Highly Educated Migrants and Their Life Satisfaction: Evidence in Urban China

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Abstract: This study examines how migration and destination types are correlated with the life satisfaction of highly education workers using Chinese Family Panel Survey over the period 2010-2016. Our results firstly show that the college-educated overall gain more life satisfaction from migration. By taking into account the destination characteristics, we find that they display a higher level of life satisfaction only if moving to an economically more developed province or a high human capital concentrated province. College-educated migrants living in less developed areas, however, can gain greater than average satisfaction from an increase in income. Implications for theory and practice are discussed.

Introduction

High human capital workers are in huge demand in today's labor market. Countries or cities all over the world are competitively introducing preferential policies for talents. Based on Florida's Creative Class Theory (2002), numerous studies have examined how to attract high-qualified migrants, namely the determinants of migration decisions made by highly educated labor (e.g., Whisler et al., 2008). As college-educated young adults have constituted a larger share of migrants, another equally important question is how to retain this group and make them satisfied with their after-migration life. However, previous literature has rarely studied the relationship between migration and life satisfaction for this specific group. In addition, empirical studies on high-qualified workers has been mostly conducted in

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the Western context. Nevertheless, the share of highly educated migrants in developing countries increased significantly in the past years. China, the most populated country and the fastest growing economy among developing countries, is no exception to the talent attraction policy and the migration trend of high human capital labor. According to official statistics, the proportion of college-educated people among internal migrants in China has sharply grown from 5% in 2000 to 23% in 2015 (Zhai & Zhou, 2003; Duan, 2018). Furthermore, the transition economy in China has attracted a large number of scholars to study happiness and life satisfaction in China (e.g., Brockmann et al., 2009). Although some studies on internal migration in China have discussed migrant's life satisfaction, they mainly treats low-skilled or rural-to-urban migrants as the target group (e.g., Wang et al., 2010).

Life satisfaction depends on many aspects of one's life. Most existing studies focus on job situation to understand migrants' life satisfaction. For instance, Bartram (2011) and Switek (2016) find that economic immigrants gain greater than average happiness from an increase in income. In other words, migrants with higher income and better employment opportunities are more satisfied with life. In addition to jobs and income, characteristics of destination can be important factors influencing the life satisfaction of highly educated migrants. Despite of limited evidences on this, the literature on migration choice has greatly demonstrated the importance of space, socioeconomic conditions, cultural climate and other destination characteristics for the highly educated. From a spatial perspective, Kodrzycki (2001) finds that the highly educated are particularly mobile and they are disproportionately likely to engage in long-distance moves in the United States. Franklin (2003) further reports that large metropolitan areas are favorable destinations for the young, single, and college-educated adults. This residential desirability is also showed in the so-called power couples who are both professional and high-qualified (Costa and Kahn 2000). More recently, increasing attention has been drawn to the amenities at the destination (Whisler et al., 2008). As an example, some scholars demonstrate that

the spatial concentration of human capital itself becomes an amenity that attracts other better-educated migrants (e.g., Gottlieb and Joseph, 2006). Taking the three dimensions into consideration, moving to a place with both talent attraction and retention power would make the highly educated more satisfied with life.

In this paper, our purpose is to examine the impact of migration on life satisfaction among college-educated population in urban China. We try to contribute to previous literature by paying additional attention to destination characteristics. In particular, we investigate whether the life satisfaction of highly educated migrants vary by different migration patterns, such as long-distance migration, migration to a large metropolitan area, and migration to a relatively talent-concentrated area. In light of the research on migration, income and happiness, we also explore whether income exaggerates the relationship between migration and life satisfaction. We attempt to shed light on these questions by drawing on national representative longitudinal data and employing fixed effect models.

Data and Method

The micro-data used in this study comes from the Chinese Family Panel Survey (CFPS), one national representative data in China. The CFPS survey was conducted in every two years after 2010. We employ all four waves of data in our analyses (wave 2010, 2012, 2014, and 2016). The focus in this research is on young college-educated workers. Following official statistics and the study of education in China, we treat those who achieved three-year college degree or higher as college-educated people. We further restrict our samples to the workers between the age of 23 and 39, due to the high prevalence of internal migration among people at this age. Additionally, we include in the analyses solely those who at least twice joined in the survey over the period 2000-2006 to focus on within-individual differences. In total, we have 2,558 observations collecting from 1,032 individuals. We also use macro-data from China Statistical Yearbook (Yearbook 2010 to 2016) and China Population and Employment

Yearbook (Yearbook 2010 to 2016)[1] to compare the migrants' place of origin and destination.

