulas is due to a combination of an “extreme prompt” (Murphy 2004: 254), that is, the 2008 *Sanlu* incident, and a variety of scandals related to a lack of food safety (which is still happening today) and general environmental pollution. As demonstrated throughout the analytical chapters, the interplay between nature and human culture (either society-mediated nature or a society haunted by natural threats) gives the mothers time and space to verbalize their interpretations and navigate the mixed information. Some of my findings are in line with the discussion of morality. It is especially evident among middle-class mothers who were born in Shanghai. For instance, the slowly developing environmental pollution gives them space to place blame on the incoming, rural-urban migrants who are said to have ruined the trust among Shanghainese (their perceived *low-suzhi*). The mentality is similar to what Pellow and Sun-Lee Park (2012) terms nativist environmentalism. It is not the case among rural-urban migrants. Therefore, my dissertation shows that morality works differently among various social groups when they manage to make sense of environmental pollution, China's development, and their risk perception.

6.5 The Dilemma of Environmentalist Motherhood

As I mentioned in the introduction, this project draws heavily on the literature of so-called “Environmental Motherhood.” The root of this unofficial term can be traced back to how women (especially mothers) are pigeonholed in terms of their vulnerability to environmental degradation (Sasser 2018), their responsibility to take care of family members (Kimura 2016), and their seeming tendency to be “hysterical,” “emotional,” and then lacking a scientific mindset (Decoteau and Underman 2015, Murphy 2006, Kimura 2016, Seager 1996, Mackendrick and Pristavec forthcoming). In a laissez-faire, neoliberal regime, due to a fractured/poor, regulatory system (Mackendrick 2018) or a nationalist-ideology-driven, food-policing system (Kimura 2016), women/mothers are lauded for their socially expected responsibility to take action, but they are simultaneously restrained by their role as mothers. In the end, these scholars all hint: “We need to preserve/appreciate the culturally-coded motherly resistance in harsh conditions” (Kimura 2016: 153) or their “slow activism” (Liboiron, Tironi and Calvillo 2018; Tironi 2018) in a permanently polluted world. However, we must also push for fundamental, structural transformation. The parents experience an ironic internalization of both “a responsibility to the ignorance” and “a hyperawareness of the partial, hesitant, and haphazardly acquired experience” (Kaufman 2010: 27). In my opinion, the linchpin between the two is not only a dilemma between an individualized approach versus collective action, but also about the dilemma between an immediate solution versus a long-term strategy/hope.

As demonstrated throughout my analysis, middle-class mothers are deeply influenced by this dilemma and make efforts, such as cloaking pregnancy or delaying contact, to practice this motherly resistance or slow activism. Rural-urban, working-class migrant mothers have much less political space or the vocabulary to be a part of it. Because of the drastic social development

and increasing social inequality, the slowly but continuously simmering concerns of environmental degradation and moral decay have created a space for those mothers from various socioeconomic status to perform with distinction. In another words, perhaps the radiation-shielding maternity clothes or the infant formula purchased and packaged overseas generate no more than a placebo effect. But an EXPENSIVE placebo is still considered better in the context of contemporary, urban China.

6.6 Limitations and Future Directions

There are several limitations in this dissertation. Other than the limitations due to my methodology (which I explained in the introduction), there are a few more limitations that I want to address here. First, I approached this project with an assumption that consumption is one of the major approaches that mothers use to address their risk perception. It might have restricted their conceptualization of other possible solutions, even though the interviews did include questions to encourage the mothers to talk about the public realms. For instance, some research focuses on some kinds of “collective” action to address the issue of food unsafety (e.g., Shuai 2013). These actions are considered “collective” because the actors work across the aisle (i.e., with consumers, farmers, and markets). Second, there are some fundamental differences between my two cases. Although the interviews were organized in a style of open-ended questions, I did feel that my interviewees could hardly link these two cases together. They viewed these two cases differently. In another words, the two cases could generate two separate dissertations. However, I still want to argue that these two cases have provided us with a more comprehensive picture of risk perception. Collectively, this project is able to show that the mothers’ concern is not merely about the supply of safe food in China or some “irrational” concern about invisible cellphone radiation. The underlying, latent variable is the general, ambivalent feeling about

China's environmental degradation, drastic social change, and unsettled moral decay. Last but not least, as I mentioned in the introduction, I used different methods to collect data from middle-class mothers and from rural-urban migrants for a variety of reasons. During the interviews, I also needed a different approach to communicate with them. For instance, the answers from the middle-class mothers are more synchronized, whereas the rural-urban migrants tend to use a different vocabulary to express themselves. I got "zigzag" feelings whenever I interviewed the rural-urban, migrant mothers, because some of their answers were exactly like those of the middle-class mothers, and some of them were quite drastically different. I would be more confident if I had been able to reach out to a larger number of rural-urban, working-class migrant mothers, especially those who were not part of an organization, such as the NCLS in my project. Or, it might reveal that the two groups of mothers are ultimately oriented to different logics/different cultures and I am somehow "imposing" a comparison onto them.

