

Sudan's brain gain: what motivates the intention of skilled Sudanese in Japan to return and contribute to their home country

Sudan's brain gain

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Abstract

Purpose – This paper examines the drivers of brain gain by investigating the motivations of migrants who plan to return and contribute to their home country. It focuses on highly skilled Sudanese migrants in Japan, including a group of “plan-to-return” migrants (P-group), who intend to gain knowledge abroad that they will use to contribute to their homeland upon their return.

Design/methodology/approach – The participants are 24 highly skilled Sudanese migrants in Japan, 10 of whom are part of the P-group. To understand their motivation to contribute to their home country, the study applies the qualitative life course approach, using Elder's four life course themes: lives in time and space, the timing of lives, linked lives and human agency.

Findings – The P-group is characterised by a high level of motivation for self-development, which motivates them to study abroad. The analysis finds that the P-group's drive to contribute had been nurtured by a spirit of mutual aid in Sudanese society, which emphasises Islamic values and social ties. Religious norms, personal interactions and emotional ties to Sudan are especially influential on the P-group's motivation to contribute to their home society.

Originality/value – This study identifies drivers that lead to brain gain. Whereas previous studies have noted the relationship between return intentions and willingness to contribute to the home countries; they have not investigated influences on motivations to contribute. The results suggest that Sudan might already possess a system for local human resource development to encourage brain gain.

Keywords Brain drain, Brain gain, Contribution drive, Sudanese migrants in Japan, Highly skilled migrants

Paper type Research paper

1. Introduction

In an interview, Fatima, a Sudanese graduate student studying information and communication technology (ICT) in Japan, remarked, “I think the situation is getting worse in Sudan. That [makes me] more motivated to . . . [take] action”. Fatima came to Japan to pursue a master's degree in ICT, which she has studied since she was an undergraduate student in Khartoum. She aims to contribute to the development of Sudan through ICT, and this motivation developed before she came to Japan. Fatima is a member of the “plan-to-return” group (P-group), which encompasses people who go abroad with the intention of gaining knowledge and experience that they can apply in their home communities upon their

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return. Members of the P-group are specifically motivated to give back to the communities of their home country. This research examines that motivation, focusing on the experiences of Sudanese migrants in Japan.

According to the United Nations Department of Economic and Social Affairs (UNDESA, 2019), two million migrants left Sudan in 2019. Sudan is one of Africa's low-income countries, and push factors for emigration include political repression (Abusharaf, 1997; Hassan, 2008), conflict (Abusharaf, 1997), lack of economic opportunities (Ibrahim, 2012; Mingot, 2022), and lack of opportunities for training and professional development (Munzoul, 2010; Ibrahim, 2012). Research by the United Nations Development Programme (UNDP) in 2019 indicated that 88% of migrants have education beyond a bachelor's degree (UNDP, 2020). Although the UNDP report acknowledges that the survey approach was "eclectic" (UNDP, 2020, p. 9), its statistics show that many educated Sudanese go abroad. This is an instance of the phenomenon known as the brain drain, i.e. the "international transfer of human resources in the form of human capital", which flows principally from developing countries to developed ones (Beine, Docquier, & Rapoport, 2008, p. 631). That phenomenon has also been described as the "continuing loss of highly qualified personnel from certain countries and the corresponding windfall gain to others" (Portes, 1976, p. 489). According to the Human Flight and Brain Drain Indicator, Africa is the region most affected by the negative consequences of brain drain, and Sudan is the fourth highest figure in Africa after Somalia, Eritrea and Chad (FFP, 2022). Sudan's development has been significantly impeded by the brain drain (El-Imam & Yusuf, 2013; Nour, 2014; Abdallah, 2018).

Despite the negative aspects of the brain drain, Sudan also has potential for brain gain, the aforementioned Fatima being one example. By focusing on P-group members such as Fatima, this study aims to examine the origin of migrants' drive to contribute to their home communities and thereby identify potential paths to brain gain. What drives these individuals to gain knowledge abroad and then return to Sudan to give back to their communities? To answer this research question, this study focuses on the Sudanese P-group's life course perspective, examining their drive to contribute by following Elder's four life course themes: lives in time and space, the timing of lives, linked lives and human agency (Elder, 1994; Elder, Johnson, & Crosnoe, 2003).