The main variables employed in the analysis are life satisfaction, migration status, and migration patterns. Life satisfaction is measured in all waves of CFPS using a five-category variable. The question for the variable in the survey is "How satisfied are you with your life in general". Response categories are given on a five-level scale, with 1 corresponding to "very dissatisfied" and 5 to "very satisfied".

Unlike some studies in China that define migration as leaving the place of hukou, migration is measured by whether the place of residence is different with the birth place in this study. The former definition is inappropriate for research on high-educated migrants because they have easy access and are more likely to convert their hukou location to the destination. Given that young college-educated population are particularly mobile across cities or counties, while only a part of them choose to move to another province, we pay special attention to cross-province migration. Thus, a dichotomous variable, "cross-province migration", is used to indicate migration status. We then distinguish different migration patterns by taking into account regional characteristics such as space, economic conditions, and the concentration of human capital. In this way, we have another three variables on migration patterns. Each variable compares one of the above characteristics of the migrant's place of destination with that of the birth province. The first variable is "migration to an economically more developed province". There are three categories, which are "non-migrant", "migrant in a less developed province", and "migrant in a more developed province". The second variable is "migration to a relatively talent-concentrated province", which measures whether the respondents move in a province with a larger proportion of college-educated population. The

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[1] Statistics on China Statistics Yearbook (Yearbook 2010 to 2016) and China Population and Employment Yearbook (Yearbook 2010 to 2016) are provided and edited by the National Bureau of Statistics of China (http://www.stats.gov.cn).

third variable is "migration to a neighboring province". Similarly, the latter two variables also include three categories.

To make use of the longitudinal data, fixed effect models are used to analyze the effects of migration status and migration types on life satisfaction among college-educated population in urban China. We fix at the individual level to control for unobserved differences between migrants and non-migrants. We also control for a set of time-varying variables and time fixed effects to consider some observed differences between the two groups. The factors included in our analyses include age, receiving local hukou, family variables such as marriage and children, living with family members, and house ownership, and employment-related variables such as income, working unit and receiving any housing support. Considering the ordered logit of the dependent variable, we follow the suggestion of Ferrer-i-Carbonell and Frijters (2004) to include fixed effects in the ordered logit estimation. They show that an ordered logit model with fixed effects can be estimated as a fixed effect logit (conditional logit) model, where the ordered data are collapsed to binary data with individual-specific thresholds. In our case, we only include individuals with changes in life satisfaction over time in the model, and the recording of observations to 'high' and 'low' life satisfaction is based on the individuals' average life satisfaction scores in the panel. Results from the two groups of models introduced above can account for most selection bias and provide evidences to the debate on migration and life satisfaction.

Results

Table 1 reports a cross-tabulation of life satisfaction and migration status among college-educated workers. We also describe the distribution of life satisfaction score by some specific migration patterns. The results in the first two columns show that 56% and 55% of migrants and non-migrants respectively feel satisfied or very satisfied with life, while non-migrants are more likely to rate the highest level of life

satisfaction. Column 3 to 5 indicate two different patterns. On the one hand, highly-educated labors migrating to an economically more developed province especially a province with high human capital agglomeration very likely report a high level of life satisfaction. On the other hand, those moving to a neighboring province tend to be less satisfied with life. Nevertheless, cross-sectional variation may not truly reveal the relationship between migration and life satisfaction.

We take advantage of the panel dimension of CFPS and employ fixed effect models to test the potential causal relationship. Table 2 reports two groups of model results. The first three columns present fixed effect model results, while the other three columns report fixed-effect ordered logit models. We start by including cross-province migration as well as controllers such as age, family structure (having a partner and/or child) and time dummies into the fixed effect model. Model 1 shows that migration status can enhance the life satisfaction of the highly educated. After including family variables, work-related variables, and hukou into the model, the impact of migration turns marginally significant in model 2. Model 3 adds an interaction term of migration and income. The result does not support the hypothesis for the moderating role of income in the above relationship. We then treat life satisfaction as an ordinal variable and run fixed-effect ordered logit models. Results in column 4-6 consistently demonstrate both the positive impact of migration for college-educated migrant's life satisfaction and the insignificant moderating role of income in this relationship.