6.7 Concluding Remarks

Working on this project involved managing all kinds of uncertainties. While I was working on this paragraph, for instance, I was fed up with all the discussions about the U.S.-China trade war and the battle over 5G technology. I just read one of the latest interviews with Ren Zhengfei, the CEO of Huawei. After several U.S. technology suppliers, including Google, cut ties with Huawei after Trump's order, Ren commented, "My family members are still using iPhones. We cannot narrowly say to love Huawei is to love Huawei cellphones." Meanwhile, he emphasized that China should fight against the nationalist emotions in society.

In the past three years, many have changed. The one-child policy was ended. Anti-globalization and nationalist emotions are spreading out all over the world. My mind is filled with all kinds of images about China, such as the socialist version of China analyzed by scholars,

the China being described by the American media, the China being complained about by middle-class consumers, as well as the China where I was born and raised. My mind is also filled with all the discussions about climate change and environmental degradation. My dissertation is a tiny boat on this giant ocean, drifting, with a hope to create a conversation between here and there, between past, present, and future.

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Appendix A

A Segment Data from Amy Hanser's Project (In 2013) New Mothers (N=25)

ID	Pseudonym	Location	Age	Age (of Kids)	Education ⁶⁹	SES
AH01	Fang	Workplace	34	9 months old	BS	M
AH02	Ye	Workplace	29	23 months old	BA	M
AH03	Chen	Workplace	31	9 months old	BS	M
AH04	Fei	Workplace	29	8 months old	MD	M
AH05	Shu	Workplace	27	11 months old	BS	M
AH06	Hui	Workplace	32	13 months old	MD	M
AH07	Tang	Workplace	34	5 months old	Ph.D.	M
AH08	Guo	Home	27	8 months old	BS	M
AH09	Beini	Home	28	13 months old	BS, MBA	M
AH10	Minyi	Workplace	28	19 months old	BS	M
AH11	Xu	Workplace	29	1 year old	3yr College	M
AH12	Linlin	Home	34	6 months old (6 years old)	BA	M
AH13	Ying	Coffee Shop	29	16 months old	BA	M
AH14	Meihua	Gallery	32	28 months old	BA	M
AH15	Xiaoya	Workplace	28	4 years old	3 yr College	M
AH16	Linlan	Workplace	28	3 years old	BS	M
AH17	Jiang	Workplace	34	3 years old	MD	M
AH18	Wang	Workplace	40	5 years old	MD	M
AH19	Quli	Workplace	29	30 months old	MD	M
AH20	Ge	Workplace	30	2 years old	3yr College	M
AH21	Yuan	Home	30	3 years old	3yr College	M
AH22	Cao	Workplace	33	2 years old	BS	M
AH23	Deng	Restaurant	34	Missing	MS	M
AH24	Lei	Restaurant	Missing	4 years old	BS	M
AH25	Duoduo	Park	27	15 months old	Missing	L

⁶⁹ The following is the list of Education Level:

ES: Elementary School

MS: Middle School

HS: High School

3yr College: *Dazhuan* (大专) Similar to Community College in the United States

BA: Bachelor of Art

BS: Bachelor of Science

MD: Master's Degree

MBA: Master's Degree of Business Administration

Ph.D.: Doctorate Degree

Appendix B

Appendix B-1: Middle-Class Pregnant Women (2014-2015)

ID		Pseudonym	Location	Age	Pregnancy	Education	Number of Interviews
4		Lin	Workplace Home	40	6months	BA	3
5		Chu	Workplace	36	8months	BA	1
6		Li	Workplace Coffee Shop	30	9months	BA	3
8		Karen	Coffee Shop	30	4months	BA	5
10		Cao	Coffee Shop Bakery	30	3months	BA	6
42		Hou	Workplace	31	6months	HS; Working on 3 yr College	2
52		Fu	Workplace	33	9month	BA	2

