Medical Anthropology
Cross-Cultural Studies in Health and Illness

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/gmea20

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To cite this article: Marcia C. Inhorn, Ruoxi Yu & Pasquale Patrizio (2021) Upholding Success: Asian Americans, Egg Freezing, and the Fertility Paradox, Medical Anthropology, 40:1, 3-19, DOI: 10.1080/01459740.2020.1825415

To link to this article: https://doi.org/10.1080/01459740.2020.1825415

Published online: 19 Oct 2020.

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MEDICAL ANTHROPOLOGY
2021, VOL. 40, NO. 1, 3–19
https://doi.org/10.1080/01459740.2020.1825415

Upholding Success: Asian Americans, Egg Freezing, and the Fertility Paradox

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ABSTRACT
Asian American women are turning to oocyte cryopreservation (egg freezing) at rates higher than would be expected, given that Asian Americans make up less than six percent of the total United States population. Based on ethnographic interviews with 23 women of East, Southeast, and South Asian ancestry, we examine the "fertility paradox" faced by highly educated Asian American professional women. Despite achieving multiple "pillars of success," these women have difficulty finding educated partners with whom to pursue childbearing. Egg freezing offers feelings of empowerment and relief from pressure for Asian American women, holding open the possibility of future biogenetic motherhood.

KEYWORDS
Asian American; education; egg freezing; fertility; motherhood

The most recent innovation in assisted reproduction is oocyte cryopreservation, commonly known as egg freezing. Through a method of flash freezing called vitrification, women at risk of losing their reproductive ability due to cancer chemotherapy, fertility-threatening medical conditions, or age-related fertility decline can now freeze their eggs, potentially preserving their ability to conceive a genetically related child (Inhorn et al. 2018a, 2018b). Calling egg freezing "one of the most significant recent advancements in assisted reproduction technology," the International Federation of Fertility Societies (IFFS) issued a report in 2019 showing the rapid global spread of egg freezing. Of 82 countries reporting, 68 (83%) now allow egg freezing for medical fertility preservation, and 56 (68%) also allow non-medical egg freezing for healthy women concerned about their fertility. Eighteen of 42 (43%) countries report frequent performance of egg freezing cycles in their countries' IVF clinics.

Asia has the highest number of IVF clinics in the world, with India (1,500 clinics), Japan (574 clinics), and China (400 clinics) topping the list (IFFS 2019). However, acceptance of non-medical egg freezing across Asia is variable, with China prohibiting it, India allowing it, and Japan encouraging it as a measure to combat population decline. The Chinese prohibition against egg freezing has attracted considerable media attention, with Chinese celebrity women traveling abroad for this service and at least one Chinese woman initiating a lawsuit against a hospital for denying her access to egg freezing (Wee and Chen 2019). Furthermore, "leftover women" (Lake 2018) – a stigmatized category of educated Chinese professional women without husbands, who might benefit most from egg freezing services – have become a cause célèbre, including in a recent Public Broadcasting Service (PBS) film by that title.

No country in the world yet provides state funding for non-medical egg freezing, and egg freezing is expensive. In the United States, for example, egg freezing is almost as costly as a full IVF cycle (US

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Media teaser: Why are highly educated Asian American women freezing their eggs? Two pillars of success—marriage and motherhood—may prove difficult to uphold.

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$10,000–15,000), without including the annual storage fees ($500-1,500 per year), which make access to the technology a main barrier. Having said that, egg freezing in the US has been on the rise since the American Society for Reproductive Medicine lifted the experimental label on October 19, 2012. Most American IVF clinics now offer egg freezing for both medical and non-medical indications, and the response to egg freezing on the part of American women has been significant (Inhorn et al. 2018a, 2018b). Within the first year of clinical acceptance (i.e., 2013), approximately 5,000 egg freezing cycles were undertaken in the US. Five years later (i.e., 2018), that number had more than doubled to 11,000 cycles, according to the Society for Assisted Reproductive Technology (SART).

Who are these American women who are turning to non-medical egg freezing as a form of fertility preservation? So far, five studies of women completing egg freezing in the US describe a particular demographic: namely, highly educated professional women who are pursuing egg freezing in their late 30s primarily because they are single but still hold out hope of future motherhood (Brown and Patrick 2018; Carroll and Kroløkke 2018; Greenwood et al. 2018; Hodes-Wertz et al. 2013; Inhorn et al. 2018a, 2018b). In all of these studies, the majority of women freezing their eggs were White – with White respondents representing from 54 to 89% of the total samples.

However, Asian American women comprised the second largest group – between one-fifth to one-quarter of women in most of these studies. This is a significant overrepresentation, given that Asian Americans comprise less than six percent of the US population overall. Indeed, as shown in Daisy Deomampo's (2019) recent work on Asian American egg donation, Asian American women have the highest rates of ART utilization in the US, but little is known about their reproductive experiences. In this regard, it is important to understand Asian American women's turn to egg freezing.

Here, we explore the lives of 23 Asian American women who completed (or, in one case, attempted to complete) at least one cycle of egg freezing and who volunteered to participate in an ethnographic study of egg freezing motivations and experiences. As we show, the heritage backgrounds of these second-generation Asian American women were varied (with parents immigrating from China, India, Japan, Pakistan, the Philippines, and Vietnam). However, these women were united by the fact that they were highly educated professionals, who had turned to egg freezing in their late thirties and early forties because they could not find reproductive partners with whom to pursue marriage and childbearing.

In what follows, we explore three main questions that came to the fore in our ethnographic interviews. First, what expectations did these Asian American women hold in terms of their professional and reproductive lives? Second, were marriage and motherhood culturally valorized, and if so, then why were so many Asian American women finding it difficult to achieve these life goals? Finally, what did egg freezing offer these women in terms of their reproductive potential? We attempt to answer these questions by situating women's egg freezing within critical debates about Asian Americans as a "model minority" in the US. According to this model, Asian Americans are thought to be exceptional for their work ethic, educational focus, upward mobility, and successful assimilation into mainstream White society (Chou and Feagin 2014; Lee 2009; Wu 2015). Furthermore, Asian Americans are motivated by a "success frame," which involves earning a degree from an elite university and working in a high-status field (Lee and Zhou 2015).

