

DOCTORS' BRAIN DRAIN IN SRI LANKA

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Abstract

Sri Lanka has made a massive outlay in free education. Therefore, Sri Lanka began to be a breeding ground for professionals to be smarten up. But brain drain has become the cynosure of all the eyes due to the high outflow of intellectuals in a country. In Sri Lankan society doctor is an enormous personal agent. Therefore, doctors' brain drain spirally affects the Sri Lankan social, economic, political and cultural context. These ambiances inspiring scholars to conduct studies regarding doctors' brain drain in Sri Lanka. Under this backdrop, it is prudent to answer what are the factors which influence the doctors' brain drain in Sri Lanka. The general objective of this study is to identify the doctors' perception towards the brain drain. Furthermore, the study attempts to investigate the relevance of Lee's migration theory on doctors' brain drain. The operational methodology for this study is a factor analysis which has three stages. First stage is the Exploratory Factor Analysis to identify the major factors. Second stage is the Confirmatory Factor Analysis to confirm the identified major factors from the Exploratory Factor Analysis. Finally, the Structural Equation Model to identify the relationships between the identified factors in the model. According to the Factor analysis, the study found that Socio-political push factors, Socio-political pull factors, Economic push factors and Economic pull factors. Moreover, the study revealed that above factors have a significantly positive impact on doctors' brain drain. However, the Socio-political push factors impact 79% on doctors' brain drain and it is the most crucial factor. The migration based on pull factors can be named as voluntary migration and the migration based on push factors can be named as forced migration. Accordingly, the forced migration has influenced for the doctors' brain drain in Sri Lanka. Finally, the study suggests policies to minimize the adverse effect of doctors' brain drain in Sri Lanka and to create a win – win situation.

Keywords: Doctors' Brain Drain, Factor Analysis, Lee's Migration Theory

1. Background

When evaluating the past seventy years, Sri Lanka has made a massive outlay in free education. Therefore, Sri Lanka began to be a breeding ground for professionals to be smarten up. Among those professionals, doctors have a unique spot. Government medical faculties are the utmost authority of fabricating doctors to Sri Lankan health care structure. The discipline of medicine emerges as the most costly degree program in general in the State University system in Sri Lanka (Gunaruwan et al, 2016). Hence, society has to haul massive expenditure to originate a doctor. Nevertheless due to several push and pull factors these doctors tend to move overseas. This Brain Drain issue has enabled the Sri Lankan economy to head on to a different direction.

Due to the lighting improvements in globalization and extension in information and transmission a new trend termed as new economics of brain drain emerged in mid 1990s. Thus, under such circumstances brain drain may have both adverse and favorable consequences on the sending country (Mountford, 1997). The number of doctors going abroad in developing countries is high

when compared it with the developed countries. Similarly Sri Lanka is one of the most influenced countries by this doctors' brain drain (Bhargava et al, 2011).

When we highlight the current issues of brain drain, the outward migration of doctors who were born through free education has led the country to a shortage of skillful workforce in health care structure. Moreover, Health is a major factor of determining the quality of the work force in a country. In order to promote health care structure doctors play a massive role. Therefore, doctors' migration directly affect to the quality of workforce and spirally affect the growth of economy and development. Although Sri Lanka receives remittances from the doctors' brain drain, it is still doubtful that whether it is adequate to cover the social cost incurred to create those experts.

2. Literature Review

When interpreting about the phenomenon of "brain drain", it is very expedient to spotlight on the various definitions of it. Following denotations were extracted by some economic dictionaries titled, "Oxford Dictionary of Economics", "The MIT Dictionary of Modern Economics" and "Routledge Dictionary of Economics" respectively.

Brain drain; a pejorative description of the tendency for talented people from poor countries to seek employment in richer ones. Sometimes this migration occurs because, while similar skills are needed in both poor and rich countries, the rich pay more for them. In other cases brain drain occurs because the technical and economic backwardness of poorer countries means that job opportunities there are limited or non-existent. It is also possible that brain drain is encouraged because of tendencies in poorer countries to fill such good jobs as there are on a basis of family connections, political influence and corruption, while on average richer countries, though subject to some of the same problems, tend to fill posts on a slightly more meritocratic basis. (John Black, 2017)

