

An Infrastructural Gaze toward Academic Migration: Chinese Academic Immigrants in the U.S.

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Abstract

With the rise of globalization in education and transnational knowledge networks, academic mobility has become increasingly common, making academic migration a distinct focus in migration studies (Wang & Chen, 2021). As China is the largest sender of international students, and the U.S. hosts the most Chinese students (U.S. Embassy & Consulates in China, 2022), this research empirically focuses on Chinese academic migrants in the U.S. Existing studies have mainly explored academic migration through political economics and human capital perspectives, with limited attention to how migration infrastructure shapes migrants' everyday experiences and their agency in redefining these infrastructures. With this in mind, this study aims to address these gaps by examining the role of migration infrastructure in the privileges, aspirations, and challenges faced by academic migrants. Drawing on qualitative research with early-career Chinese academic immigrants in the U.S., the paper explores how migration infrastructure both facilitates and complicates the personal and professional lives of mobile scholars from the Global South to the North. With a theoretical focus on "migration infrastructure," it first investigates how migration infrastructure both empowers and hinders the personal and professional lives of academic immigrants. Second, it explores how seemingly mundane infrastructural elements play a critical role in shaping everyday migration experiences. Third, it investigates whether and how mobile scholars exercise agency to overcome these obstacles and reshape their infrastructural surroundings for a better quality of life (Wang, 2022). Ultimately, the aim is to offer an effective approach to understanding the lived experiences of highly skilled migrants.

Keywords

Academic Migration, Migration Infrastructure, International Migration,

1. Introduction

With the internationalization of higher education and the expansion of transnational knowledge networks, academic mobility has become increasingly common and vibrant worldwide (Chen, 2017; Collins & Ho, 2014). This rise has drawn greater attention from researchers, leading academic migration to emerge as a distinct area within migration studies (Wang & Chen, 2021). Based on the research of Leung (2015, 2017) and Wang (2020), academic migration refers to the mobility of academics in higher education systems who take cross-border movements from one country or region to another to participate in research or teaching for a long period of time or permanently.

China, with its developed transnational knowledge networks, has actively promoted overseas study to strengthen its role in global knowledge economies (Wang, 2020). Through government initiatives and preferential policies, China has encouraged students to pursue academic careers abroad, particularly in the U.S. The U.S. hosts the largest number of Chinese students, and China is the largest sender of international students to the U.S. (U.S. Embassy & Consulates in China, 2022). Specifically looking at the statistics of doctoral degree recipients, according to the National Center for Science and Engineering Statistics (NCSES), the most frequent country of origin for doctorate recipients with temporary visas in the U.S. is China. From 2014 to 2020, a total of 40,277 international students from China obtained their doctoral degrees in the U.S. (NCSES, 2022). The number of Chinese students earning doctoral degrees in the U.S. is increasing every year. Although the percentage of Chinese doctorate recipients with temporary visas intending to stay in the U.S. had declined slightly in the years up to 2020, it still amounted to about 80% (NCSES, 2022). In other words, the vast majority of doctorate recipients in the U.S. from China plan to stay in the U.S. after obtaining their doctoral degrees. With this in mind, the prominent flow of mobile Chinese academics on temporary visas in the U.S. is the empirical focus of this research.

Specifically, this qualitative research aims to explore the experiences of early-career Chinese academic migrants in the U.S. by addressing three key areas. First, it examines the enabling aspects of infrastructure that support these scholars, as well as the various challenges they encounter in their personal and professional lives during the migration process (Wang, 2022). Second, it investigates how everyday infrastructure shapes and mediates the migration experience of these academics (Wang, 2022). Third, it explores how migrant academics actively navigate and reshape the infrastructure around them to overcome obstacles during their migration journey (Wang, 2022). Through this approach, the study reveals the intricate layers of vulnerability and complexity in the lived experiences of mobile scholars (Wang, 2022).

2. Empirical Background

The flow of international students and academics from the Global South to the North represents the dominant trend in transnational academic mobility (Bilecen & Van Mol, 2017). Among destination countries, the U.S. attracts the most international students and scholars due to its abundant educational resources and world-leading research environment. According to the most recent data from the Institute of International Education (IIE, 2023), the total number of international students in the U.S. for the 2022/23 academic year was 1,057,188. Among these, 289,526 Chinese students were enrolled, representing 27% of the international student population in the U.S., making China the top sender of international students to the U.S.

The substantial influx of Chinese academic immigrants in the U.S. has attracted significant scholarly attention from multiple perspectives (Chao et al., 2017; Gaulé & Piacentini, 2013; Oramas, Gringarten, & Mitchell, 2018). Among these studies, some scholars have investigated the motivations of Chinese students for studying abroad and choosing the U.S. (Chao et al., 2017). Others have focused on how Chinese Ph.D. students in U.S. chemistry departments excel and contribute to scientific productivity (Gaulé & Piacentini, 2013). Research by Oramas, Gringarten, and Mitchell (2018) explored Chinese academic immigrants' cross-cultural experiences and their academic adaptation in U.S. institutions. Ma examined the stages of academic migration—before, during, and after time in the U.S.—analyzing the duality of ambition and anxiety among Chinese academic immigrants. These studies, including Ma's, largely focus on integration and offer policy recommendations for Chinese academic immigrants in the U.S.