Being part of a model minority leads to feelings of "double consciousness" among Asian Americans, who are pressured to "make it" in mainstream White society, while experiencing subtle and not-so-subtle forms of racism and discrimination (Chou and Feagin 2014; Saxton 1995). Those who do not find an easy fit within the culturally valorized success frame may experience the "Asian American achievement paradox," or feelings of failure and shame as racial "outliers" (Lee and Zhou 2015).

Asian Americans are presumed to maintain "traditional family values" (Wu 2015), in which marriage and parenthood are expected. However, Asian American women who have achieved educational and professional success may face the "fertility penalty," or decreased chances for marriage and motherhood common among highly educated women worldwide (Cohen 2013; Hewlett 2002; Inhorn and Smith-Hefner 2021). Because Asian American women are under heightened pressure in their

communities to achieve success on multiple levels, this fertility penalty may be experienced disproportionately as a form of personal failure.

Based on the study we describe below, we argue that professional Asian American women experience a *fertility paradox*. By this we mean that these highly successful women have upheld cultural success frames, in which they have become educated career women, attempted to meet filial expectations, and performed as cultural role models. However, they face serious challenges in finding reproductive partners, particularly within their own ethnic communities. This inability to achieve the two reproductive "pillars of success" – namely, marriage and motherhood – leave many of these women feeling like personal failures, similar to the experiences of educated "leftover" women in China (Lake 2018).

Unlike in China, the fertility paradox faced by educated Asian American women has never received attention. The Asian American model minority myth obscures sources of gender tension within communities, leaving women's feelings of disappointment with men and longing for motherhood untold. Below, we examine issues of gender, education, partnership problems, and the fertility paradox, showing how egg freezing may allow Asian American women to imagine future motherhood, but with or without men as partners.

Ethnographic methods

This study of egg freezing was designed to assess the motivations and experiences of women who had completed at least one cycle of egg freezing. Between June 2014 and August 2016, women were recruited from four American IVF clinics (two academic, two private), three located on the East Coast (New Haven, Connecticut; New York, New York; Baltimore, Maryland/Washington, DC) and one in the West Coast (San Francisco Bay/Silicon Valley, California). Women were contacted primarily by e-mail flyers, which were sent out by the four participating clinics. Some women were given these flyers directly by their clinicians during appointments.

In total, 114 women who had undertaken at least one egg freezing cycle volunteered to participate in this study, along with 12 other women who were in the process of egg freezing, or had not yet completed a cycle. All women signed written informed consent forms, agreeing to a confidential, audio-recorded interview in a private setting. Interviews were undertaken either in person or by Skype or phone, depending on the schedule and location of each participant.

All interviews were conducted by the Marcia C. Inhorn, a medical anthropologist with long-term research experience in infertility and assisted reproduction. Interviews always began with a brief series of socio-demographic questions (i.e., age, place of birth, current residence, education completed, current employment, marital status, ethnicity, religion), as well as relevant details of reproductive history (i.e., age at menarche, contraceptive use, any known reproductive problems). Following these semi-structured questions, women were invited to describe their life circumstances at the time of egg freezing, and their primary motivations for pursuing fertility preservation. Women often "led" the interviews, describing their egg freezing "stories" and their decision-making processes in detail. Conversations usually lasted about one hour but ranged in length from one-half to more than two hours.

Completed interviews were then transcribed verbatim by two research assistants, including the second author. All interview transcripts were uploaded into a qualitative data analysis software program (Dedoose) for thematic content analysis, and detailed interview synopses were written and summarized. Sociodemographic information was transferred into Excel files for descriptive statistical analysis. The research protocol was approved by the university's Institutional Review Board and by the ethics committees of all the collaborating IVF clinic sites. The first author and the third author served as principal and co-principal investigators, respectively.

Of the 114 women who had frozen their eggs, 20 identified as Asian American and two as of mixed Asian American backgrounds. One woman who had started an unsuccessful egg freezing cycle was also Asian American, bringing the total to 23 women. As shown in Table 1, ten of these

Table 1. Asian American study participants.

	Ethnicity	Place of Current Residence	Highest Educational Degree	Profession	Age at Egg Freezing	Relationship Status at Egg Freezing	Number of Eggs Frozen (Number of Cycles)
	East Asian Heritage						
1	Chinese American	San Francisco Bay Area, California	MD	Academic physician	37	Partnered	44 (2)
2	Chinese American	San Francisco Bay Area, California	BA	IT director	35	Partnered	3 (1)
3	Chinese American	San Francisco Bay Area, California	MBA	IT CEO	34	Single (partner left day after retrieval)	7 (1)
4	Chinese American	Washington, DC	MBA	Business Consultant	35	Single	6 (1)
5	Chinese American	New York, NY	MD	Academic physician	35	Single	12 (1)
6	Chinese American	London, UK	MFA	IT designer	40	Single	16 (3)
7	Chinese Canadian	San Francisco Bay Area, California	MBA	IT engineer	36	Single	13 (1)
8	Japanese American	San Francisco Bay Area, California	MBA	Corporate VP	34	Single	21 (1)
9	Japanese American	Washington, DC	MD	Humanitarian healthcare advisor	41	Single	28 (2)
10	Mixed Japanese American, Caucasian	San Francisco Bay Area, California	MBA	IT professor	40	Divorced, but repartnered	10 (1)
	Southeast Asian Heritage						
11	Filipino American	Baltimore, Maryland	MD	Physician	39	Single, after breakup	11 (2)
12	Vietnamese American	Baltimore, Maryland	MD	Physician	38	Single, after breakup	7 (1)
13	Mixed Filipino American, African-American	Los Angeles, California	BA	Actor and academic event manager	35	Single, after breakup	9 (1)
	South Asian Heritage						
14	Indian American	San Francisco Bay Area, California	MBA	IT finance director	37	Divorced	11 (1)
15	Indian American	Washington, DC Area	MPH	Healthcare consultant	37	Divorced and re-partnered with child	8 (2)
16	Indian American	Baltimore, Maryland	MD	Academic physician	34	Single	15 (1)
17	Indian American	Foreign Service Overseas	MBA	Diplomat	36	Single	19 (2)
18	Indian American	Washington, DC	MPA	US government foreign relations	37	Single, after breakup	22 (2)
19	Indian American	Washington, DC	MD	Physician	35	Single	28 (1)
20	Indian American	San Francisco Bay Area, California	MD	Physician	36	Single	14 (1)
21	Indian American	Washington, DC	MPH	Humanitarian healthcare worker	41	Single	5 (1)
22	Indian American	Washington, DC Area	JD	Legal Business Manager	36	Single	0 (ovulated and lost 18 eggs)
23	Pakistani American	San Francisco Bay Area, California	MD	Academic physician	38	Divorced	55 (3)