Brain drain; the migration of educated and skilled labor from poorer to richer countries. Education or skill, which represents investment in HUMAN CAPITAL, is usually cheaper to acquire in poorer, labor-abundant countries, since its provision is usually a labor-intensive activity. Those with the skills or education then move to more developed countries where the return to their human capital is higher. Such migration is often encouraged by laws and institutional factors, as most countries look more favorably on immigration by those with skills than those without. (Pearce, 1992)

Brain drain; International migration of highly qualified persons, especially surgeons, physicians, scientists, information technology specialists and engineers, from low-income countries to more prosperous economies, especially the USA. Differences in salaries and research facilities, as well as an oversupply of specialized graduates in less developed countries, have occasioned this, resulting in an increase in the HUMAN CAPITAL stock of advanced countries. Some countries have proposed the repayment of state financed education as a deterrent to emigration. (Rutherford, 2002)

By clarifying the above explications, it is clear that the socio – political aspects had influenced greatly than the economic aspects for the human capital migration issue. According to that anatomy we can attain to a preparatory supposition as socio – political and economic facets are the factors which affect for the intellectual brain drain and among those determinants socio – political factors are the most influential one.

Lee's (1966) is one of the most influential theory, which can be used for explain push and pull factors influenced on doctors' migration. According to the Lee's (1996) inspection, he introduced few factors in the act of migration as, (a) Factors associated with the area of origin, (b) Factors associated with the area of destination, (c) Intervening obstacles and (d) Personal factors.

It can be categorized the factors associated with the area of origin as push factors and the factors associated with the area of destination as the pull factors. Moreover when evaluating the circumstance of doctors' brain drain, these pair of factors can be considered as the foremost factors. In here the area of origin can be appraised as the homeland of doctors and the area of destination as their immigrating country. Therefore by reviewing several literatures we can assume that push and pull factors which were demonstrated under the model of migration by Lee (1966) have been used predominantly and successfully for various investigations related to doctors' brain drain.

De Silva et al (2014) has done an analysis about the reasons for Sri Lankan doctors to migrate from the country stand on the push and pull factors. That was a cross sectional descriptive study which was based on undergraduates and new post graduates of the medical faculty of University of Colombo. According to that, the reasons for the migration were better quality of life (67.71%), better earnings (58.83%) and better political climate (27.08%) in the host country. From this we can conclude that pull factors have influenced vigorously and positively on doctors' brain drain in Sri Lanka.

An inspection on migration of medical specialists was done depending on the data which was collected by all the trainees who left the country for post graduate trainings from the Post Graduate Institute of Medicine, University of Colombo during April, 1980 to June, 2009 has been done by De Silva et al (2013). In line with his study, job security (60%), stability in Sri Lanka, income from private practice (53%), proximity to family (97%) and culturally appropriate environment were the motives for medical specialists to come back to the motherland after ending up their training period. In compliance with that there is a negative relationship between the brain drain and the socio-political and economic push factors.

Most South and Southeast Asian countries and also African countries are the countries with critical shortages (WHO, 2016). Therefore it is necessary to revolve around the brain drain issue of those countries.

Based on the Pakistan doctors' brain drain phenomenon an investigation has been done by Tahir et al (2011). For this it has used a sample of 100 doctors from the Mayo hospital in Lahore. According to that, the strands like less financial gains (83%). Political instability (81%), poor professional infrastructure of health department (56%), poor medical education system (84%), poor health conditions of people (83%), poor quality of health care services (58%), poor health policy and programs (89%), practice of dispensers, hakims quacks and spiritual healers (89%) have influenced on this. Therefore it is comprehensible that push factors have effected strongly and supportively for the brain drain in Pakistan.

As the push factors of Nepal doctors' brain drain low employment opportunities, low wages and poor working conditions, lack of professional development and specialist training specially in advance medical technologies, political instability and job security threat can be considered. And also high employment opportunities, higher wages, immigration policies of the host country have been listed under the pull factors. Then it is easy to determine that there is a positive link between the brain drain and the push and pull factors (Phuyel 2013).

In South Africa most induced factor for the brain drain was the financial issue (89%). Not only that but also better job opportunities (79.3%), high crime rate (75.6%), wanted to change immediate circumstances (58.6%), personally wanted to experience something new (58.6%), feeling of restlessness regardless of working conditions (55.2%), extended duty hours (55.2%), high prevalence of HIV/AIDS (51.7%), South African income tax system (51.7%) and better schooling opportunities for children abroad in (50%) guided to this situation. Accordingly it shows a favorable relationship among doctors' brain drain and the push and pull factors of South Africa (Bezuidenhout et al, 2009).