However, limited research explores how key elements of migration infrastructure (regulatory, physical, technological, social) impact the mobility and agency of academic migrants at the individual level. To address this gap and contribute to the academic migration literature, this research adopts an infrastructurally informed approach, focusing on early-career Chinese academic immigrants in the U.S. It aims to explore the living realities of these academic immigrants after their migration to the destination society and to extend the literature on academic mobility and academic migration.

3. An Infrastructural Gaze toward (Academic) Migration

Xiang and Lindquist (2014) identify five key elements of migration infrastructure: recruitment agencies, government regulations, communication and transport technologies, humanitarian support, and migrants' social connections. Most studies have focused on the commercial aspect of infrastructure in relation to macro-level socio-political contexts (Khan, 2020). However, researchers have shown increasing interest in exploring both the obvious infrastructure components, such as passports and visas, and the less visible but equally important aspects of migrant support (Wang 2022). Notably, Liu and Lin (2017) emphasize the “mundane usage of migration infrastructure,” highlighting how migration is

shaped by everyday objects and environments that are often overlooked. Their research examines Western scholars at hybrid universities in China, showing how workplaces function as critical elements of daily migration infrastructure, shaping subjectivities and influencing mobility patterns. Furthermore, scholars have explored how different types of infrastructure create distinct meanings for migrants, affecting their daily experiences and mobility (Collins, 2013; Khan, 2020; Robertson, 2017). For example, Robertson (2017) examines how housing markets and language testing generate spatial-temporal insecurities for migrants in Australia.

The infrastructural approach offers a more comprehensive method to examine how migration is mediated in various contexts, adopting a more dynamic and situational perspective. Migration infrastructure functions not only as an analytical framework for rethinking established knowledge but also as a methodological tool to uncover previously hidden dimensions (Xiang & Lindquist, 2014). Building on insights from prior studies in the emerging field of migration infrastructure, this research defines it as a system of interrelated actors, technologies, and institutions that facilitate, constrain, and embed migrant mobility (Collins, 2013; Khan, 2020; Liu & Lin, 2017; Robertson, 2017; Wang, 2022; Xiang & Lindquist, 2014). Crucially, the migration infrastructure explored in this study, while not exclusively for migrants, plays a critical role in shaping their experiences during and after the migration process.

Building on the existing literature on migration infrastructure, this paper emphasizes three key points in understanding its interaction with migrants. First, migration infrastructure serves as both a facilitator and a barrier to movement. On one hand, it supports migrants by making their journey more manageable and helping them navigate challenges. For example, modern information and communication technologies can enhance mobility by providing migrants with essential access to information, support, and connectivity (Khan, 2020). On the other hand, migration infrastructure itself is one of the sources of constraints over the course of movement (Liu & Lin, 2017), often exacerbating challenges rather than only facilitating mobility (Robertson, 2017). For instance, housing markets can support immigrants by helping them find accommodation, aiding in their settlement. However, unfamiliarity with these markets often leads to exploitation, creating temporal and spatial insecurities for immigrants (Robertson, 2017). Furthermore, intensive regulation, commodification, and intervention within migration infrastructure can limit migrants' autonomy, career progression, and social network development (Xiang & Lindquist, 2014). Therefore, this research examines not only how migration infrastructure facilitates mobility but also how it restricts migrants' daily lives and movements.

This research also highlights the less tangible, subtle aspects of migration infrastructure that shape the everyday experiences of migrants. Xiang and Lindquist (2014) argue that migration should be seen as an ongoing, everyday process (Wang, 2022). However, only a small body of scholarship has begun to focus on

ordinary infrastructure in daily life (Khan, 2020; Liu & Lin, 2017; Robertson, 2017; Wang, 2020, 2022). Migration experiences are mediated by multiple interlinked components of infrastructure throughout the migrant journey. For Chinese academic immigrants, elements such as relocation packages, workspaces, and information technology play a vital role in shaping their circumstances and influencing their migration experiences. This research thus examines both broader institutional impacts and the everyday infrastructure that affects migrants' routines and personal lives (Wang, 2022).

Moreover, migrants do not passively experience migration infrastructure; they actively modify and redefine their circumstances to overcome barriers (Wang, 2020, 2022). In the context of academic migration, agency refers to the actions migrants take to access and manipulate resources, reshaping their infrastructural conditions to ease their migration process (Franck et al., 2018; Khan, 2020; Wang, 2020, 2022). Scholars note that migration involves significant human intervention, including decision-making, planning, and adjustments by migrants themselves (Collins, 2013; Chen, 2017; Liu & Lin, 2017; Wang & Chen, 2021). To achieve their migration goals, migrants strategize by adjusting their actions and identities within shifting infrastructural contexts (Carling & Collins, 2020; Khan, 2020; Robertson, 2014). As active agents, they utilize social and physical resources to navigate barriers and mitigate challenges posed by infrastructure throughout their migration journey (Khan, 2020). These interventions play a critical role in creating a supportive infrastructural context that helps them achieve their migration objectives (Khan, 2020).

Building on prior studies of migration infrastructure (Xiang & Lindquist, 2014) and international academic mobility (Liu & Lin, 2017; Thieme, 2017; Wang, 2020, 2022), this research categorizes academic migration infrastructure into four interconnected dimensions: regulatory mechanisms (e.g., recruitment initiatives, job agreements, career frameworks, administrative systems), physical aspects (e.g., urban settings, housing, work environments), technological components (e.g., communication and information technologies), and social elements (e.g., academic networks and broader social connections). Rather than discrete factors, these four infrastructural dimensions are interrelated and cross-cutting and should be understood as a systematic and ecological constellation (Khan, 2020).