women were of East Asian heritage, seven of Chinese ancestry and three of Japanese ancestry. Another ten were of South Asian heritage, nine of Indian ancestry and one of Pakistani ancestry. Three women were of Southeast Asian heritage, two of Filipino ancestry and one of Vietnamese ancestry.

All 23 women had completed their bachelors' degrees, and 21 (> 90%) had earned advanced degrees: 11 master's degrees (49%), nine medical degrees (39%), and one law degree (four percent). Among these highly educated Asian American women, one-third (35%) had attended Ivy League universities; another one-third (39%) had attended elite private universities; and with only one exception, all the rest had attended highly ranked public universities. Consistent with their high levels of educational achievement, all were gainfully employed in professional fields, including health care, information and technology, business management, entrepreneurship, government and law, academia, foreign service, and humanitarianism.

None of these women said that they were freezing their eggs to advance their educations or careers. Rather, they had reached their mid-30s to early 40s and had not found a male partner with whom to pursue childbearing. More than three-quarters (18 women, or 78%) were single at the time of egg freezing, either because they had no partner, were divorced, had broken off an engagement, or had "broken up" with their boyfriends. The other one-quarter were partnered, but the relationship was too new or uncertain to determine whether it would become permanent.

With no secure relationship on the horizon, these Asian American women decided to freeze their eggs. Nineteen women (83%) froze their eggs in their mid- to late thirties (34 to 39) and four in their early forties (17%) (average age 36.8). Two-thirds of the women (65%) undertook only one egg freezing cycle, while one-quarter (26%) undertook two cycles and two women (nine percent) undertook three. On average, 17 eggs were frozen by each woman in the study – coming close to the clinically recommended number of 20. However, there was considerable variability – from three to 55 (the latter obtained from three cycles).

In what follows, we attempt to situate these Asian American women's egg freezing within a larger context by describing the filial pressures they experience to be both productive and reproductive; the partnership problems they face as minority women in American society; and why turning to egg freezing may serve as a timely reprieve, even a form of empowerment.

Upholding the pillars of success: Asian American women's expectations for achievement

Many theories attempt to account for high achievement expectations within Asian American communities. One theory holds that immigration policy has selected for Asians with high educational credentials, thus contributing to their American-born children's educational achievement (Barringer et al. 1993; Blau and Duncan 1967). However, this does not fully account for the population of Asian Americans whose parents did not have high education (i.e. Southeast Asian refugees after the Vietnam War), but whose children have still done well educationally. Indeed, Asian American educational attainment has been consistently high since the 1980s, when most Vietnamese refugees arrived in the US (Lee and Zhou 2015). Another theory suggests that Asian Americans hold in common their experiences of marginality – living in two worlds and not fully belonging to either. Thus, despite significant heterogeneity within the Asian American population (Deomampo 2019), experiences of racial, cultural and political marginalization lead Asian Americans to emphasize educational achievement as an honorific and an objective marker of success (Kao et al. 1996; Sue and Okazaki 1990). Furthermore, Asian Americans favor formal education as a channel of social and economic mobility, particularly in fields of high demand such as technology careers and medicine (Xie and Goyette 2003). This context of upward mobility privileges children's educational achievement and is a cultural value common to Asian American families of all backgrounds.

In addition to expectations of high achievement, Asian Americans encounter expectations to marry and have children. Throughout Asia, being unmarried and childless is rife with negative social, cultural,

and emotional consequences (Daar and Merali 2002; Inhorn and Smith-Hefner 2021). An old Chinese saying goes: “There are three filial disobediences, but having no child is the most serious one” (Liu, Larsen and Wyshak 2005). In India, ideas about womanhood are traditionally linked to family and marriage, with women considered “complete” or “real” only when they become a mother (Bharadwaj 2016). Given the context in which first-generation parents usually grow up, second-generation Asian American women often face tremendous pressure from their parents and extended families to marry and have children.

In this study, Asian American women were more likely than others to describe the pressures they felt to succeed on all levels. For example, Suriyah (a pseudonym) – a Pakistani American physician who described herself as “very driven” and “pressured by [her] mother to succeed” – spoke of her aspirations in terms of “three M’s: medical school, marriage, and Maine,” the state where she had hoped to buy a home and settle. Suriyah was not alone. Almost all women described how hard they had worked in their twenties to complete their educations and establish their careers, hoping to add marriage and motherhood by their early thirties. Furthermore, no matter the ethnic background, these expectations were placed on women by first-generation, immigrant parents, who were often deeply involved in their daughters’ lives. Sometimes these parents encouraged them, sometimes they pressured them, and sometimes they criticized them for failing to live up to their expectations.

For example, Vicky, a Chinese American IT engineer, was the first to use the term “pillars of success” to describe her aspirations. She had three of them – “the job, the house, the man” – but she remarked, tearfully, that “the third I can’t control.” Forging ahead with the interview, Vicky asked the anthropologist: “You know that term, tiger mom?” When the anthropologist answered affirmatively, Vicky continued:

> That’s my mother. But she probably wasn’t as bad as the one in [*Battle Hymn of the Tiger Mother* by Amy Chua]. But when I was reading the synopsis, and all the interviews that the author was doing, I’m like, “It sounds like my childhood!” Yeah, I played piano and violin. I was in every after-school tutoring class that I could be at. Yeah, that was me.