2. Previous studies

2.1 From brain drain to brain gain or brain circulation

Global inequalities push people to move from poor countries to rich ones (Rizvi, 2005). The emigration rates of highly educated individuals to countries classified as Organization for Economic Cooperation and Development (OECD) countries are typically higher than total emigration rates. This is particularly the case for people from the Global South; the emigration rates of less educated people are low (d'Aiglepierre *et al.*, 2020). This paper defines a "highly skilled person" as an individual "with university degrees" (OECD, 1998, p. 188). This section discusses the mobility of highly skilled people using theories of brain drain, brain gain and brain circulation.

Brain drain was first discussed in the late 1950s following the migration of British scholars to North America. This movement of highly skilled people was seen as an unfortunate loss of human capital by the sending country (Brown, 2000). The phenomenon of brain drain has long been a main concern in the Global South (Sako, 2002). In the 1980s and 1990s, the academic and development industries were dominated by a pessimistic view about the migration of highly skilled personnel (de Haas, Castles, & Miller, 2020, p. 336). A recent study also highlighted that the outmigration of educated people has negative economic, social, political, cultural and intellectual impacts (Radonjić & Bobić, 2021).

Nevertheless, brain drain is not necessarily a wholly negative phenomenon for the sending country since it can lead to brain gain or brain circulation (Stark, Helmenstein, & Prskawetz, 1997;

Saxenian, 2005). In the 1990s, for example, skilled Indian migrants returned home from the US and contributed to the development of India's IT industry (Hunger, 2002). Their return has been called a "brain gain" (Hunger, 2002) and "brain circulation" (Saxenian, 2005), indicating that many returning migrants make industrial and academic contributions to their home country.

The research literature discussing brain gain and brain circulation often uses those terms ambiguously. Most studies use the term "brain gain" to refer to returnees' "one-way flow of human capital" (Ma & Pan, 2015, p. 308) to their home country. However, the term has also been used to refer to immigrants' knowledge contributions to the host country, for example, in research by Kahn and Oghenetega (2021). Brain circulation is generally discussed in two ways. In its first meaning, "brain circulation" denotes the two-way flow of skill, capital and technology contributions between the home and host countries (Saxenian, 2005; Lee & Kim, 2010). This two-way flow occurs when highly skilled individuals "return home to establish business relationships or start new companies while maintaining their social and professional ties" with the host countries (Saxenian, 2005, p. 36). Employing the second meaning, some scholars use "brain circulation" to describe a triangular flow of human talent, which spreads contributions beyond the home and host countries (Tung, 2008). Studies of brain gain and brain circulation expect that the return of highly skilled individuals will always be accompanied by economic development and the transfer of knowledge and skills to the home country, regardless of mobility patterns.

Some scholars have commented that since brain drain and brain gain are state-centred concepts, the concept of brain circulation is more appropriate when discussing patterns of human mobility in a globalised world (Rizvi, 2005). Nevertheless, this study focuses on the phenomenon of brain gain to identify the sources of a person's motivation to return and contribute to their home country.

2.2 Migration and contribution to the home country: the plan to return home group

Semi-structured interviews with 26 university students and graduates in Khartoum suggested that brain drain falls into three categories, which are distinguished according to both the aspiration to emigrate and the strength of the desire to contribute to the home country (Kurokawa, 2019). Members of one of these groups, the "plan to return home" group (P-group), intend to gain knowledge and experience abroad that they will use to contribute to their home country upon their return. The second group comprises those who envision themselves as "contributing from abroad" group (C-group), while the third group comprises those who are "willing to emigrate" group (W-group) and have no definite plans to contribute to the homeland (Kurokawa, 2019). The P-group's mobility pattern is unusual; whereas most migrants move from low-wage to high-wage countries in search of a better life (World Bank, 2018), members of this group return home, producing a brain gain. Because they are highly educated and skilled, these individuals are likely to have opportunities to remain abroad. What motivates them to return to their underdeveloped countries to give back to their communities? To answer this question, this paper focuses on the P-group from Sudan.

Previous studies have recognised individuals who intend to give back to their home country after gaining knowledge or experience abroad. For example, Bailey, Mandeville, Rhodes, Mipando, and Muula (2012) explore the factors influencing Malawian medical students' career plans. Their qualitative research found that medical students and recent graduates in Malawi intended to go abroad after graduation but eventually return to work in their home country. Also, a quantitative survey of students in their final year of teacher training at higher education institutions in South Africa found that more than half of participants wanting to work abroad intended to later return to teach in their home country (Bertram, Wedekind, & Muthukrishna, 2007). According to the schema introduced earlier (Kurokawa, 2019), those research participants would be classified in the P-group.