4. Methodology

To collect data and answer the research questions, this study employs qualitative methods, including in-depth interviews and participant observation. Eleven semi-structured interviews were conducted with early-career Chinese academic immigrants in the U.S. to explore how migration infrastructure influences their experiences and how they practice agency to reshape their environment for better outcomes. As Creswell highlights, qualitative tools enable in-depth exploration and deeper insights into the phenomenon under study. All interviewees are current

Ph.D. students at American universities, from diverse disciplinary backgrounds, including science, technology, engineering, and mathematics (STEM) and social sciences and humanities (SSH). Despite efforts to balance disciplines, the majority of respondents are from STEM (9 interviewees), with only 2 from SSH. One possible reason is that STEM fields are more popular among Chinese students due to better employment prospects and higher salaries for STEM graduates. Efforts to achieve gender balance were also challenging, as 10 participants are male and only 1 is female, reflecting the larger male population in STEM fields. Most respondents are around 25 years old and come from middle-class families. They represent nine different U.S. universities, with three respondents attending the same institution. Six respondents received their undergraduate degrees in mainland China, four in the U.S., and one in Hong Kong. All participants are currently staying in the U.S. on F1 student visas.

To be eligible, all participants had to be born in mainland China, hold Chinese citizenship, and either have completed their Ph.D. in the U.S. between 2011 and 2022 or expect to receive their degree within the next five years. While the recruitment process was open to both Ph.D. graduates and students, only current Ph.D. students accepted the interview invitations. As a result, although both groups were eligible, all interviewees in this study are Ph.D. students. In this study, “early-career” academics are defined as Ph.D. students or individuals with up to five years of academic or research-related employment, allowing for initial research development in their careers. It concentrates on early-career academic migrants, as they are particularly influenced by the varying migration infrastructure between their home country and the destination society. Although the research is based on interviews with Ph.D. students, it is hypothesized that these findings can be applied to a broader group of academic migrants, such as early-career scholars and professors.

Detailed socio-demographic information is provided in **Table 1**. For confidentiality, pseudonyms are used for all respondents.

Participants were recruited through three main approaches. First, I identified eligible individuals by browsing U.S. university websites and contacting them via email. Second, referrals from acquaintances led to further outreach. Third, a snowball sampling method—where participants referred others—proved the most effective strategy, leading to the majority of recruitment. Interviews took place in March 2022, with two conducted via Zoom and nine through WeChat voice calls. Each interview, audio-recorded and lasting between 30 to 80 minutes, was conducted in either Mandarin or English based on the participant’s preference. Notably, all participants chose Mandarin, likely due to their comfort with their native language. During data collection and analysis, an infrastructural framework was developed to better capture various forms of migration infrastructure in the participants’ experiences. Interview questions ranged from personal and migration history to present working conditions, daily routines, career progression, talent policies, physical environments, and academic networks. Open-ended questions are included to explore their infrastructural experiences across

Table 1. Interviewees' socio-demographic information.

Characteristics	Categories	Count
Age	20 - 25	7
	26 - 30	4
Gender	Female	1
	Male	10
Major	STEM (science, technology, engineering, and mathematics)	9
	SSH (social sciences and humanities)	2
Duration of Stay in the U.S.	Less than 1 year	3
	1 to 3 years	3
	More than 3 years	5
Marital Status	In a relationship	7
	Single	4
Intention to Remain in the U.S. Long Term	Yes	2
	No	3
	Undecided	6

the migration process.

In addition to qualitative data, I also incorporate other sources to strengthen this research. These include official government statistics, such as data from the U.S. Embassy & Consulates in China and U.S. Immigration and Customs Enforcement (ICE), as well as existing literature and documents relevant to academic migration. These resources provide valuable contextual support for this study. The analysis focuses on how migration infrastructure both aids and hinders academic migrants, the influence of everyday infrastructural elements on their experiences, and how these migrants exercise agency to reshape their infrastructural surroundings.

In the following section, rather than detailing each of the 11 participants' distinct mobility histories, this study draws from key narratives and quotes to illustrate broader themes. The stories shared by the respondents reveal the infrastructural opportunities and challenges they face and how they navigate these elements to enhance their migration trajectories. This highlights the significant role played by various infrastructural actors and the active agency of migrants in negotiating their migration paths.

5. Results

5.1. Facilitating Infrastructure

5.1.1. The Technological Infrastructure

Technological infrastructure is a crucial component of migration infrastructure, particularly evident throughout the migration process (Xiang & Lindquist, 2014).