Vicky continued:

> [My mother] always engrained in me to take care of myself. An education is something no one can take away from me … She’s been saying that to me since I was very young, and I don’t know if that helped drive the ambition … to climb the corporate ladder. I want to be the best at what I do. And I’ve always been hyper competitive. So, I honestly don’t know if I am the way I am because of my own personality, versus how my mother raised me. She’s always comparing me to my friends, saying, “So-and-so did better. Why can’t you?”

Another Chinese American woman, Karen, a highly specialized academic surgeon, described her mother in this way:

> Like my mother, nothing’s ever enough. Yeah, you never satisfy them. I think it’s cultural. Like you always have to want more … you have to be never satisfied, apparently. But then you live your whole life just upset that you’re not doing good enough. Like, I remember coming home with like a 98 or a 99 and my mother was not even happy … You don’t know what you can possibly do to be good enough, but it’s just never good enough. It’s just funny. But then they’re like “Oh, we’re really proud of you.” And I’m like, “OK. Sure.” I mean, that’s why I started going to therapy.

Karen described how her parents were pressuring her to marry and have children:

> It’s terrible, because you grow up with that, and all of a sudden [my parents say], “We don’t want you to advance your career anymore. We want you to now get married and have a baby.” And I’m like, “You know, I spent like 30 years doing this. I can’t switch it off now – you made me into the person I am and now you don’t like this person … I don’t know what the right balance is. I don’t know what will make me happy at this point.

When the anthropologist asked Karen if becoming a mother was an important life goal, Karen answered emphatically:

> It is! I really want to be a mom. But it means that I would have to really scale down on my career … I've always been trying to do more, and it just feels almost empty. Just like, a whole 'nother piece of my life is missing and all my friends are married now with children and it makes me feel very lonely. You come home and it's an empty apartment … I always think it's something wrong with me that I'm still single, because everybody else seems to be married. What's wrong with me?

Indian American women, too, described the pressures they felt from their families to succeed academically, professionally, and reproductively. However, they were more likely to describe the ways in which their parents, and even grandparents, had championed them. For example, Aastha, an IT finance director, described the importance of her first-generation immigrant father and grandfather to her academic success:

> Luckily my father, even though I grew up in an Indian household – and my grandfather, even, this is a little unusual for Indians – really didn't distinguish between my brother and I. There was an expectation that I had a career. Even my grandfather believed that. There was an expectation that I would get a higher education … And so my father really believed it was good for the mind. He feels it's really good for children to see their mothers work. And he believes in the independence. And you know what? Kudos to them, because had it not been for that, you know, maybe I would have been in a different position.

Yet, Aastha also described the "small comments" she was now receiving from her mother, such as "Oh, you should start thinking about getting married." In this study, six of nine Indian American women described the pressure they received from their mothers to have children, even though some of these mothers were described by their daughters as being "strong feminists." Sita, a humanitarian health care worker who spent long periods of time overseas, described the pressure both she and her younger sister were feeling to marry and produce children:

> My parents are freaking out! Freaking out! [laughing]. My mom calls my sister and me almost every other day to ask if we have any "good news." Which means: Have we met anybody? No, there is immense pressure. Immense pressure because of the culture that we're from. And, you know, the culture says that your responsibility is not over until your daughter is married. She continues to be your responsibility. No matter that I, you know, have a very nice job, a well-paying job, that I have bought my own place … She [My mother] openly says that "I really would like to see grandchildren" … She's ready for us [Sita and her sister] to have children outside of marriage. Which, as you know, is really not a thing for us Indians! [laughing] However, I have made the choice that that's not something I want to do. I'd like to do it *with* somebody.

Although Sita was stunned that her mother would encourage her to become a so-called "single mother by choice" (Hertz 2008), Sita was not alone. Four of nine Indian American women had been encouraged by their mothers to consider donor insemination because their mothers were "desperate" for grandchildren, making their thirty-something daughters feel "sad," even "bittersweet." As one put it, "very few women come to that conclusion on their own." Furthermore, no other Asian American parents forwarded this idea. Rather, Chinese American parents were more likely to offer paying for egg freezing in the hopes of seeing future grandchildren. Emma, a Chinese American business consultant, described her decision to undertake egg freezing "for" her aging parents:

> My dad is turning 71 and he's worried I'm going to be by myself. He just wants me to get settled … So I did it because of my parents. Because I think, you know, being Chinese, I told them if I wasn't able to have my own that I would just adopt, that that was Mother Nature's way, or fate, whatever … [But] my parents – I know it means a lot to them, for me to give them, you know, a chance that I might have their own blood.

In summary, these Asian American women were generally raised in first-generation immigrant families with high expectations for their daughters' educational and career achievements. Without exception, all women had succeeded, entering rewarding but demanding careers in medicine, engineering, business, technology, and other fields. Although their educations were completed, their careers established, and in many cases, their homes purchased, two of the main pillars – marriage and children – remained unsettled.

Finding a partner: the difficulties for high-achieving Asian American women

A variety of factors – family, friends, social media, class status, racism – affect a woman's experience of finding a partner. In Asian American communities, historically documented experiences of severe racial discrimination and prejudice (Chan 1991; Hurh and Kim 1989) have often encouraged individuals to seek romantic partners solely within their ethnic group. In the contemporary period, Asian American women face additional difficulties finding a partner when compared to White women – that is, if they hope to marry within their ethnic group (Tsunokai et al. 2014). Why? A 1980s study of high school seniors suggested that young Asian American women reached higher levels of educational attainment more quickly than young Asian American men (Brandon 1991). A more recent analysis shows that educational attainment for Asian American women has significantly increased over the generations, but has declined for Asian American men (Yang 2004), with fewer college-educated Asian American men than women. In addition, US-born Asian American women – but not men – have higher earnings than comparable White women, even after controlling for other factors (Greenman and Xie 2008; Xie & Goyette 2003). Given these disparities, highly educated Asian American professional women who seek "equal" male partners within their own ethnic group may face a lack of options. As a result, a recent study showed that more than one-third (36%) of Asian American women turned to intermarriage with a partner of a different race or ethnicity (Livingstone and Brown 2017).