The desire to contribute to their homeland affects highly skilled personnel's return intentions (Boncea, 2015; Marsh *et al.*, 2016; Arhin-Sam, 2019; Campbell, 2020). The literature on such individuals has found that their sense of belonging to their home country motivates them to consider what contributions they can make. For example, the aforementioned medical students and graduates from Malawi manifested patriotism, love for their home country and recognition of their fellow citizens' needs, all of which intensified the desire to "help my people" (Bailey *et al.*, 2012, p. 5). A study on skilled Ghanaian returnees found that migrants' desire to give back to society indicates a feeling of obligation to their home country (Arhin-Sam, 2019). Additionally, a longitudinal study suggests that PhD students hailing from developing countries and studying in the Netherlands were influenced by their host country's post-materialist values, which fostered a greater willingness to help their home countries. According to the authors of that study, the host country's values gradually augmented the sense of moral responsibility felt by those highly skilled students, who wanted to make ethically correct decisions (Rakovcová & Drbohlav, 2022). Thus, a sense of belonging to one's homeland and the values of the host country can intersect, augmenting the desire to contribute to the home country. Since such motivations can impel the individual to return, they create a potential brain gain.

In sum, researchers have found a relationship between migrants' drive to contribute to their mother country and their intention to return. Additional factors are a sense of belonging to the home country and the values of the host country. However, researchers have not focused on this group of highly skilled individuals or their potential to initiate a brain gain. What exactly motivates these individuals to return to their Global South homeland, giving up their host country's higher standard of living and the chance to participate in the international community, returning instead to contribute to their homeland communities? To answer that question, this study avoids treating all highly-skilled migrants as if they constituted a homogeneous group, instead investigating the mechanism of brain gain by identifying the P-group. By doing so, researchers can concentrate more on the narratives to examine similarities and differences among the group. This study does not adopt the focus of previous research on brain gain, which identified reasons that emigrants returned (i.e. Lee & Kim, 2010; Boncea, 2015). Whereas previous studies merely identified the motivation to contribute as a reason to return, the present study explores that motivation to contribute, investigating the factors that feed, preserve or augment it.

2.3 Life course approach

The life course approach examines individual life histories, seeking insight into the P-group's drive to migrate and later return to contribute to their home country. The life course perspective offers a valuable lens for studying structured or institutionalised pathways that provide the context in which people make choices, plans and initiatives for their lives (Elder *et al.*, 2003, p. 15). Looking at life trajectories is critical since motivations associated with social engagement are strongly affected by childhood experiences, family values and educational experiences (Marsh *et al.*, 2016).

The life course approach in migration studies helps illuminate "how migration decisions are embedded in social time and space and how they develop throughout the life of an individual as his/her needs, priorities and obligations change along the life course" (Rakovcová & Drbohlav, 2022). Research that uses the life course approach to study highly skilled migrants examines family influences (Kōu, van Wissen, van Dijk, & Bailey, 2015, Kōu, Mulder, & Bailey, 2017; Bailey & Mulder, 2017) and emigration drives (Kōu & Bailey, 2014). Very few studies have mentioned highly skilled migrants' drive to contribute to their home country from a life course approach. Rakovcová and Drbohlav (2022) suggest that the desire to contribute to the homeland increases with the life course's progression. The participants in

their study were PhD students coming to the Netherlands from sixteen Global South countries. While their longitudinal study presents interesting perspectives on the impact of the life course, such as their home society's influence on their decision about whether to migrate, it pays less attention to the context of their home countries. Yet, to understand the migration strategy of highly skilled personnel, it is important to understand not only the host country's influence but also the home country's context.

The individual life course method examines four key themes: lives in time and space, the timing of lives, linked lives and human agency (Elder, 1994; Kōu *et al.*, 2015).