As specified by Mensah and Nelson (2014), economic push and pull factors (38.5%), socio - political push and pull factors (30.7%) have affected for the doctors' migration in Ghana. Therefore by inspecting those factors the doctors' migration in Ghana has an affirmative correspondence with push and pull factors.

For the doctors' migration in Romania it has a potent influence by the pull factors. Among those determinants higher wages, better working conditions, promotions, socialization opportunities, public recognition and job satisfaction are prominent (Feraru, 2013).

2.1 Socio - political push factors

Acts of politicians and the political environment within the country have mainly caused for the spread of brain drain (Joseph, 2010). In accordance with Bezuidenhout et al (2009), socio - political push factors can be categorized as high crime rate, wanted to need immediate circumstances and high prevalence of HIV/AIDS. By evaluating further, a strong positive relationship can be seen between the doctors' brain drain and the socio - political push factors.

In addition to that according to the perusal of Tahir et al, brain drain has a supportive correlation with socio - political push factors like political instability, poor health condition of people, practice of dispensers, hakins, quacks and spiritual healers. As specified by Arnold and Lewinsohn (2010) after 1990 the key factor which affected for the doctors' brain drain in South Africa was the level of violence and crime.

2.2 Socio - political pull factors

Relative to the inspection of De Silva et al (2014) better quality of life leads for the doctors' brain drain as a socio - political pull factor. Additionally, according to Feraru (2013) the socio - political pull factors like socialization opportunities and public recognition have greatly influenced for the phenomenon of brain drain. Furthermore, immigration policies of the host country can be considered as a dominant aspect related to socio - political pull factors (Phuyel, 2013).

2.3 Economic push factors

Economic push factors are the factors which affect for the immigration of individuals associated with the area of origin that having an economic value. Therefore under those factors poor salary structure and poor quality of trainings in the home country can be considered (Syed, 2008).

Financial reasons of the home country, feeling of restlessness regardless of working conditions and extended duty hours like economic push factors also give rise for the doctors' brain drain (Bezuidenhout et al, 2009).

In line with Lofters (2012) economic push factors has done an exert influence for the health care workers in Jamaica. Among them recruitment problems and poor working conditions are significant.

2.4 Economic pull factors

In compliance with Willis - Shattuck et al (2008), the economic pull factors which strengthen the brain drain of health workers are financial rewards, career development and resource availability.

Among the economic pull factors which motivate the doctors' brain drain attractive career progression and training opportunities can be listed. It can see an intelligible affirmative relationship between the economic pull factors and the brain drain of doctors (McAleese, 2016). Another key fact to remember is career opportunities and better working conditions in host countries are the economic pull factors which guide the way to the doctors' brain drain.

3. Research Objectives

The general objective of this research is to identify the perception of doctors on brain drain. Under this general objective there are some specific objectives as follow,

- To examine the relevance of Lee's Migration Theory in order to access the doctors' brain drain in Sri Lanka.
- To identify the policy recommendations for doctors' brain drain in Sri Lanka.

4. Methodology

The study is based on cross-sectional design to gather primary quantitative data through structured questionnaire. This focuses on identifying the factors that influence the doctors' perspective and expectations with respect to brain drain in Sri Lanka. The study used a random sampling technique to generate a sample of 445 doctors. In order to gather the information regarding doctors' intention towards the brain drain through a five point likert scale questions. The operational methodology which was adopted for this study is a factor analysis which has three stages. First stage is the Exploratory Factor Analysis (EFA) to identify the major factors that influence the doctors' perspective and expectations with respect to brain drain in Sri Lanka. Second stage is the Confirmatory Factor Analysis (CFA) to confirm the identified major factors from the Exploratory Factor Analysis (EFA). Finally, the Structural Equation Model (SEM) to identify the relationships between the identified factors in the model. Further, the study includes the following hypothesis testing.

- Hypothesis 1 (H1): Socio-political push factors (SPPS) have a significantly positive effect on doctors' perspective and expectations with respect to doctors' brain drain in Sri Lanka.
- Hypothesis 2 (H2): Socio-political pull factors (SPPL) have a significantly positive effect on doctors' perspective and expectations with respect to doctors' brain drain in Sri Lanka.

- Hypothesis 3 (H3): Economic push factors (EPS) have a significantly positive effect on doctors' perspective and expectations with respect to doctors' brain drain in Sri Lanka.
- Hypothesis 4 (H4): Economic pull factors (EPL) have a significantly positive effect on doctors' perspective and expectations with respect to Doctors' Brain Drain in Sri Lanka.