B-2: Middle-Class New Mothers (2014-2015)

ID	Pseudonym	Location	Age	Age (of Kids)	Education	N of Interviews
1	Mao	Workplace	26	2 years old	BA	1
2	Jiang	Phone	37	5 years old	BA	1
3	Wen	Coffee Shop	32	2.5 years old	BA	1
7	Cherry	Restaurant	33	6 years old	BA	1
16	Ying	Clinic	35	2 months old	Missing	1
27	Chuan	Clinic	33	3months old	BS	1
28	Qiu	Clinic	30	7months old 5.5 years old	BS	1
29	Faguo	Clinic	31	11 months old	BS	1
33	Kuai	Clinic	30	8 months old	BS	1
35	Quan	Clinic	29	2 months old	BS	1
36	Huo	Clinic	32	9 months old	3yr College	1
37	Ma	Clinic	26	16 months old	BS	1
38	Zhu	Coffee Shop	28	1 month old	BS	1
43	Yin	Coffee Shop	29	4 months old 5 years old	BA	1
44	Ya	Clinic	35	4 months old	BS	1
45	Guo	Coffee Shop Workplace	31	2 months old	BS	2
46	Liu	Clinic Hospital	32	Twin 3months old	BS	1
47	Jenny	Home	33	9 months old	BS	1
48	Xing	Coffee Shop	31	8 months old	BS	1
49	Qiang	Workplace	29	22 months old	BS	1
50	Cao	Phone	28	11 months old	BS	1
53	Kelly	Workplace	29	15 months old	BA	1
54	Long	Restaurant	39	6 months old	BA	1
55	Zhangli	Restaurant	38	14 months old	BA	1

B-3: Rural-Urban Migrant Pregnant Women (2014-2015)

ID	Pseudonym	Location	Age	Pregnancy	Education	N. of Interviews
11	Yuan	Hospital	23	9months	ES	1
12	San	Hospital	22	7months 2 years old	ES	1
13	Fang	Hospital	24	10months 4 years old	ES	1
14	Qing	Hospital	29	6months 6 years old	ES	1
15	Shui	Hospital	27	8months 5 years old	ES	1
18	Min	Hospital	29	8months 5 years old	ES	1
19	Gen	Hospital	29	4.5months 5 years old	ES	1
20	Wang	Hospital	26	5months	ES	1
21	Leng	Hospital	38	Due Soon	MS	2
22	Tao	Hospital	22	Due Soon	ES	1
23	Zhu	Hospital	21	Due Soon	ES	2
24	Yan	Hospital	30	8months 7 Years old	ES	1
39	Liu	Hospital	24	Missing	ES	1
40	Xia	Hospital	34	9 months 7 years old	ES	1
41	Wujing	Hospital	24	10 months	ES	1
56	Weili	NCLS	35	5 months 7 years old	ES	Ethnography

B-4: Rural-Urban Migrant New Mothers (2014-2015)

ID	Pseudonym	Location	Age	Age (of Kids)	Education	N. of Interviews
9	Guo	Hospital	29	10 mons old 3 years old	ES	1
17	Zheng	Clinic	25	8 months old 4 years old	ES	1
25	Gu	Clinic	31	3 years old 6 years old	MS	1
26	Huo	Clinic	32	18 months old	ES	1
34	Meiqi	Clinic	23	1 months old	ES	1
51	Wangxin	Pizza Hut	24	9 months old	3yr College	1
57	Yuxin	NCLS	Missing		ES	Ethnography Interview
58	Xigua	NCLS	36	4 years old 16 years old	ES	Ethnography Interview
59	Gaotiao	NCLS	25	1 years old	ES	Ethnography Interview
60	Yalan	NCLS		7 years old	ES	Ethnography Interview
61	Tiantian	NCLS	26	18 months old 6 years old	MS	2
62	Banner	NCLS	33	2 years old 10 years old	ES	1

C: Other Interviewees (2014-2015)

ID	Pseudonym	Location	Title	N. of Interviews
63	Shi	Hospital	Migrant Vendor	Multiple/Ethnography
64	Ren	KFC	Infant Formula Sales Representative	1
65	Zhuang	Hospital	Doctor	1
66	Yi	NCLS	NCLS Manager	Multiple/Ethnography
67	Chen	NCLS	NCLS Manager	Multiple/Ethnography