- (1) The *lives in time and space* theme concerns the historical and geographical contexts that influence individual life courses (Elder, 1994; Kōu *et al.*, 2015). For example, the 40-year longitudinal study by Elder (2018) examined the impact of the economic crisis of the 1930s, the Great Depression, on the life courses of people in Oakland, California, finding that the historical context significantly impacted their lives.
- (2) The *timing of lives* theme explores how someone's personal life is affected by the time or life stage at which certain life events occur (Elder *et al.*, 2003). For example, early military service usually minimises life disruptions, and so individuals' life courses might vary considerably according to whether they completed military service before establishing a family or career as opposed to afterwards (Elder *et al.*, 2003).
- (3) The *linked lives* theme examines interdependent relationships that shape individuals' life courses (Elder, 1994; Elder *et al.*, 2003). The migration plans of individuals from India, for example, are greatly affected by the need to care for their parents (Kōu *et al.*, 2017).
- (4) The *human agency* theme considers the choices and actions taken by individuals to construct their life course through their interactions (Elder, 1994; Elder *et al.*, 2003). One researcher provides these examples: "Childhood development is influenced by friends and families, schools, churches, and many other key social agencies" (Edmonston, 2013, p. 4).

These themes provide a framework for researching life courses (Elder, 1998). To understand the P-group, it is crucial to know the patterns of their life courses that influence their motivations for migration and their drive to contribute to their home country.

3. Methodology

3.1 Data collection

In 2021, there were 324 Sudanese living in Japan. Of the 54 African countries, Nigeria and Ghana have the largest populations in Japan, whereas Sudan has the 15th largest. The Sudanese population in Japan can be roughly categorised as follows: long-time residents (e.g. those holding a permanent or long-term resident visa); highly skilled migrants (e.g. those holding an official, working or student visa); labourers (e.g. those holding the visa specified for asylum-seekers) and their family members (e.g. dependent or official visa) (MOJ, 2022). Since Arabic is their mother tongue, Sudanese citizens often work at Arabic countries' embassies in Japan.

The participants for this study were 24 highly skilled migrants. The 24 interviewees responded with the following initial reasons for migrating to Japan: graduate school ($n = 14$), family ($n = 7$), work ($n = 2$) and asylum applications ($n = 1$).

Additionally, their professions and employment status varied: graduate student ($n = 9$), employed ($n = 5$), self-employed ($n = 4$), employed part-time ($n = 2$), embassy staff ($n = 2$), contractual worker ($n = 1$) and unemployed ($n = 1$). The interviewees' ages ranged from 25 to

54 years. To the best of my knowledge, no research has been conducted on Sudanese migrants in Japan, so a diverse group of informants was chosen to understand their situation better.

The participants were recruited using snowball sampling from six initial personal contacts. The data were collected from December 2020 to March 2022. Due to the pandemic, I conducted initial interviews online with 18 migrants; when pandemic restrictions were lifted, I conducted face-to-face interviews with the remaining six migrants. Of the 18 migrants I had interviewed online, I subsequently met seven in person for a second interview. The length of the interviews ranged from one to two hours. The questions mainly covered the participants' demographics, educational path, work experience, experiences abroad and career plans.

3.2 Analysis

The interviews were recorded, transcribed and analysed using thematic analysis with the qualitative data software ATLAS.ti. Additionally, I summarised the informants' life courses chronologically covering their education, work, and migration history and referring to the life course events and parallel careers method of Kōu *et al.* (2015), which allows the quick visualisation of the timing of events Kōu *et al.* (2015).

The brain drain classification introduced by Kurokawa (2019) was used to classify the 24 participants; among those 24, 10 individuals were categorised as members of the P-group (Table 1). The classification was based on three questions: whether they intended to return to Sudan before retirement, whether they intended to contribute to Sudan in some way and whether they had concrete plans or ideas for contributing to Sudan. Two of the 10 P-group members (J1 and J13) were simultaneously classified as C-group members since they stated that returning to Sudan and staying abroad were both possibilities for them, i.e. they had not yet decided. Concerning the other groups, two participants were classified in the C-group, three were classified in the W-group, and one participant could not be categorised due to missing data. The remaining eight graduated from the universities abroad, and therefore, this study does not count them as cases of brain drain. However, their narratives provide valuable insights in terms of their return to Sudan and contribution intentions. Only two of them stated

No.	G	Age	Occupation	First reason/Year of immigration	Highest degree/Subject
J1	M	29	Employee	Study/2017	Master's degree in Japan/Engineering
J6	F	51	Part-time job	Family/1997	Bachelor's degree in Sudan/Economics and political studies
J7	F	33	Employee	Study/2016	Master's degree in Japan/Engineering
J9	M	27	Employee	Study/2017	Master's degree in Japan/Engineering
J12	F	26	Master's degree student	Study/2019	Bachelor's degree in Sudan/Mathematical science
J13	M	26	Master's degree student	Study/2019	Bachelor's degree in Sudan/Engineering
J16	F	25	Master's degree student	Study/2020	Bachelor's degree in Sudan/Engineering
J17	F	25	Master's degree student	Study/2020	Bachelor's degree in Sudan/Engineering
J23	F	37	Doctoral student	Study/2019	Master's degree in India/Agriculture
J24	M	30	Doctoral student	Study/2021	Master's degree in Sudan/Agriculture

Table 1.
Description of participants: P-group

Source(s): Created by author

the intention to return, and three of them had some projects to contribute to Sudan. This study analyses the P-group data, but data from other informants are also used for comparison purposes.