5. Results and Discussions.

The Exploratory Factor Analysis identified four major factors that impact the brain drain of doctors and the Confirmatory Factor Analysis confirmed the identified four factors. This indicates that the results obtained from Exploratory Factor Analysis for the 14 observed variables are reliable. Confirmatory Factor Analysis was conducted to verify the factor structure of the identified set of variables as shown in Table 01.

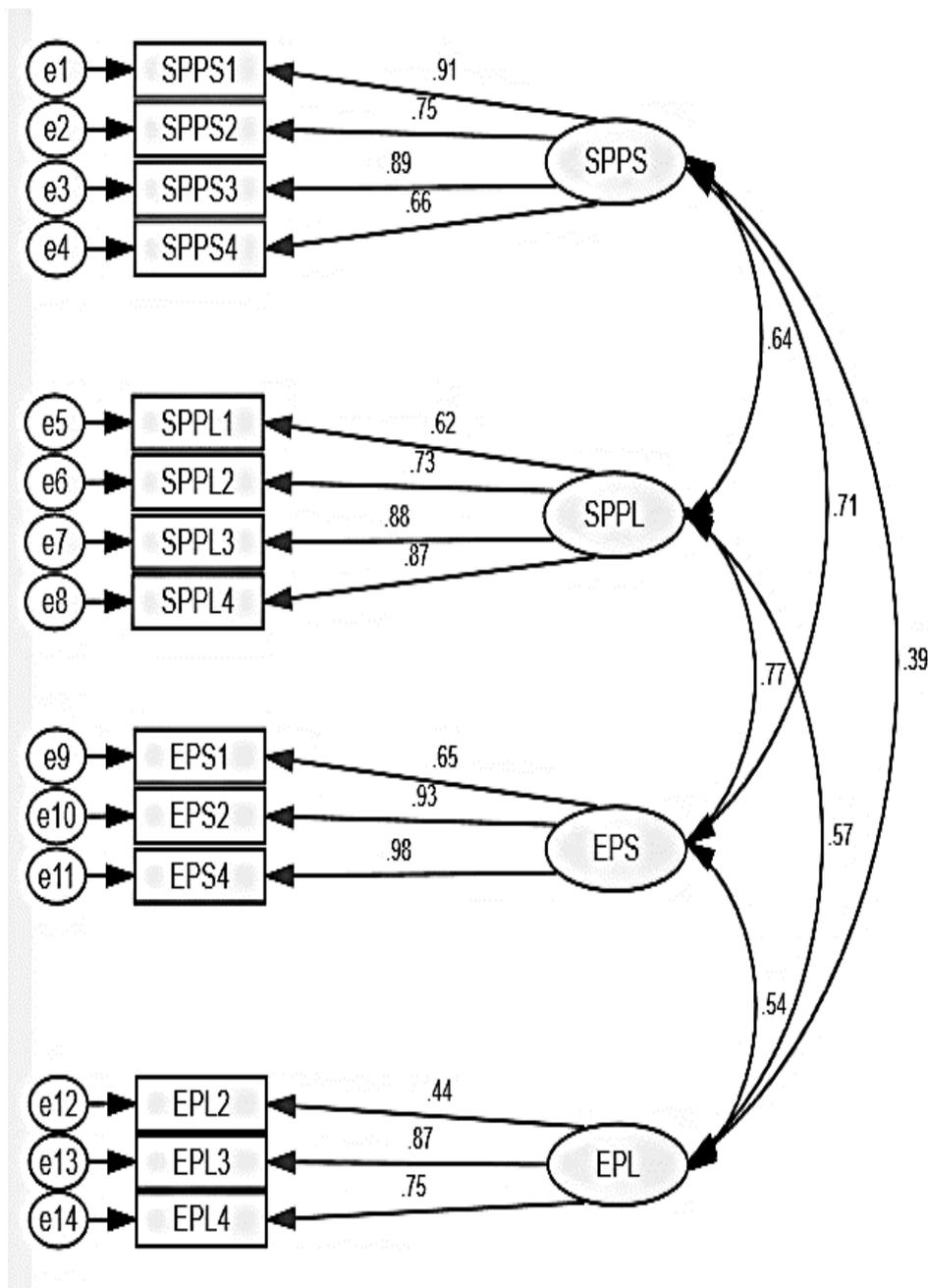
Table 01: Rotated Component Matrix of the Accepted Model