The challenge of finding a partner is true for all college-educated women in the US, who now outstrip college-educated men by the millions, especially in the prime reproductive years between ages 22 and 39 (Birger 2015; Inhorn et al. 2018a). The highly educated women who turned to egg freezing in this study lamented the lack of suitable partners, especially if they hoped to find 1) a man with equal educational and professional achievement, 2) who was also in his late thirties or early forties, 3) without children from a prior marriage, 4) interested in an egalitarian relationship, and 5) ready for marriage and family making. Single men fitting this description were described as "unicorns" – so rare as to be a mere fantasy. For Asian American women, finding these unicorns within one's own ethnic group was considered almost impossible.

Take Karen, for example, the surgeon introduced above, who had already broken off her engagement with her Chinese American college boyfriend. She complained that he was less economically successful, was pressuring her to marry and take his last name, and "asked me to be responsible for his happiness." Karen had "bent over backwards" to marry a Chinese American man, but she had now given up on that dream, as she explained:

> My mom doesn't speak English that well. My dad speaks broken English, even though he's a PhD, but like his accent's so thick that you probably can't even understand him. So, I always wanted to date someone who actually can communicate with my parents because that was really important to me. But now I've realized that Asian American men are just – obviously, I'm generalizing – but for the most part, they're very timid . . . My friend, now she's married to this guy who is in China. And she said Chinese men are not like that. It's only Asian American men because they were probably bullied – this is her theory, and she might be right – they were bullied as children when they were growing up, so they have a complex, whereas Chinese men, when they grew up in China, they're like the only child, right? So everybody told them they were king . . . They're very confident. So, it's like a Chinese American thing versus just a Chinese thing . . . [American] society makes Asian women to be exotic and desirable, but they don't do the same for Asian men. The stereotype for Asian men is geeky and nerdy.

The objectification of Asian women was a major problem mentioned by others. Emma, the business consultant, described "the experience of being Asian American female" as:

> . . . either extreme. So, if you happen to be a tad attractive, a little bit attractive, then you're – I feel like you're objectified. And specifically, I mean, online or even in the workplace. For me, it was you're either dragon lady Lucy Liu, or you need to completely cover yourself, keep your head down, and your mouth shut.

Emma pointed to the book *Dataclysm* by OkCupid founder Christian Rudder (2014), in which Asian women are "the highest hitting by men of all races." She went on to describe her own online dating experiences:

> The things that people write to you, you know. "I like Asian." Whatever. Complete strangers. And all women get random messages all the time. But when they start throwing in the race aspect, it's insane, because you realize, even though you're in Washington, DC, you're still surrounded by people that make the most ridiculous comments.

Indian American women, too, described getting "pinged a lot" on dating websites – but, in their case, mostly by other South Asian American men. Indian American women appreciated the fact that Indian American men were generally "very marriage minded," and willing to use dating apps, matchmaking services, and speed dating events in an attempt to meet potential partners. But Indian American women described their own obstacles to partnership success. For example, Sita, the humanitarian health care worker, had tried but failed with what she called "online Indian matchmaking" and "arranged introductions" set up by her mother:

> She set up a profile. And she was managing it and it didn't work out for her either [laughing]! I'm not your typical looking Indian girl . . . I have curly hair. I'm not very thin. You know, and not the stereotypical what you see in the movies. And it's not attractive to Indian men, because Indian men want that idealistic picture. So, it really hasn't worked out with any of the Indian guys.

Other obstacles described by Indian American women could be summarized by the acronym AIR (ageism, intimidation, religion). Nahla, a physician who was also a Muslim American, considered her chances of finding an Indian American Muslim husband with the same value system "pretty bad:"

> The thing is, I think that being a "good Muslim man," a lot of those men who also really wanted to be, you know, like chaste and just really good and doing things the right way, they got married a little bit earlier, you know? They just got married earlier. And so it's hard to find those ones there [who] were also just like me, just kind of like career oriented for a while but happened to be really good guys and happened to find themselves, you know, single at a later age. And so they're there, don't get me wrong. They're there, but it's really hard to find them . . . [It's] very slim, slim pickings to find a good guy.

Nahla also pointed out that many Indian American men of all religious backgrounds were ageist, "screening out" any woman over the age of 30. In her case, they would consider her current age of 35 to be a major deterrent:

> They have no problem telling me that it's about, you know, it's about fertility. And, oh, like they want to start a family. They don't use the word "fertility" necessarily, but they're like, "Oh, we want to take our time in having families and we want to have large families" . . . They're very like, open about that, you know. And I just don't like that! [laughing]

The "I word" – intimidation – was also a repeating theme, as Aastha, the IT finance director, described it:

> I hate to say that men are intimidated, [but] it's interesting. I find myself downplaying myself a lot. I'm not going to lie. You know. And I struggle with that a little bit . . . there are some men who love that there's a strong woman out there. I don't know. I think you would have to be someone who is just equally or more successful than I, and who's confident in his own skin.

Damini, a diplomat who was often deployed overseas, argued that such "confident" men who love "strong women" did exist, including in the Asian American community. But they were the "unicorns," rare and difficult to find:

> There are men who are like thoughtful and introspective and kind of break out of that, [but] it's not necessarily the norm . . . I'm very independent, and have built a life for myself that I find very satisfying. So, I'm not looking for a partner to fill some sort of void, but to enhance my current satisfaction. And that's hard to find.

In general, these women, of all ethnic backgrounds, were skeptical about ever finding a compatible partner, as much as they still hoped to meet and marry someone. Overall, much of the discussion in women's interviews centered on the lack of appropriate men, especially those who were also interested in marriage and children. Women could describe many different "types" of men, but mostly types to be avoided. Five women had recently broken up with men, some of whom fit these types. Their rich

Table 2. The partnership problem: ten types of men unfit or unavailable for marriage.