To analyse the P-group data, this research applies a hybrid approach of inductive and deductive coding and theme development (Fereday & Muir-Cochrane, 2006). As a deductive study, this work follows Elder's four life course themes: lives in time and space, the timing of lives, linked lives, and human agency (see 1.3). In addition to these four themes, the theme of "emotional ties to Sudan" emerged through inductive analysis.

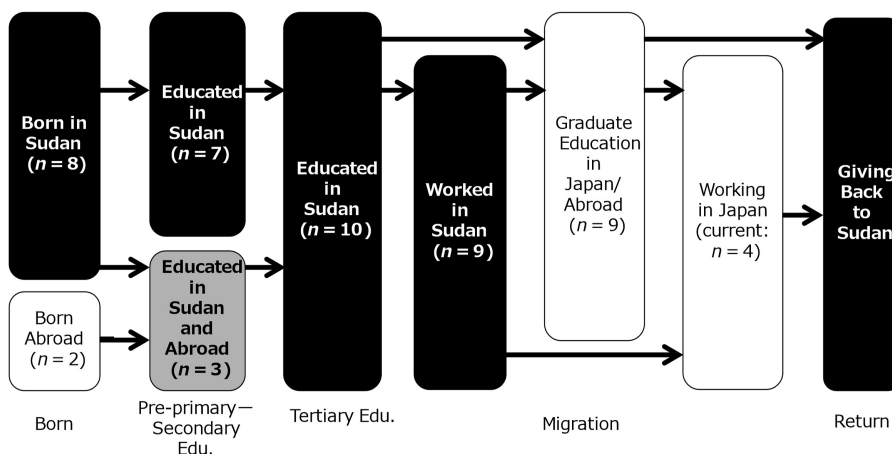
4. Findings

4.1 Lives in time and space

The theme of lives in time and space is essential for understanding the Sudanese P-group's drive to give back to their home country. Figure 1 shows the P-group's life courses, specifically their education and migration, and focuses on when major life events occurred (time) and where (space). Black boxes represent the periods in which the P-group migrant was living only in Sudan. The grey box represents periods when the migrant was in Sudan and abroad, and the white boxes represent periods when he or she was abroad.

The life course of the P-group migrants included education at all four levels. In 2018, Sudan's gross enrolment ratio for pre-primary education was 47%, the ratio for primary education was 79%, and for secondary education, it was 46%; in 2015, the gross enrolment ratio for tertiary education was 17% (UIS, 2022). Most P-group members were educated in Sudan until the completion of their undergraduate degree but emigrated to Japan for graduate school. Many of them also had work experience in Sudan before going to Japan. Members of the P-group thus had limited international experience before going to Japan.

Historical events have led to economic instability in Sudan, and for many migrants, that prompted their decision to emigrate. In the 1990s, an Islamist military regime seized power, and in 1997, the US imposed economic sanctions, limiting Sudan's participation in global economic activities (Woodward, 2019). In 2011, when South Sudan seceded, Sudan lost over 70% of its oil revenue. These events led to a shortage of hard currency and negatively impacted economic growth. A participant from outside the P-group who left Sudan in the late



Source(s): Created by author

Figure 1. P-group members' life course, focusing on time and space

1980s and arrived in Japan in the 1990s responded that Sudan's current situation is the same as when he left: "there is no safety, no bread, no food, no jobs. Waiting in Sudan is not a good idea" (study participant J10, self-employed, 54 years old).

All P-group participants had undertaken their schooling or work after the 1990s in Sudan, which means that the major life events that they experienced in Sudan took place under conditions of political instability and economic deterioration. Yet, experiencing the tough environment of those decades may have strengthened their emotional commitment to Sudan, making them willing to help with its future development. Highly skilled personnel intending to return tends to be motivated more by a sense of responsibility to their home society than by material or economic prospects.