Advances in information and communication technologies have significantly supported transnational academic migration, enhancing the overall migrant experience. The widespread use of platforms such as WeChat and the 1Point3Acres website has enabled Chinese students to establish networks and exchange valuable information even before setting foot on American campuses. For example, Sam noted how social media platforms positively influenced his academic migration experience:

“I found several useful websites during my Ph.D. application process. Later, I came across plenty of helpful information on topics such as renting and visa applications... Before arriving in the U.S., I connected with many friends attending the same university through the WeChat App. We also created a WeChat group where we regularly exchanged tips on living in the U.S. Upon arrival, WeChat became the go-to social platform for most Chinese students. Without these apps, life as an international student would be much harder, akin to how it was decades ago. I believe that the increase in international students is largely attributable to the advancement of such technologies.” (Translated)

Sam is a first-year Ph.D. student in a STEM field, benefitted significantly from social media before and after arriving in the U.S. Before his migration, social media helped him gather vital information about studying and living in the U.S., as well as make connections with other Chinese students. After his arrival, technological infrastructure, such as social media platforms, continued to support him by helping him build social networks and leverage social infrastructure in his new environment. Sam’s case exemplifies the positive impact of information and communication technologies on the academic migration process.

Technological infrastructure not only facilitates access to information but also interacts with social infrastructure. In China, due to the Great Firewall, platforms like WhatsApp are inaccessible, making WeChat the dominant social app. This platform remains integral to Chinese academic immigrants after they arrive in the U.S., helping them maintain connections and establish new networks. Social media tools, such as WeChat and Instagram, are crucial for organizing social activities and problem-solving. These platforms enable academic migrants to build and expand their social networks and address everyday challenges, ensuring a smoother adjustment to life in the U.S. In China, the regulatory infrastructure such as the Great Firewall restricts access to foreign websites. This limitation affects Chinese intellectuals who plan to move to the U.S., hindering their ability to fully utilize foreign technological infrastructure. However, alternative resources like QQ, WeChat, and 1Point3Acres still provide essential tools for these migrants. These platforms are tailored to the Chinese context and differ from those used by other international migrants. WeChat and QQ are particularly popular communication apps, while 1Point3Acres is highly frequented for information sharing among Chinese students and scholars. These platforms, as part of the technological infrastructure, play a significant role in supporting Chinese academic migrants throughout their transnational journeys.

5.1.2. The Social Infrastructure

The international academic network plays a crucial role as a type of social migration infrastructure that eases the moving experiences of Chinese academic immigrants. Scholars who have studied abroad typically have access to more extensive and diverse academic networks than their peers who have not migrated (Jonkers, 2010). It has been suggested that acquiring “multi-layered academic citizenship” (Rossi, 2008) is a common strategy for transnational academics to accumulate academic capital and advance their careers (Rossi, 2008; Wang, 2020). These networks facilitate opportunities for collaboration and career growth, empowering academic migrants. For instance, Mike discussed how participating in an exchange program and conducting research in the U.S. enhanced his academic network, which later contributed to his successful Ph.D. application and research development post-migration:

“I was successfully admitted to the Ph.D. program of this university because of my former supervisor, who is a good friend of my current supervisor. This is the only reason why I was admitted. Not for any other reason, not because of how good I am academically, but because my former supervisor wrote a very strong letter of recommendation for me.” (Translated)

Mike is a second-year Ph.D. student in Computer Science at a prestigious U.S. university, had already engaged in transnational research as an undergraduate exchange student. During his time in the U.S., he participated in a research project, which helped him establish valuable academic connections. These networks later played a pivotal role in his Ph.D. admission. Notably, Mike’s former U.S. supervisor recommended him to another professor at a leading university, showcasing how transnational academic relationships can serve as critical social infrastructure. His academic network not only facilitated his Ph.D. admission but also supported his overall migration journey. In addition to Mike, three other interviewees also emphasized that their transnational academic experiences allowed them to build strong networks with former colleagues and supervisors, which provided them with crucial academic capital. This illustrates how social infrastructure enhances the migration experience by opening doors to academic opportunities and facilitating smoother transitions for Chinese academic immigrants.

Scholars with prior experience in Western research environments tend to migrate more easily than their peers without such experience. This is largely due to their established professional networks within the Western academic community, which serve as a crucial form of social infrastructure that helps them integrate into new research environments more effectively. Transnational academic mobility plays a key role in acquiring scientific skills and becoming part of global knowledge networks, as Leung suggests. The dominance of Western higher education in global research communities further amplifies the recognition and reputation of scholars with Western research experience over their domestic counterparts (Jonkers, 2010). Possessing advanced knowledge, international qualifications, and being embedded in global networks positively impact scholars’ career development in expertise production (Chen, 2017).

International academic bonds formed through geographical mobility are a key component of social migration infrastructure. These networks provide migrant scholars with the unique advantage of being embedded in global knowledge systems, which significantly aids their migration process and professional growth. As previous research highlights, academic networks can be instrumental in helping academic immigrants secure better employment opportunities (Granovetter, 2018). Personal social networks are often the most effective way to find high-quality jobs, which tend to offer better pay and conditions than those obtained through traditional recruitment channels (Granovetter, 2018). Once employed, academic immigrants are more likely to settle into their new communities, enhancing their migration experience and improving their overall integration.