	Type	Definition	Sayings	Asian American Women's Thoughts on These Types
1	Alpha males	Men with high ambition, who are workaholics, putting career over marriage; they marry younger, trophy wives, not career-oriented alpha females like themselves	"They want to be challenged by work, not by their partners"	"Those kinds of men don't want women like me. When I come home from a long day at work, they don't want to talk about work or other things that are equally like serious. They just want to hear about, like, you know, the yoga class that you took and just, "I want it to be easy. I want to be like, in control." So, you know, I think a lot of men feel like they want somebody who's an equal, but in reality, they'd rather be the dominant partner."
2	Beta males	Men with low ambition, who are happy to be taken care of by a woman who is the dominant partner in the relationship	"They're just 'floating along' in life. They're portable."	"A beta male is one that's going to follow you around, or who's got a portable career. I lose respect for that person if I feel like I can manipulate them. You know, like and the other thing is, what I'm looking for in a relationship is not to take on more responsibility. I'm like a hyper-responsible person right now. I don't want to take on somebody else. I want somebody to help me with my responsibilities. And so, if it's somebody who's not a strong force, who cannot like help me in certain ways, you know, I don't need that. And I don't find that attractive."
3	Feminist men	Men who claim they are feminist, but do not pitch in, pay, or help out, all in the name of gender equality	Men who say: "I'm not old-fashioned like that!"	"It's really convenient. You guys want to be feminist, and then you want us to pay for your dinner, and open doors for you. But then they really don't end up doing anything. I think very few of them are on-purpose doing it, but I think that they are convinced that that's the way it should be. And then in many ways, I think it also emasculates them, because they essentially are not contributing anything to the relationship."
4	Foreign service men	Elite white men who are diplomats and who want a stay-at-home wife to raise their children; they don't want to marry a woman in the foreign service	"Yale, pale, and male"	"They have a stay-at-home spouse that supports them. And that's – I mean, the Foreign Service is still an institution that hasn't evolved with America. And so it is kind of like this old school. There's more diversity on Wall Street than I've seen in serious foreign policy decisions."
5	Peter Pans	Men who are prolonging their adolescence, sometimes well into their 40s and beyond, with no immediate plans for marriage	"Men who never want to grow up"	"So, when I meet a lot of older guys, particularly who have never been married, I realize it's because they have this sort of Peter Pan syndrome, where somehow to grow up has a negative connotation, to be grown up. The men are just like 'I'm going to be young forever! Yeah.'"
6	Polyamorous men	Men who want more than one relationship, claiming that their multiple attachments to women are all "committed"	"A fetish subculture, especially in the [San Francisco] Bay Area, where it's cool to say you're polyamoryous"	"Like, you know, I'm not interested in that. And I think I'm pretty particular about selecting against things like that. So, I have never been on a date with someone who's been like, 'Oh, by the way, I'm polyamorous.' I do get a sense that there's some implication that people who feel uncomfortable in like stable, one-on-one relationships would feel more comfortable sort of spreading themselves out."

(*Continued*)

lexicon of male descriptors is summarized in Table 2, beginning with "Alpha males," then "Beta males" and so on.

Marcie, a Chinese American founder of her own IT startup, admitted that she was attracted to Alpha-male "founder" types, but had been "heartbroken" twice, including by a man who broke up with her the day after her egg retrieval:

> Founders are crazy people, who are very like, "Take on the world" – similar values to me. Of course, not really great husband material … because they knew that their career was number one, and so therefore … they need someone not focused on their career … And then also, they don't want to have someone who challenges them. It takes, I think, a special type of man who wants more out of a relationship, more out of a marriage, to want to be intellectually stimulated and have somebody who pushes back and enhances your life in that way. But I think they just want somebody who fits into their lives.

Jeannie, of mixed Filipino heritage, had just broken up with a frustrating "Beta male" partner, who was more interested in hanging out with his friends and smoking weed than marrying her and having children. Calling herself the "queen of three-year relationships," Jeannie opined:

> Men and women, from the day that they are born, are raised, are given this impression of marriage that is so different. Women, it's like, "I'm a princess, he's going to save me, we're going to live happily ever after." Men, it's, "This is my ball and chain." You know what I'm saying? From the time that we are young, that is how we're brought up. And I think that conversation needs to change, because that's exactly what men think, no matter what age they are. They think they're going to be on lockdown, and they're not going to be able to live their life anymore.

Despite Jeannie's laments about men and marriage, she did go on to find a wonderful "unicorn," and became a married mother of a baby boy, keeping her frozen eggs in reserve for a possible second child. This interracial relationship between Jeannie (Black and Asian, or "Blasian") and her partner (White and Jewish) was the norm among the five women who found partners. Four of the men were White and supported their female partners through the egg freezing process. Janice, a Chinese American academic physician, eventually married her partner, Aaron, who had become her biggest egg freezing champion:

> [He] was kinda proud, "She's a pioneer!" He actually thought it was a very empowering, cool thing that I did … it's easy to start feeling a little humiliated sometimes, just because there's so many portrayals of the cougars, the desperateness, and they're always high strung and kind of bossy and Type A. They're always running around trying to catch the man, and being, what's wrong with me? You know? It's this neurotic kind of crazy person. And so you know, it is scary initially, to feel like you might be typecast like that. But at least at [the IVF clinic] the nurses were so nice, the doctors were so nice. They never for a split second made me feel like I was doing something odd or crazy or out of the norm. It really relaxed me about the whole thing … and I'm really glad I did it. I just wish I'd done it sooner. I'm sure you've heard that before, too!

In summary, Jeannie and Janice were the lucky ones, who found partners in their late thirties after years of futility, even heartbreak. Most of the other Asian American women in this study described their difficulties in finding compatible, well-educated, and marriage-minded men, with whom they could settle and build a family. This "partnership problem" was women's key issue, their main lament. Unable to find suitable partners, especially within their own ethnic group, Asian American women in this study had decided to turn to egg freezing, usually in their mid- to late thirties, but sometimes in their early forties, in an effort to preserve their remaining reproductive potential and to hold onto their dreams of motherhood.