The next step is to examine how different migration patterns may affect the life satisfaction of college-educated workers. Table 3 reports three sets of models for considering the importance of three destination characteristics in analyses. They are, socioeconomic conditions, concentration of high human capital, and distance. Each set contains two fixed effect models, one without and one with income interaction terms, and another two fixed effect ordered logit models. The results firstly show that the impact of migration on the life satisfaction of the highly educated depends on destination types. Migrants living in an economically more developed province

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are the most likely to display an improvement in the level of life satisfaction, followed by the migrants living in a human-capital concentrated province. Life satisfaction among migrants living in a long-distance province are also slightly higher than non-migrants, but probably due to other reasons such as economic and cultural environment. Results in the table 3 also demonstrate that the moderating role of income in migrants' life satisfaction exists in some cases. Most significantly, income can moderate the life satisfaction of college-educated migrants who move to a province with lower human capital. In other words, these people would have the lowest level of life satisfaction if receiving low income. In addition, income may play a role in adjusting the life satisfaction of migrants who migrate to a less economically developed area, while the interaction effect turns insignificant in the fixed effect ordered logit model. What's more, income cannot impact migrants' life satisfaction for other types of migration such as long-distance migration.

Conclusion and Discussion

The present study examines the relationship between migration and life satisfaction among highly educated population in urban China. We focus on their cross-province migration. Taking advantage of the panel data and fixed effect models, our analyses remove the effects of unobserved factors as well as observed factors. Results suggest that the college-educated overall gain life satisfaction from migration. In particular, they would become more satisfied with life if moving to an economically more developed province or a province with high human capital agglomeration. In addition, migrating to a long-distance province is correlated with a slightly higher level of life satisfaction. In terms of the role of income in the relationship between migration and life satisfaction, we find that highly educated migrants overall do not gain greater than average satisfaction from an increase in income. However, for migrants living in an economically less developed province especially a lower human-capital province, income is positively correlated with their life satisfaction.

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This study extends prior research findings to consider the destination characteristics in the association between migration and life satisfaction. Previous literature has rarely focused on the highly educated to study this correlation. Additionally, a few studies on migration determinants suggest the importance of destination characteristics for this highly educated group. Our results provide evidence that the life satisfaction of highly educated migrants depends on the destination type. Specifically, college-educated migrants living in an economically more developed province or a relatively human-capital concentrated province are more satisfied with their after-migration life. The finding supports Florida's Creative Class theory from another angle.

The study further explores whether an increase in income buys life satisfaction for the highly education migrants. Our results firstly reveal a U- shaped relationship between the two variables, which is consistent with findings in some happiness studies. More importantly, our results do not fully support the argument made by Bartram (2011) and Switek (2016) that migrants would display a higher level of life satisfaction from an increase in income. However, we find this could be true if migrants live in a less developed or low human capital province.

The limitations of this study are noteworthy at this stage. First, it examines the impact of leaving the birth province for migrants' life satisfaction. For frequent migrates, the mobility across different provinces could also be important factors including their quality of life. Our next step will take this case into analyses. Second, the findings at this stage cannot distinguish which destination characteristics are more directly associated with high-educated migrants' life satisfaction, although we can compare which type of migration plays a significant role. We will keep analyzing the macro-level factors. Third, the social network theory suggests that migrants' life satisfaction may be influenced by social network at the destination, which is not well measured in CFPS. We will try to include a few more related variables as well as some other factors in the models.

Despite the limitations, this research contributes to the literature by examining college-educated migrants' life satisfaction and indicating the importance of migration and destination types in happiness research. Moreover, the findings of this study have significant implications for talent retention programs made by countries or metropolitan areas nowadays. Our story suggests that highly educated migrants are more satisfied with life in the developed or human capital concentrated areas, while increase in income would adjust the life satisfaction among college educated migrants who live in less developed areas.

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Table 1. Distribution of the level of life satisfaction

Life Satisfaction	Cross-province Migration?					
	No	Yes	Migration to a more developed province	Migration to a more human-capital concentrated province	Migration to a neighboring province	Total
1	49	6	4	4	4	55
	(2.13)	(2.33)	(1.75)	(1.79)	(4.35)	(2.15)
2	156	19	13	17	6	175
	(6.78)	(7.36)	(5.7)	(7.59)	(6.52)	(6.84)
3	841	89	79	73	38	930
	(36.57)	(34.5)	(34.65)	(32.59)	(41.3)	(36.36)
4	912	114	107	103	35	1,026
	(39.65)	(44.19)	(46.93)	(45.98)	(38.04)	(40.11)
5	342	30	25	27	9	372
	(14.87)	(11.63)	(10.96)	(12.05)	(9.78)	(14.54)
Total	2,300	258	228	224	92	2,558
	(100)	(100)	(100)	(100)	(100)	(100)

Note: Percentage shares of column totals in parentheses.