5.2. Constraining Infrastructure

5.2.1. The Regulatory Infrastructure

Scholars have noted that developments in migration infrastructure, particularly when it comes to regulatory frameworks, do not always empower migrants or ease their migration process (Xiang & Lindquist, 2014). In fact, regulatory infrastructure, especially visa policies, often makes academic mobility more difficult (Xiang & Lindquist, 2014). Securing a U.S. visa has become increasingly challenging for academic migrants due to tightened migration policies, particularly since the President Trump administration. Although academic immigrants from other countries also face visa rejections, Chinese scholars encounter heightened barriers because of strained China-U.S. diplomatic relations and the President Trump administration's hostile stance toward China. Chinese students and scholars have been labeled as potential spies, leading to more stringent visa restrictions. In extreme cases, the President Trump administration considered banning Chinese student visas entirely to deter intellectual espionage (Business Insider, 2018). As a result, many Chinese students and scholars in sensitive fields, especially STEM, have been denied visas or faced difficulties even after securing one. Steven's narrative exemplifies how such unfavorable regulatory infrastructure impeded his migration journey:

"I encountered a lot of difficulties in getting my visa. First, because of the COVID-19 pandemic, the U.S. Embassy in China was closed for a year. During that period, I couldn't get a visa. When the embassy reopened, my visa application was checked, and I waited for ten weeks to get the visa, but I was only given a one-year visa. When I arrived at the U.S. Customs, I was put into a 'small black room' by customs, and was questioned by customs for two hours, asking various questions to determine if I was a spy." (Translated)

Steven is a second-year Computer Science Ph.D. student, facing significant challenges with the U.S. visa application process. His visa underwent additional scrutiny, a situation experienced by other four STEM interviewees in this study. The process of visa checks typically takes about 6 - 8 weeks, causing prolonged uncertainty and anxiety. For those whose applications are rejected, plans to study

in the U.S. must be abandoned or altered. The ability to secure a visa is critical for academic migrants, as it heavily influences their career trajectories. Under the President Trump administration, visa policies for Chinese students and scholars significantly hindered their migration process. Although Steven eventually received his visa, it was valid for only one year, while his Ph.D. program would last at least five years, requiring him to navigate the renewal process amidst potential further scrutiny or rejection. The COVID-19 pandemic further complicated visa renewal, as leaving the U.S. to renew the visa posed additional risks for academic migrants.

For Chinese academic immigrants in STEM fields like Steven, obtaining a visa is only the first step, as they continue to face numerous regulatory challenges. Upon arrival in the U.S., Steven was directed to what is colloquially referred to by Chinese students as the “small dark room,” officially known as Secondary Inspection. This is where U.S. Customs and Border Protection (CBP) officers conduct additional interviews and verify the passenger’s information (The Department of Homeland Security). Due to the lack of internet access in the room, this inspection process can be particularly stressful. Steven’s experience is not unique; three other STEM interviewees in this study reported similar situations upon their arrival. This underscores the ongoing regulatory obstacles that Chinese academic immigrants may face, even after obtaining a visa.

While Steven eventually passed the secondary inspection and was able to begin his doctoral studies, not all students are as fortunate. Steven recalled a classmate who was denied entry after secondary inspection and deported back to China:

“I had a classmate who was deported from the U.S. because he had previously participated in a research project in the U.S., and when U.S. customs browsed his phone, they found the records of this project. He received a scholarship from his school in China to reimburse him for his airfare, which in the eyes of customs turned out to be China giving him money and sending him to the U.S. to steal data, so he was repatriated. Although the Chinese Embassy later communicated with the U.S. customs to withdraw his case, the university that admitted him withdrew his offer, and now he has to stay in China to pursue a doctoral degree.”
(Translated)

The reinforcement of regulatory infrastructure such as visa policies and customs entry policies can restrict the mobility of transnational academic migrants, obstructing their journey or, in extreme cases, forcing them to abandon their migration goals and alter their career paths entirely. To mitigate these challenges, students and researchers often share visa application advice and experiences with their peers to reduce the risk of being denied entry. Social media platforms have provided a wealth of tips and insights regarding the U.S. visa process. Despite this, many Chinese scholars still face visa rejections or issues at U.S. customs. Transnational academic mobility is highly sensitive to changes in the regulatory infrastructure regarding visa regulations, and Chinese students and scholars going to the U.S. have been particularly affected by the tightening of U.S. visa policies in

recent years due to the shifting China-U.S. relationship.

5.2.2. The Physical Infrastructure

As Robertson (2017) points out, housing plays a crucial role in helping migrants settle in their host countries. In Chinese culture, there is a saying, “Live in peace and work in happiness,” reflecting the belief that a comfortable living space is essential for individuals to focus on their careers. This cultural influence leads many Chinese people to place significant importance on housing infrastructure. For Chinese academic immigrants, access to suitable accommodation is crucial for maintaining a sense of spatio-temporal security. Typically, Chinese immigrants newly arrived in the U.S. prefer to rent, whereas those planning long-term stays often consider purchasing property as a key factor in their settlement process. For instance, Alex shared his thoughts on this matter:

“I’ve been paying attention to housing prices, which have gone up so much in the last two years. I missed the opportunity to buy a house. If I had two or three years earlier, I would have been able to catch up and buy a house before the price increase. Now, it has gone up so much that I can’t afford it. Housing prices will affect my choice of which city to settle in. The prices in the city I live in now have gone up too much.” (Translated)

Alex is a fourth-year Ph.D. student in a STEM field, and he is nearing the end of his program with plans to graduate in one year. Having spent seven years in the U.S., he has moved multiple times and hopes to settle down for the long term. However, for Alex, purchasing a home has become a critical factor in his ability to establish a stable life. Initially, when Alex arrived in his current city, housing prices were within his budget, but as he was just starting his Ph.D., he was uncertain about his long term plans. Now, as he considers his future, skyrocketing housing costs have placed homeownership out of reach. The rapid rise in housing prices has caused Alex feelings of spatio-temporal insecurity, disrupted his long-term plans, and hindered his ability to settle down.