The turn to egg freezing

Being Asian American and being single are two factors that have been found to significantly increase a woman's likelihood of considering egg freezing (Milman et al. 2017). So, what does egg freezing offer Asian American women, in terms of tangible or intangible benefits? In this study, none of the 23 women interviewed had yet used their frozen eggs, so there were no tangible benefits in terms of

Table 2. (Continued).

	Type	Definition	Sayings	Asian American Women's Thoughts on These Types
7	Startup men	Men, particularly in California, who wait to marry until their startup succeeds	Men who say: "I have this idea that's going to change the world!"	"One nice thing about California is everyone's super idealistic, like 'I'm going to pursue my dreams and start a company, blah blah blah.' And the truth is, obviously, 95% of them don't. So they expect the woman to make the bacon, come home, cook it, clean up, and you know."
8	Tech men	Men are over-represented in the tech industry, but are not good to date or marry; they tend to be awkward men with low emotional intelligence	"The odds are good, but the goods are odd"	"The downside of the majority of men being tech workers [where I work] is that it sucks; [tech] certainly selects for … a certain type of emotional immaturity tends to be over-represented … like, people who are kind of socially awkward. Have trouble communicating. So, the emotional intelligence piece, also, I think, narrows the field"
9	Unicorns	Men who want age-appropriate, equal relationships with women and are interested in marriage and a family	"That pool doesn't exist"	"I wish I had a superpower so everyone could find one. I would like to help everyone find their soulmates, because if I was able to do that, then I'd bring about world peace, because everybody would be so happy to think about the amazing things they could do in the world, because they would no longer be focused on themselves, 'cause they were such happy people, and fulfilled."
10	Younger men	Men who no longer believe in dating and don't know how to do it	"They only know how to meet online and hookup with women"	"Overall,younger people tend to be single, so I often end up dating guys who are younger, and they literally will say to me, one said dating is 'anachronistic.' Another said, 'I've never dated my entire life.' They actually are kind of interested in it when I say I would like you to call me, and ask me somewhere. You don't have to take me to France, or to Paris, but just invite me somewhere and spend time with me. I think people don't know how to do that anymore."

pregnancy or childbirth outcomes. Furthermore, women were clear that having eggs frozen "in the bank" was no guarantee of future success. As Jeannie observed:

> It's not a solution. When you think of a solution, that's like a 100% kind of thing. It's an option. It can be part of a plan or a solution for some people, but a solution to me is like a fix. I mean, there isn't a fix. It's a possibility to preserve your fertility, and it's going to up the percentage of you being able to possibly have a biological child later in life, but it's not 100%, just like nothing in life is 100%.

Yet, while understanding that egg freezing offered "no guarantees," women were generally quite sanguine, even effusive about this technology's advantages. As shown in Table 3, egg freezing provided women with two major psychological benefits. First, egg freezing was a "relief valve," reducing the tremendous pressure that women felt over having to find a partner rapidly to achieve a last-chance pregnancy. Once they had frozen their eggs, women reported feeling calmer about their dating lives, without having to think about the constant ticking of their biological clocks. In addition, many women experienced a sense of empowerment after egg freezing. Egg freezing made them feel agentive, of doing something "for themselves" and within their "own powers."

This feeling of empowerment translated into activism in at least three cases in this study. Suriyah, an academic physician, assembled recent research on egg freezing into an accessible packet of materials, which she distributed to her single friends and acquaintances who were interested in egg freezing. Jeannie began blogging, then vlogging the details of her egg freezing cycle, eventually creating a mini-documentary. Tara, a Chinese American IT director, turned her own untoward fertility experiences into a startup idea. When she was diagnosed with premature ovarian aging, Tara sought a second opinion from a male gynecologist. But his best advice to her was to "work less and … try to find some work-life balance so you can meet the right partner and have kids." This "unsolicited life advice" in the midst of her fertility crisis inspired Tara to begin developing a "really beautifully designed fertility tool for women," to help them understand their fertility instead of "operating in the dark" as she had.

As shown in a major survey of US OB/GYN residents, only 40% believed that egg freezing discussions should be initiated during well-woman visits, even though they strongly advocated discussions of age-related fertility decline (Yu et al. 2016). Given these gynecologists' attitudes toward egg freezing, it is not surprising that Tara received "unsolicited life advice" instead of useful information. And when Aastha asked about egg freezing, she was actually laughed at by her gynecologist, much to her shock and anger. Women in this study were clear that they wanted information from their OB/GYNs about age-related fertility decline and egg freezing. In a few cases, women found sympathetic gynecologists, including Asian American women OB/GYNs, who could understand their fertility concerns as well as their cultural pressures.

Although the high cost of egg freezing was a problem for some women in this study, precluding them from undertaking a second cycle, most of these well-paid Asian American professionals had savings accounts, flexible spending accounts, or full insurance coverage from their tech and Fortune 500 firms to cover their egg freezing cycles without difficulty. Melinda, a Chinese American IT designer, spent the single largest sum of money of any woman in this study – a grand total of 85,000 USD from her own savings to cover multiple trips from London to New York City to undertake three egg freezing cycles that produced a total of 16 eggs. In the midst of this – with "bloated stomach and needle marks all over" – Melinda met a foreign businessman, Zachary, who was also keen on having children. By the time she volunteered for this study, Melinda was 41 and about to give birth to their baby daughter. She had become pregnant "naturally," allowing her to keep her 16 hard-won eggs in cold storage with the future hope of a second child. "At my age," Melinda said, "I am where I am, and I'm actually lucky. I actually consider myself lucky that I live in an age where this is an option, and I can do something about it, and I'm in a position to do something about it. I mean, I felt quite positive about the whole experience, even though it was probably financially and sometimes physically taxing."

Table 3. What egg freezing offers Asian American women: pressure relief and empowerment.