Table 2. The Impact of Cross-province Migration on Life Satisfaction among College-educated Workers

	FE Model			FE Ordered Logit Model		
	(1)	(2)	(3)	(4)	(5)	(6)
Cross-province migration	0.508*	0.481+	0.336	1.259+	1.269+	1.570
Cross-province migration * Logged income			0.015			-0.030
Controlled variables						
Age	-0.206**	-0.199**	-0.202**	-0.860**	-0.854**	-0.847**
Having a partner and/or child	0.093	0.042	0.043	0.430*	0.343	0.341
Living with family members		0.226+	0.227+		0.384	0.384
Logged income		-0.098*	-0.100*		-0.178	-0.175
Logged income square		0.008*	0.008*		0.014	0.014
House ownership		0.001	0.002		-0.008	-0.009
Receiving any housing support		0.006	0.007		0.098	0.097
Work unit (Ref: Government/Party/Organization)						
State-owned/Collectively-owned public institution/Research Institute		0.001	0.001		-0.022	-0.024
State-owned/State-controlled enterprise		-0.078	-0.078		-0.247	-0.248
Private enterprise/Individually-owned Business		0.012	0.011		-0.105	-0.106
Enterprise invested in by foreign/Hong Kong/Macao/Taiwan Capital		-0.007	-0.007		-0.206	-0.203
Other		0.047	0.046		-0.147	-0.147
Local hukou		-0.134	-0.134		-0.264	-0.264
Wave (Ref: 2010)						
2012	0.503**	0.469**	0.476**	1.862**	1.811**	1.796**
2014	1.138***	1.091***	1.104***	4.388***	4.331***	4.303***
2016	1.359**	1.293**	1.314**	5.518**	5.433**	5.386**
Fixed effects	Yes	Yes	Yes		Yes	Yes
N	2558	2558	2558	1649	1649	1649

Note: Robust standard errors in parentheses; + p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

Table 3. The Impact of Different Migration Patterns on Life Satisfaction among College-educated Workers

	FE model		FE Ordered Logit Model	
	(1a)	(2a)	(3a)	(4a)
Migration to a more developed province (Ref: Non-migrant)				
Migrant in a less developed province	0.242	-0.819	0.844	-1.238
Migrant in a more developed province	0.652*	0.751+	1.705*	2.533*
Interaction of migration patterns and logged income (Ref: Non-migrant)				
Migrant in a less developed province * Income		0.116+		0.232
Migrant in a more developed province * Income		-0.004		-0.069
Controlled variables	Yes	Yes	Yes	Yes
Time dummies	Yes	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes	Yes
N	2558	2558	1649	1649
	(1b)	(2b)	(3b)	(4b)
Migration Migrant in a more human-capital concentrated province (Ref: Non-migrant)				
Migrant in a less human-capital concentrated province	0.266	-0.554+	0.615	-10.645
Migrant in a more human-capital concentrated province	0.616*	0.587+	1.672*	3.314+
Interaction of migration patterns and logged income (Ref: Non-migrant)				
Migrant in a less human-capital concentrated province * Income		0.082**		1.100+
Migrant in a more human-capital concentrated province * Income		-0.001		-0.160
Controlled variables	Yes	Yes	Yes	Yes
Time dummies	Yes	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes	Yes
N	2558	2558	1649	1649
	(1c)	(2c)	(3c)	(4c)
Migration Migrant in a neighboring province (Ref: Non-migrant)				
Migrant in a long-distance province	0.478+	0.306	1.355+	0.905
Migrant in a neighboring province	0.486	0.378	0.822	1.505
Interaction of migration patterns and logged income (Ref: Non-migrant)				
Migrant in a long-distance province * Income		0.017		0.044
Migrant in a neighboring province * Income		0.011		-0.085
Controlled variables	Yes	Yes	Yes	Yes
Time dummies	Yes	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes	Yes
N	2558	2558	1649	1649

Note: Robust standard errors in parentheses; + $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$.