For Chinese academic immigrants who opt to rent, the entire rental and decorating process presents infrastructural challenges. These individuals, who are used to living in university-provided housing in China, often have little experience in renting independently. As a result, navigating the U.S. rental market, including contacting agents, can be particularly difficult. Additionally, in China, homes are typically rented fully furnished, whereas in the U.S., renters are responsible for furnishing their own homes. This presents another layer of difficulty, especially for new students with limited resources and experience.

The living environment plays a critical role as a physical infrastructure for Chinese academic immigrants in the U.S., significantly influencing their day-to-day migration experience (Wang & Chen, 2021). Participants in large cities like New York City (NYC) reported that high rental costs limit their housing options to small or substandard apartments, leaving them dissatisfied with their living conditions. Although often depicted as affluent consumers, most Chinese students come from middle-class backgrounds and cannot afford luxury accommodations

in major cities. Of the 11 interviewees, only two live in upscale housing, but these are in smaller cities where rent is more affordable. The remaining nine reside in modest apartments, with those expressing dissatisfaction mostly situated in cities like NYC and Chicago, where high rents pose challenges to middle-class Chinese families and lower-income academics. Many opt for more affordable, but less comfortable living arrangements, significantly impacting their daily lives and migration experience. Housing, as a basic element of physical infrastructure, deeply affects their everyday reality during the migration process (Robertson, 2017).

It should be noted that the housing experience discussed in this study is not exclusive to Chinese academic immigrants; other foreign scholars can also encounter this. Academic migrants from developing countries, like China, often face similar infrastructural challenges, such as securing affordable and comfortable housing in major cities. This research uses Chinese students in the U.S. as a case study to delve into the physical infrastructure experiences of academic immigrants from the Global South migrating to the Global North. Therefore, the housing difficulties faced by Chinese academic immigrants can be seen as representative of the challenges encountered by academic migrants from other developing countries in developed settings.

5.2.3. The Social Infrastructure

Not all participants view their immigration status as advantageous for fostering international academic networks. In fact, several respondents reported that their status posed significant obstacles in building these connections. For instance, Kevin discussed the challenges he faced in establishing transnational academic networks and integrating into the U.S. academic community:

“As a Chinese immigrant scholar, it’s difficult to integrate into the local academic network. An important obstacle is the language... English is not our mother tongue. When communicating with colleagues, I can’t communicate as fluently as I can in Chinese... The other unfavorable factor is that we Chinese immigrant scholars are facing a dilemma, that is, on the one hand, we have lost a lot of academic relationships originally established in China due to immigration; on the other hand, our academic network in the U.S. has not been built.” (Translated)

Kevin is a second-year Ph.D. student in the Social Sciences and Humanities (SSH), and has been studying in the U.S. for six years, after completing his undergraduate studies at an elite American university. Despite his relatively high level of English proficiency and strong social skills compared to many Chinese academic immigrants, Kevin still perceives his language capacity as a significant barrier to building academic networks. He explains that during academic conferences, although he often wishes to introduce himself to prominent scholars and enhance his visibility, he frequently hesitates due to concerns about his fluency in English, which results in missed opportunities for academic engagement. Kevin believes that, as a Chinese academic immigrant, he faces more disadvantages than advantages in constructing academic networks in the U.S., particularly when

compared to his native English-speaking peers. Academic immigrants are generally expected to have advanced proficiency of English due to the frequent use of specialized academic vocabulary and the constant need for speaking, writing, reading, and listening in academic contexts.

While Chinese academic immigrants may not be disadvantaged compared to other non-native English-speaking international students, they face a clear disadvantage in building and utilizing social infrastructure due to language fluency limitations. Most participants in this study, regardless of whether they were STEM or SSH majors, highlighted language barriers as a significant challenge to their academic socialization. Although it may seem that STEM scholars have fewer language proficiency demands than SSH scholars, the STEM interviewees in this study expressed that their lack of fluency in English was just as impactful. This lack of language skills hinders Chinese academic immigrants from fully engaging in academic networking, which is a vital component of social infrastructure. The inability to effectively participate in and expand their academic networks due to language barriers restricts their opportunities to gain recognition and influence in the academic community, posing a significant obstacle to successful transnational academic migration.

In addition to the language barrier, three respondents who did not study in the U.S. for their undergraduate degrees indicated that they encountered another significant social infrastructure obstacle besides the language barrier: the absence of pre-existing academic networks in the U.S. They expressed that integrating into local academic communities upon arrival was challenging due to this lack of connection. In contrast, the interviewee Mike, who had participated in research projects in the U.S. during his undergraduate studies, had already built academic networks by the time he started his doctoral program, which greatly facilitated his migration experience. Unfortunately, many Chinese academic immigrants are not as fortunate as Mike. Upon arriving in the U.S., they often lack prior academic experience in the country and thus have no established academic networks. As a result, they must build their reputation and integrate into the academic community from scratch, with the absence of initial support social infrastructure proving to be a significant hurdle in their academic migration journey.