Pseudonym	Profession	Age at Interview	Thoughts on Egg Freezing
Aastha	IT finance director	37	I'm a proud feminist. I did not think of it as an **empowering** technology at the time, but I felt very **empowered** after. I remember driving afterward, and even a little groggy, I felt really **empowered** … I think it is **empowering**. I think, you know, anything that allows for more **choices** is – and more options – is **empowering**. And frankly, if I knew the process, and – frankly, I just wasn't emotionally ready – I probably would have done it a bit earlier. But, you know, I'm happy with the outcome.
Vicky	IT engineer	36	I do love the **empowering** technology, again, because I'm a tech person. To give people more **choices** to do what they want with their lives, when they want it, **without that pressure**. I don't have to put my career on hold because I want kids. I don't have to put my life on hold because I want to do this or do that. I can do it when I'm ready, and when I want it, and on my schedule. I would love to see this technology more available.
Suriyah	Academic physician	41	I think it's **empowering**. I feel **empowered** doing that, and I think it's really important to **empower** other women, because I know a lot of other women who are professionals and who are in the same situation.
Janice	Academic physician	39	It gave me this sort of **sense of calm** after I did it. Just, you know, it's like you buy an **insurance policy** of, worst case scenario, I have a **backup**. And then you just put it aside, you don't think about it. I mean, it changes your perspective. You don't actively have to think about the eggs or the process. It's done, and it gives you a certain **calm and comfort**. It's sort of subconscious. It's just there.
Marcie	IT CEO	35	It gives me some **peace of mind** and some **insurance** that … just **takes away a little bit of the anxiety**. But, of course, my desire's still that I can conceive naturally, that I'll find a man and it will all work out. But doing this **takes off a little bit of pressure.**
Sarah	Physician	39	It was just giving me a little bit more **breathing room** in terms of, you know, I do want to get married and have kids but right now, that's just not an option, or it's not going to happen anytime soon. So, it did, I think, take **a little bit of my own pressure off.**
Karen	Academic physician	35	Well, I think – I think it's meant to just **take some pressure off**. Um, it has a little bit. But not, I'd rather just like fall in love and have a kid.
Sana	Academic physician	36	I'm 1000% happy I did it. It takes **a little bit of the pressure off**, you know?
Damini	Diplomat	39	Having frozen my eggs, I saw men and dating in a different light. In a much more **empowered** light, where I could make like clear-eyed judgments about people that I was dating, whether or not they were right for me or not. If I never have to use the eggs, just that **peace of mind** that that bought, that clarity that it brought for my dating life is worth the investment. Because I mean, the other side is having married somebody that I was not compatible with just because I needed to have children.
Yuki	Corporate VP	42	And I did it regardless of whether, whatever else people said, I think it was a **decision that I made for myself** at the time. So, I did it for nobody else but me. I think I came out of it feeling very **empowered**.
Julie	Humanitarian healthcare advisor	41	So, basically, **preventing regret** more than anything, I think. But leaving the **option** open. And, yeah. I mean, knock on wood, who knows what's going to happen, but also I feel very fortunate that the process for me has not been negative. It's been quite positive, so, I'm like, really just pleased and it gives me a **little bit of relief**, as well, to know that I've – or that, that I feel like it is **within my power**. And now I can put that one aside and just live my life and let fate go on and you know, if I'm going to get a partner, great. If I'm going to be without one, that's you know, fine too.
Nahla	Physician	35	I don't have this – I don't have a **sense of anxiety** of like, of feeling like I need to get married like yesterday … I don't actually even think about the biological clock right now, because I feel like, I feel like I have this like, it's kind of funny. I have this like **magical thing in my back pocket** that I can pull out, and you know, it's like it extends my fertility for all these years. Like, I don't have to think about this clock at all. And so, yeah, it just puts – it makes me **very relieved …** and I think at least from the kids perspective, I'm **at ease**. Like, I want a partner in life, and that's a whole set of different stresses, but from the kid perspective, I don't – I am **not like, stressed about it at all**.

Conclusion

Melinda's story offers the kind of happy ending to which other Asian American women in this study aspired. Melinda managed to put in place the final pillars of a successful life – "the man" and "the baby." Egg freezing, it seems, added three auspicious elements – luck, positivity, and future fertility – making Melinda's efforts well worth the struggle.

But Melinda was one of only two women to find her "unicorn" and make a baby with "fresh," not frozen eggs. For most other women in our study, egg freezing was being used to relieve the heavy pressure on their shoulders, because two pillars of success – marriage and motherhood – were proving difficult to uphold. This accords with sociologist Lauren Jade Martin's (2010: 541) early insight about egg freezing as a "technomedical fix" for social problems arising from the heterosexual expectation "to have (genetic) children as the fulfillment of gender norms."

Ten years after Martin's essay was published, ethnographic studies of egg freezing among minority women simply do not exist. Thus, we need to expand this area of scholarship as part of the new intellectual effort to "center race and racism in reproduction" (Valdez and Deomampo 2019; see also Davis 2019). We consider our study to be part of this trajectory, with some limits. Asian Americans are an exceptionally diverse demographic category. But our own study foregrounds the voices of Chinese American and Indian American women who were successful professionals, able to afford egg freezing technology. Without lesser educated, "racial outliers" (Lee and Zhou 2015) as ethnographic participants, we run the risk of reinforcing the model minority myth.

Instead, our study shows the ways in which the model minority myth obscures the gendered faultlines in Asian American educational achievement. Highly educated Asian American women are outshining men, and men are feeling intimidated by them. Thus, in the absence of egalitarian relationships with men who love and support them, Asian American women now have the option of egg freezing – a newly empowering way of upholding the final motherhood pillar.

Acknowledgments

The authors would like to thank Jennifer DeChello, Jeannine Estrada, Rose Keimig, Sandee Murray, Tasha Newsome, and Mira Vale for various forms of editorial, study recruitment, and transcription assistance. The authors are also grateful for the support provided by our colleagues Daphna Birenbaum-Carmeli, Joseph Doyle, Norbert Gleicher, and Lynn Westphal. We also thank Ting Hui Lau and Zachary Howlett for careful reading of this paper. This research was approved by the Human Subjects Committee at Yale Universiy, IRB Protocol 1303011746.

Declaration of interests

The authors report no conflicts of interest; nothing to declare.

Funding

This study was funded by the US National Science Foundation, [BCS-1356136], PI Marcia C. Inhorn and Co-PI Pasquale Patrizio

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