Observed Variables	Components			
	SPPS	SPPL	EPS	EPL
Political Instability	0.836			
Corruption and unnecessary political intervention	0.823			
Crime and violence	0.813			
Discrimination in Promotions	0.694			
Foreign countries ensure stable future		0.831		
Foreign countries provide better living standards		0.789		
Foreign countries provide better education standards		0.680		
Foreign countries ensure social equality, equity and democracy		0.606		
Economic Instability			0.769	
Insufficient income			0.766	
Less career opportunities			0.721	
Foreign countries have been empowered with new technological advancements				0.808
Foreign countries allocates more funds for researches and innovations				0.752
Foreign countries ensure better working environment				0.655

Source: Author generated from SPSS

According to Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, this study has a high sample adequacy due to the KMO value of 0.771; confirming acceptance of the modified model. The resulting four components explain 67.78% of total variance and were labelled as follows to explain all factors related to the underlying features of factors under each category. To measure the reliability of latent constructs, the Cronbach Alpha test was carried out, and as shown in Table 02 it was more than 0.75 for each of the four components. Accordingly, it indicated that the results were highly reliable (Izquierdo et al, 2014).

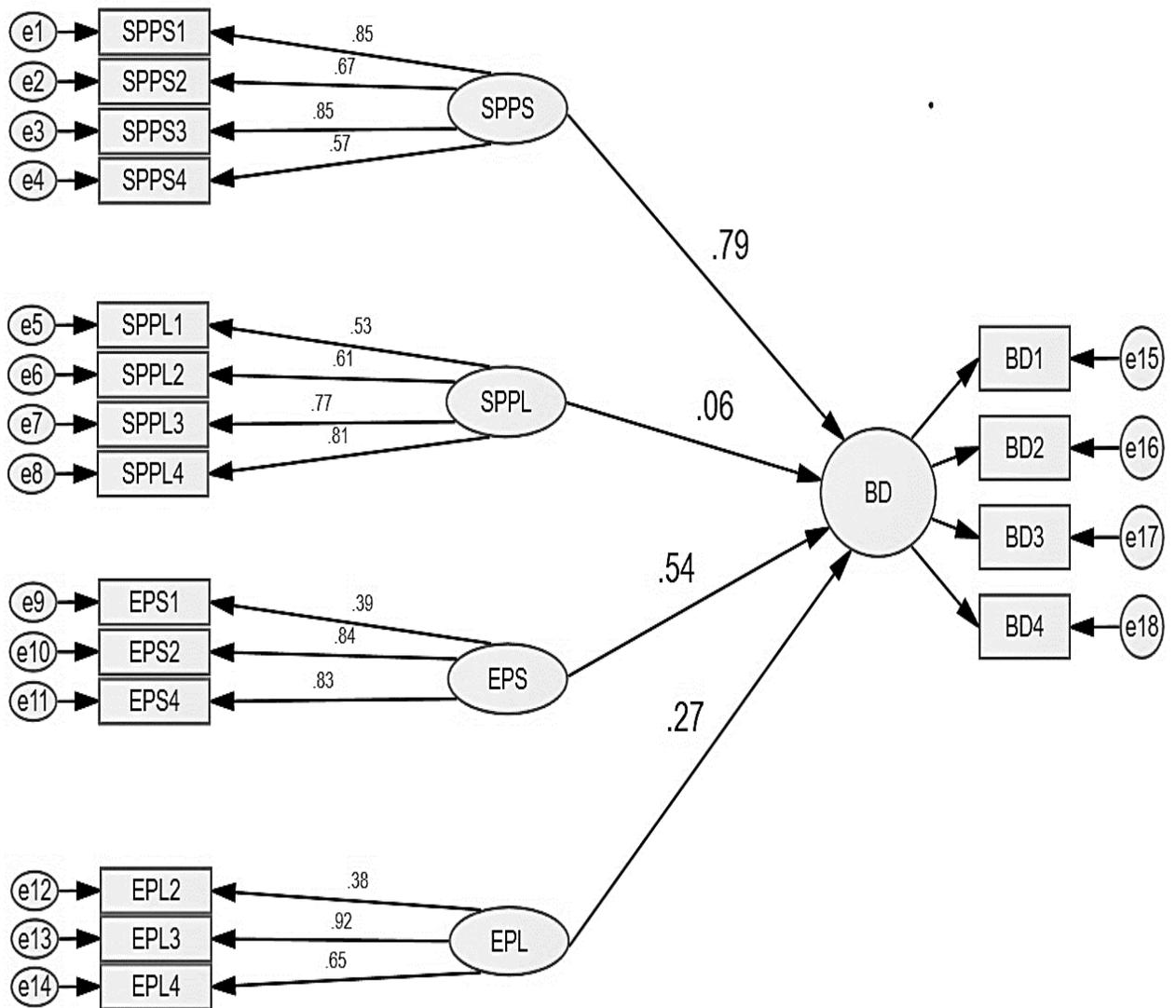
Figure 01: Output from the Accepted Model of CFA