5.3. Infrastructural Agency

Despite the infrastructural challenges faced by early-career Chinese academic migrants in various aspects of their lives—personal, social, and professional—many respondents highlighted their active agency and strategies for overcoming these difficulties. Chinese academic immigrants are not passive recipients of the effects of migration infrastructure but rather active participants who utilize personal agency to reshape their infrastructural environments throughout their migration journey (Khan, 2020). To reduce the friction caused by migration infrastructure, respondents reported employing strategies to redefine technological, social, and physical infrastructures. Their agentic actions demonstrate a proactive approach

to overcoming obstacles and improving their migration experience.

5.3.1. Reconstructing Physical Infrastructure

Workplace and living spaces are critical components of physical infrastructure, significantly shaping the experiences of transnational academics (Liu & Lin, 2017). Academic migrants in this study have actively modified and enhanced these physical infrastructures to improve both their personal and professional lives during their migration journey. When the physical environment, such as workspaces and living accommodations, fails to meet their expectations, they have employed various strategies to adjust their surroundings, thus enhancing their overall migration experience. For example, Amy shared her story of modifying her immediate physical environment, decorating her living and workspaces to create a more suitable atmosphere for both living and working:

“I live in an apartment building like a student dormitory. My room is very small, and I was a little uncomfortable when I first moved in. I bought some decorations, such as vases and flowers, to make the room look more vibrant. I also hung some of my favorite photos on the wall, and I’m happy to see them every time. The most important thing is that I like storage, so my room looks very clean and tidy. I think it’s quite comfortable to live in after my decoration, and it looks quite beautiful now.” (Translated)

Amy is a first-year doctoral student majoring in SSH, and has spent some time living in other U.S. cities, but her first year in NYC presented her with new challenges, especially regarding her living conditions. Despite being mentally prepared for the small spaces and high population density, particularly in Manhattan, she still found the limited space and minimalistic decor of her current accommodation difficult to adapt to. NYC’s notoriously high rents often force academic immigrants like Amy into less comfortable living environments compared to those they previously experienced. However, instead of passively accepting her situation, Amy took the initiative to enhance her living space. She purchased flowers and decorations to beautify her room and organized her space to make it more comfortable and tidier, showcasing her agentive efforts to reshape her physical environment. Moreover, Amy’s narrative highlights how academic migrants can exercise agency by reconstructing their immediate material environment to mitigate infrastructural dissonance. Like other respondents, Amy was initially dissatisfied with her new living conditions, but her proactive approach exemplifies how migrants can strategically use infrastructure to improve their migration experience.

Work and residential environments, though often considered mundane elements of daily life, play an essential role in shaping the lived experiences and migration aspirations of mobile individuals (Wang, 2022). These physical settings, such as everyday artifacts and environments, can function as subtle infrastructural factors that significantly influence the migration journey, even though they are frequently overlooked or taken for granted. Many respondents in this study acknowledged the importance of physical spaces, such as buildings and their

surrounding environments, in shaping their overall migration experience (Liu & Lin, 2017). As active agents, migrants can employ strategies to reconstruct and improve their physical infrastructure, allowing them to navigate and optimize their migration experience (Khan, 2020). By engaging in this proactive process, migrants can better adjust their habitus, thus improving their capacity to manage the challenges and opportunities that arise in their transnational journey.

5.3.2. Enlarging Social Infrastructure

1) *Enlarging Academic Networks*

As I have argued, the lack of robust academic networks is a prevalent infrastructural impediment for junior mobile intellectuals during their migration journey. To address the dissonance caused by weak local academic networks, many migrant scholars strategically exercise agency to cultivate professional relationships and bolster their academic reputation within the local intellectual community. For early-career academic immigrants, actively expanding their academic networks both in the U.S. and China can significantly enhance social infrastructure, thus smoothing their migration process (Chen, 2017; Rossi, 2008). John's experience demonstrates how academic migrants can employ agency to enhance their social infrastructure, which in turn positively impacts their migratory experience:

“I have some cooperation with my American counterparts. I used to know some friends and ask them to help me... I try my best to do it well and promote it boldly, including using social media like LinkedIn. Now I have formed a habit. When I publish an article, I turn it into a more readable text for the public and show it to my colleagues to let them know what I do... I am applying for cooperation with some national key laboratories, hoping to let people know about me in the academic community through cooperation...” (Translated)

John is a third-year Ph.D. student in STEM at a top university. This is his seventh year in the U.S., where he also completed his undergraduate degree in the same field as his Ph.D. Therefore, John had already built a foundation of academic contacts and social infrastructure that aided his professional development as an academic immigrant. His narrative illustrates that academic migrants, as active agents, can strategically expand their intellectual networks to overcome infrastructural barriers and advance their career development (Khan, 2020). Rather than passively dealing with the challenges posed by their immigration status, academic migrants like John actively explore opportunities to broaden their networks, thus mitigating disadvantages such as language and cultural barriers. Through proactive efforts and resourcefulness, they can improve their infrastructural environment and negotiate a smoother migration experience.

To address the constraints of social infrastructure, scholars like John exercise agency to implement several strategies to strengthen their academic networks and enhance their standing within the local intellectual community. First, attending academic conferences is a widely used approach for early-career scholars to expand their professional networks during the initial stages of migration. Second, social media platforms are leveraged to increase visibility and build a reputation

within academic circles. John utilizes these technological tools to enhance his social networks, extending his academic reach and advancing his career. Third, collaborating with key laboratories is another strategy, particularly in natural sciences, for overcoming weak local connections. This collaboration aids early-career academics in improving their academic reputation, applying for grants, and securing funding. By expanding their networks and enhancing their reputations, academic immigrants can bolster their social infrastructure, as well as their ability to navigate regulatory frameworks.