4.2 The timing of lives

The timing of members of the P-group's migration to Japan was tied to plans for graduate study. Only J1 came to Japan directly after he had obtained an undergraduate degree; the other nine P-group members had several years of work experience. In this section, I focus on nine migrants who emigrated to Japan to further their education.

Due to economic inequalities between countries, scholarships are vital for Sudanese who wish to study abroad. All nine informants had received Japanese scholarships to pursue graduate study. The Japanese Government, for instance, funds the Ministry of Education, Culture, Sports, Science and Technology (MEXT) Scholarship; the African Business Education Initiative for Youth (ABE Initiative) is a scholarship program for the master's degree and internship program funded by the Japan International Cooperation Agency (JICA). There are no Sudanese government scholarships for study in Japan. The MEXT scholarship aims to develop human resources for the home country, Japan and worldwide (MEXT, 2021). The ABE Initiative aims to foster young personnel who will contribute to the development of industries in Africa and could become navigators for Japanese firms' operations in Africa (JICA, 2019). JICA's scholarship encourages recipients to return to their countries, however, informants chose to work in Japan in this study.

All nine informants were in Sudan during the time that they prepared their scholarship applications and awaited the result. One study participant, J24, explained that he had become interested in Japanese culture during his undergraduate studies but having failed to obtain Japanese scholarships twice, he decided to pursue a master's degree in Sudan. After a period of working in Sudan and another attempt at a Japanese scholarship program, he finally succeeded in going to Japan as a doctoral student. His case is an example of the arduous work that brain drain from Sudan to developed countries typically involves. Regarding the timing of their potential returns, the informants intended to gain much more knowledge and experience in Japan. Study participants J1, J7 and J9 found employment in Japan related to their disciplinary specialties, and they reported being willing to use knowledge from their professional fields to contribute to Sudan's development. Participants, J12, J16 and J17, currently master's degree students, intended to pursue their doctoral studies or find employment in Japan. The next stage after completing their graduate study will not be to return to contribute to Sudan for the P-group. They intend to gain more knowledge and experience, which will give them more confidence when they work to contribute to Sudan. Some members of the P-group hesitate to return to Sudan immediately, not only because they want to acquire more knowledge and experience abroad, but also because economic conditions are deteriorating and the country became more unstable after the coup-d'état in 2021. Sudanese abroad had expected to return after the revolution in 2019, however, "everything was reset" (study participant J17) because of the coup. Participants J16 and J17 said Sudanese migrants needed to "wait and see the situation".

These findings suggest that the trajectories of highly skilled Sudanese migrants do not depend solely on their intentions, but also on opportunities and economic and political volatility in Sudan. They might fear that the knowledge and experience they gained in Japan will be fruitless after they return.

4.3 *Linked lives*

The results suggest that among members of the P-group, the drive to contribute to their home country had been strengthened by Islamic values within the Sudanese community and by personal interactions with professors or friends.

First of all, Islamic teachings are influential in decisions about rendering assistance. As participant J9 remarked, the idea of contributing to family, neighbours and friends is derived from Islamic values. In the Holy Quran, the chapter of An-Nisa, verse 36, instructs “Be kind to parents, relatives, orphans, the poor, near and distant neighbours, close friends” ([Quran.com, 2022](#)). This norm reflects people’s values in Sudan, where approximately 90% of the population is Muslim ([Pew Research Center, 2016](#)). [Evason \(2018\)](#) explains that the motivation to contribute to society is embedded in Sudanese culture, traditions and national identity. Religious teaching can motivate people to contribute to their home communities.

Additionally, the study participants pointed to two types of actors who influenced their drive to contribute: professors and foreign friends. At the University of Khartoum, which is one of Sudan’s best universities, some professors had rich experiences abroad before returning home to educate Sudanese students. Participant J17 described the university environment:

I think maybe the environment of the university [of Khartoum] was actually maybe very motivating. Because the professors. . . all had experience, and they all told us stories about when they were in the USA [or] when they were in [the] UK, and so on. A lot of professors are actually trying to do their best, even if there are limitations. A lot of them are trying to do their best and give us a very good education, and [they] tell us that maybe we can do something too. So, I think this motivated a lot of the students to go abroad and explore and maybe come back and do something like the professors [did] (study participant J17).