Source: Author generated from SPSS AMOS

As shown in Figure 01, all factor loadings for the observed variables are on average above 0.5. Higher loadings of variables suggest that doctors' perspective and expectations with respect to brain drain is influenced by Socio-political push factors (SPPS), Socio-political pull factors (SPPL), Economic push factors (EPS) and Economic pull factors (EPL). For a model to be valid, the CMIN/DF value must be in the range of 1.0-3.0 (Awang, 2014). Therefore, the accepted model is considered as the best fit model extracted from the CFA, with a CMIN/DF value of 1.585 and RMSEA value of 0.052. This indicates that the model has achieved the absolute fit. In addition, the model is identified as a valid model through achieving uni-dimensionality with factor loadings greater than 0.5 for all observed variables.

Figure 02: Output from the Accepted model of SEM generated from SPSS AMOS



Source: Author generated from SPSS AMOS

The SEM was employed in order to identify the conceptual relationship as expressed in the aforementioned hypotheses. The model has CMIN/DF value of 2.162 which is in the range of 1.0 to 3.0 as per the model fit requirement and the RMSEA value 0.074 which is less than the requirement of 0.08. Hence, the model has achieved the absolute fit (Awang, 2014). As shown in Figure 2, Socio-political push factors (SPPS), Socio-political pull factors (SPPL), Economic push factors (EPS) and Economic pull factors (EPL) have a significantly positive relationship with Doctors' Brain Drain (BD). As per the coefficient values, Socio-political push factors (SPPS) impact 79% and Socio-political pull factors (SPPL) impact 06% of Doctors' Brain Drain (BD). Moreover the Economic push factors (EPS) influence 54% and Economic pull factors (EPL) result 27% of Doctors' Brain Drain (BD). According to the SEM, Socio-political push factors (SPPS) have a comparatively higher impact towards Doctors' Brain Drain (BD) in Sri Lanka. As shown in

Figure 02, the significantly positive relationships confirm that all the developed hypotheses are acceptable.

6. Conclusion

This study is mainly based on the brain drain patterns of Sri Lankan doctors, the cost which is incurred by the society to produce a doctor under the structure of free education and the brain drain related perspectives and future expectations of the medical students who are created by the medical faculties which are considered as the main source of producing doctors.

Doctors are a group of exclusive intellectuals in the society. Leaving the country by them cause for the shortage of experts in the country. Moreover doctors' migration motivates the migration of intellectuals related to other fields.

To generate a healthy workforce it is essential to have a better health service. But when doctors migrate largely the health sector becomes frail and unable to achieve the economic prospects.

In the macro level this issue can be seen as the above mentioned way. But according to the point of view of doctors, under the low performance of Sri Lankan educational structure when a medical student complete his five years in the medical faculty his age will be at least 26 years. And after being a doctor it takes a considerable time to become more stable in Sri Lanka. Based on this reason doctors tend to move overseas since their medical faculty period.

By the cross sectional design done under this study, the main reasons which influence for the medical students perspective and future expectations on doctors' brain drain were revealed. From the literature review it could identify four major factors for doctors' brain drain issue.

Furthermore those four factors were disclosed by EFA and CFA. Those four factors can be listed as, (1) Socio – political push factors, (2) Socio – political pull factors, (3) Economic push factors, and (4) Economic pull factors.

According to this study we can conclude that push factors mainly cause for the doctors' brain drain in Sri Lanka. Among the push factors, socio – political push factors affect 79% for the doctors' brain drain. Therefore we can interpret that political crisis and unnecessary interference in Sri Lanka mainly cause for doctors' brain drain than the economic instability of the country.

Moreover the migration based on pull factors can be named as voluntary migration and the migration based on push factors can be named as forced migration. Accordingly the forced migration has influenced for the doctors' brain drain in Sri Lanka.

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