However, language barriers can hinder academic migrants from fully exercising their agency in leveraging social infrastructure to engage in academic communities and establish academic networks in the U.S. Consequently, they may struggle to effectively utilize and enhance social infrastructure to facilitate their transnational migration journey and professional development. Nevertheless, language barriers are not insurmountable; academic migrants can actively reduce and manage these obstacles through their agency. As my interviewees noted, academic immigrants can actively work to improve their language skills—whether by listening to radio programs to boost their listening comprehension or engaging with native speakers to enhance their fluency. By improving their English proficiency, they face fewer barriers in establishing professional networks, thereby empowering them to better utilize and expand the social infrastructure available to them.

2) *Creating Simultaneous “Presence” Globally*

Facing the barriers of lacking academic relationships in the U.S., several participants emphasized the value of building and maintaining “plural and multi-layered academic citizenship” (Rossi, 2008: p. 405) to increase opportunities for career growth and migration success. In this study, five respondents specifically noted their engagement in strategies to create a simultaneous academic presence both in the U.S. and overseas, which helped them navigate through both social and regulatory infrastructures during their migration journey. Many Chinese academic immigrants actively participate in transnational academic collaborations—such as co-authoring papers with scholars in China—enabling them to strengthen their international academic networks. By sustaining academic ties in their home country while fostering new connections in the U.S., these immigrant scholars can draw on dual social infrastructures, enhancing their academic mobility and career prospects.

In fact, it is quite common for Chinese academic immigrants to maintain a simultaneous presence both in the U.S. and overseas, as many of them do not plan to stay in the U.S. for a long time and intend to return to China after accumulating a certain amount of academic capital in the Western world. In the context of Chinese academic culture, “guanxi” (personal connections) plays a crucial role in professional success and integration into local academic communities. Thus, maintaining networks within the Chinese academic sphere is an essential strategy for those academic migrants planning to eventually return to China. By doing so, they

enhance their ability to reintegrate into Chinese academia upon their return, while also benefiting from their accumulated Western academic capital.

6. Conclusion

This research finds that transnational academic mobility does not always promote personal and professional development. The migration experience of mobile scholars is significantly shaped by a systematically interlinked migration infrastructure, particularly after relocation (Xiang & Lindquist, 2014). However, academic migrants are not passive victims; they exercise agency to navigate and redefine infrastructural conditions, leveraging these as tools for their mobility goals. Focusing on early-career Chinese academic immigrants in the U.S., this study examines how intertwined dimensions of migration infrastructure impact their personal and professional lives, while also exploring their agentive strategies in response to these conditions. It highlights that migration is shaped not only by infrastructural actors from above but also by migrants themselves from below (Franck et al., 2018). Beyond macro-level factors, this study emphasizes the importance of everyday, micro-scale factors in understanding the lived experiences of academic migrants.

Moreover, building on Xiang and Lindquist's (2014) framework, this study extends and reclassifies the sub-category of infrastructure within academic migration, providing a more systematic and holistic analysis of mobile academics in the U.S. More importantly, the key premise is that the migration infrastructure in this research is not only available specifically to academic migrants, but those infrastructural elements play a significant role in shaping their lives. Examining migration as "quotidian and processual operations" (Xiang & Lindquist, 2014) reveals how different logics of infrastructure modulate scholars' careers, daily life, and networks. At the same time, Chinese academic immigrants actively use personal agency and "transnational capital" (Chen, 2017) to mitigate the negative effects of poor infrastructure, illustrating both the facilitative and restrictive nature of migration infrastructure. Ultimately, this study emphasizes the various agentive strategies migrants employ to navigate their infrastructural environments.

This study aims to contribute to the broader academic discourse on migration from the following aspects. First, it expands the exploration of migration infrastructure, offering a more comprehensive view of how various infrastructural actors mediate the migratory experience. Second, it enhances understanding of the migration experiences of high-skilled academic immigrants from developing to developed countries, an area that has been underexplored. Third, this study advances research on the migratory experiences of academic immigrants from developing to developed countries. While previous studies on migration infrastructure have predominantly focused on informal, low-skilled migration (Franck et al., 2018; Xiang & Lindquist, 2014), this research examines high-skilled migrants, providing an empirical extension and highlighting the growing trend of South-to-North academic migration. Fourth, building on the work of Xiang and Lindquist

(2014) and Wang (2020, 2022), this research advances the study of migration infrastructure. It strengthens the emerging infrastructural approach, offering a more situational and holistic method to analyze how migration is mediated under various conditions.

The notion of “migration infrastructure” not only reconceptualizes existing knowledge but also serves as a methodological approach to uncover hidden dynamics (Xiang & Lindquist, 2014). From this perspective, we can analyze how interlinked technologies, institutions, and actors condition mobility in situational ways (Robertson, 2017). Critically, this paper highlights both the impact of migration infrastructure on migrants and the agency of mobile scholars. Participant narratives reveal that instead of being passively affected by their infrastructural conditions, academic migrants actively seek, utilize, and rebuild infrastructure to navigate their migratory journeys. As such, this study contributes to the exploration of how migration infrastructure shapes migrants’ lives and how they strategically respond to improve their conditions.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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