These professors served as role models for ambitious students, who took note of their career trajectories. Other influential figures were Japanese volunteers working in Sudan. Participant J12 described how she was moved by their passion for helping Sudan:

I really want to do something [for Sudan]. When I see, for example, JICA volunteers, those people [who] come to our country, I feel like so moved, you know. People care so much about my country, and I still cannot do anything [for it]. So, I feel like I want to do some work, try more effort and find [ways] to help as much as I can (study participant J12).

Islamic norms and social connections in Sudan may affect the P-group’s aspirations and decision-making processes. As noted earlier, the P-group members spent most of their life in Sudan, and Sudanese culture emphasises personal bonds. The culture is based on collectivism ([Evason, 2018](#)). In such society, interdependence and harmony are highly valued, and mutual obligations and expectations depend on status or rank ([Neuliep, 2021, p. 44](#)). This study’s results suggest that the drive to contribute expressed by highly-skilled migrants could result from their home country’s cultural expectation of mutual aid.

4.4 *Human agency*

The themes associated with human agency can be divided into two categories: developing oneself and using knowledge acquired in the host country to bring ideas to Sudan. Members of the P-group indicated that to give back to others, they first needed to develop themselves.

Participant J1 explained why he decided to work in Japan after earning his master's degree in Japan:

What made me decide to work in Japan was all the things I did not know yet. There are more things that I don't know than I do know, not just in terms of working but also learning. I need various inputs to be able to contribute to others (study participant J1).

Participant J1 said that he intended to do something for Sudan because it is human nature to feel affection for one's birthplace. He also said that Sudan is a developing country; hence, there is much more room for further growth there than in developed countries. Similar sentiments were expressed by J17, who was seeking a better education for both herself and others:

I felt that there are a lot of things that are missing from this program [higher education in Sudan]. This was actually [what] made me think about going abroad for [my] Master's [degree]... maybe if I had enough experience and enough power to go abroad and come back, I could fix this kind of education because the students are very ambitious, and they are really good. And if they have a chance, they can actually make something. (study participant J17)

Participant J17 mentioned her intention to enrol in a doctoral degree program and later teach at Sudanese universities. Thus, it seems that these members of the P-group not only seek personal development for themselves but also have a spirit of sharing what they learned with others.

The study also found that the P-group recognised what Sudan lacks and planned to resolve the problem with ideas learned from the host country. Study participant J6 came to Japan because of her husband's work. Thus, her decision to go to Japan was not motivated by career or education plans. Yet, after 20 years in Japan, she has begun to think about bringing Japan's waste management system to Sudan. In Japan, local municipalities impose requirements for sorting and discarding waste. There is no comparable system in Sudan, and J6 believes that implementing the Japanese system would improve the living conditions in Sudan. Additionally, J12 saw a connection between her research speciality and a problem in Sudan. The Sudanese government makes significant expenditures in importing wheat because bread is a diet staple. Knowing that the rising price of bread is threatening people's livelihood, participant J12 hypothesised that by deepening her knowledge of ICTs, she could help solve the nationwide bread crises by using IT technology to increase domestic wheat production. Thus, skilled individuals living abroad might be motivated to help resolve some of the problems Sudan faces.

The motives of highly skilled migrants from the Global South go beyond economic calculations (Crescenzi, Holman, & Orru, 2017). Members of the P-group believe that they must first develop their own knowledge and skills before they can help others. Thus, they choose to migrate, usually to study abroad, to achieve goals that are difficult to reach in Sudan. Even J6, who migrated for family reasons, began to consider using her experience in Japan to resolve a problem afflicting Sudan's communities. The study's findings thus suggest the P-group members' desire for personal growth, combines with their patriotism and recognition of Sudan's problems, motivating them to help resolve those problems.

4.5 Emotional ties to Sudan

An inductive analysis shows that understanding the P-group members requires understanding their emotional ties to Sudan. In the course of data analysis, a theme emerged that I initially labelled "national identity." However, after comparing statements by P-group members to those of participants outside that group, I realised that the label "emotional ties to Sudan" would be more appropriate. Among the participants outside the P-group were several Sudanese who had become legally naturalised Japanese citizens; and

though they retained their Sudanese national identity, they hesitated to return and were less motivated to use their knowledge and skills to give something back to Sudan. The P-group participants, however, expressed a strong sense of belonging to Sudan. Participant J16 mentioned, for instance, wanting to return to Sudan because "it is my country". J16 was born in UAE and returned to Sudan with her family when she entered primary school. Now her parents live in Saudi Arabia to work and some of her siblings are also living abroad. [Anđelković and Bobić \(2019\)](#) note that migration experiences lead to hybrid identities that include both home and host countries. Despite that, however, J16 feels that she belongs in Sudan. By contrast, J4 felt that after having been abroad for so long, he had lost his Sudanese identity.

How to keep your real identity to be a real Sudanese, even outside, we go outside that you represent the country. This kind of stuff. But for me, if you talk about me, I cannot keep this identity because I went outside and could not manage this identity (study participant J4, contract worker at the factory, 30s).

Participant J4 has neither the intention to return nor the drive to contribute to Sudan. He retains his Sudanese culture, including his family orientation and habit of socialising in Japan's Sudanese communities; however, he has lost his emotional tie to Sudan. His experience as an asylum-seeker might help explain that. The findings that compared the P-group to other groups suggest that emotional ties to Sudan are more influential in producing a drive to contribute than a sense of belonging. Thus, the findings suggest that the P-group's sense of belonging to Sudan describes "maintaining emotional ties to Sudan" rather than a sense of "being Sudanese".

5. Conclusion

This paper examined the P-group's drive to contribute to the home country. Using a case study of Sudanese migrants in Japan, the study applied Elder's life course approach, which includes four themes: lives in time and space, the timing of lives, linked lives and human agency. The qualitative analysis found that the Sudanese P-group's drive to contribute had been nurtured by Sudanese society's spirit of mutual aid, particularly in conditions of political and economic instability, which the P-group members experienced throughout their upbringing in Sudan. Islamic values and social interactions are considered to be preferential norms in Sudan. Narratives from P-group informants suggest that these norms increased their desire to return and contribute to the homeland. Also, P-group members are highly motivated in self-development, and for the research participants, that translated into an aspiration to emigrate to study abroad, although fulfilling that aspiration requires a successful scholarship application. Moreover, the results indicate that emotional ties to Sudan may significantly influence the decision to return and contribute to Sudan's development.

Given that their education and work experience in Sudan motivates the P-group members to contribute to their homeland, the country would benefit from a local human resource development system, which could lead to brain gain. The idea of giving back and sharing the fruits of their education could be seen as an aspect of Sudanese collectivist society. Such societies emphasise interdependence and harmony ([Neuliep, 2021](#), p. 44). Since the research findings suggest that brain gains are fostered by a spirit of mutual aid in home communities and emotional ties to the home country, incentive programs believed to lead to brain gain, like those implemented in India and China ([Hunger, 2002](#); [Ma & Pan, 2015](#)), might not be a preferable resolution for brain drain from Sudan. Is it a unique case in Sudan? This case study gives significant indications for such a study on contribution to the homeland to understand the brain gain phenomenon and bring significant benefits to the Global South.

Despite the P-group members' emotional ties to Sudan, however, most of them feel that now is not the time to return, as economic deterioration and political instability continue. When the revolution in 2019 successfully overthrew the military regime, people hoped conditions would improve. Study participant J16, who graduated a year before the revolution, reflected the younger generation's view when remarking that the best way they could support Sudan's development was with their knowledge. However, another coup in 2021 shattered their hopes. To effectively contribute, then, highly skilled Sudanese migrants must wait to return.

It is important to note that given this study's collection method and small sample size, its findings should not be over-interpreted. The findings from 10 samples are not generalisable to the entire Sudanese P-group. Additionally, this study cannot confirm the feasibility of actual return and contribution since it focused on migrants rather than returnees. What is intended is not always carried out. Recognising these limitations, further studies attempting to understand the phenomenon of brain gain will need to include more participants, especially returnees. Nevertheless, the study's significance is that it reveals a potential mechanism of brain gain. Understanding influences on the P-group members' motivations help us understand the factors that could encourage highly skilled individuals to return to contribute to Sudan's development. Although focusing on aspirations and intentions results in the abovementioned limitation, it provides a point of comparison for examining the intention-behaviour gap, with can be used by future studies that focus on returnees. Uncertainty was overlooked in this study. Without knowing the highly skilled personnel's aspirations and motivations, we cannot understand how brain gain occurs. Finally, in our era of increasing transnational mobility, framing mobility as a brain drain or brain gain tends to limit the possibilities. Eight participants who were not Sudanese university graduates were not counted as part of the brain drain. They have great potential to contribute to their home country. The notions of brain drain and brain gain could be reconceptualised to express the transnational character of mobility without losing the context of the home country.

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