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Social status, hukou conversion and upwards class mobility: evidence from Chinese rural–urban migrants

Xiao Yu [1,2], Sixiang Cai[3], Xiaotong Yang[4], Yipu Cao[1] & Wei Jiang[1,2 ✉]

As a dual economy, China has experienced rapid urbanization in recent decades, as rural–urban migrants have poured into cities in search of better work, competitive salaries, non-agricultural hukou, and upwards class mobility. The literature has fully discussed the impacts of migrants on China's economy but has not focused enough attention on the psychological status of this particular group. This study takes China's rural–urban migrants as a representative research case and makes a clear distinction between policy-based and self-motivated migrants. By employing five waves of nationally representative Chinese General Social Survey (CGSS) data, we compare their subjective perceptions of social status, specifically, subjective social status (SSS) and subjective family economic status (SFES), to those of urban natives, which is one of the first studies to quantify this issue through econometric models. Contrary to earlier reports indicating that migrants always present self-perceived social inferiority, the empirical results show that both the current and future SSSs of self-motivated migrants are almost equal to those of urban natives, but the identity of being a self-motivated migrant has markedly negative effects on their SFES. Moreover, both the individual SSS and the SFES of policy-based migrants are significantly lower than those of urban natives are, and salient disparities can still be observed in individual SSS between them after ten years. Moreover, we identified that female migrants are at a disadvantage in terms of SSS and SFES. Our findings provide theoretical contributions for clearly distinguishing the types of Chinese rural–urban migrants and make realistic contributions to a transitional economy when implementing policies aimed at transforming migrants' psychological conditions during the urbanization process.

[1] School of Economics, Minzu University of China, Beijing, China. [2] China Institute for Vitalizing Border Areas and Enriching the People, Minzu University of China, Beijing, China. [3] Lingnan College, Sun Yat-sen University, Guangzhou, China. [4] School of Sociology and Population Studies, Renmin University of China, Beijing, China. ✉email: jiangw913@outlook.com

Introduction

The main goal of this study is to make a clear classification of policy-based and self-motivated migrants in the context of transitional China and compare their subjective perceptions of social status to those of urban natives. The history of the migration starts with the reform and opening up in 1978, as China has gradually liberalized the restriction of population movements. Since its rapid urbanization process, migrant workers from rural areas have flooded cities while providing a crucial impetus to economic growth (Liu et al. 2022).

However, urbanization is one of the most significant social challenges that should be addressed in contemporary China. On the one hand, Chinese urbanization is more like a process of "land urbanization"[1] than "people-oriented urbanization" (Jiming and Shiyong, 2011). As a result, many peasants no longer contract rural lands but receive compensation from rural land expropriation and have to migrate to cities to earn a living; some of them have converted from agricultural household registration to nonagricultural household registration (also knowing as agricultural hukou and nonagricultural hukou), and finally, they have become "new urban residents" (Wen 2009). However, compared with urban natives, it is not rare for this group of individuals to be treated unequally in several aspects. For example, before migrants access nonagricultural hukou, they often receive lower payments even if they have the same capacity as urban natives do. This phenomenon is called "hukou discrimination" (Wu et al. 2015). In addition, after migrants convert their hukou to a nonagricultural one, indicating that they have become urban residents legally, these "new urban residents" still face the problem of adapting themselves to urban life from their previous lifestyles, which will cause various psychological challenges.

On the other hand, the unequal distribution of social resources between urban and rural areas, derived from the performance of hukou institutions, further widens the dual economy (Yu and Ho, 2016). Urban natives who hold nonagricultural hukou are more dominant in finding jobs, purchasing houses, educating children, and social security, leading to hukou discrimination against rural residents, even though some of them have achieved hukou conversion and are legally entitled to the same treatment.

China's hukou system is a special policy that separates individuals into rural and urban residents by dividing the hukou type. The rural-origin residents who successfully convert their agricultural hukou to nonagricultural hukou via their own effort or policy implementation, working and living in cities, and finally changing their identity as urban residents are regarded as remarkable upwards social mobility in the Chinese context (Lu 2008). In this study, we focus on this special group of migrants, who are perceived to be successful in crossing socioeconomic class boundaries (Trondman 2006).

In fact, there are two main ways for rural-urban migrants to access nonagricultural hukou to achieve "upwards class mobility", that is, through their own efforts, or due to policy rearrangement at a given location or for a given social cohort (e.g., hukou reform, rural land expropriation). Accordingly, our study clearly divides these migrants who access upwards class mobility into two categories: self-motivated migrants and policy-based migrants. The former category indicates that rural-urban migrants make efforts and take the initiative to obtain nonagricultural hukou, while they need to go through a highly selective process, including receiving higher education, joining the military, gaining jobs in cities, and purchasing urban housing properties. The "Phoenix Men/Phoenix Women (fenghuang nan or fenghuang nv in Chinese)", individuals born in poverty, accessing higher education, and eventually remaining in the city, constitute the most typical group of self-motivated migrants, which draw the attention of the public and are frequently reported in the Chinese media. The

latter category describes rural-urban migrants who acquire nonagricultural hukou through central or local government policies. For example, owing to the need for urbanization, some places carry out hukou system reform, cancel the agricultural hukou of rural residents, and implement nonagricultural hukou or "resident hukou" (jumin hukou in Chinese, also classified as nonagricultural hukou) for all these rural residents. It is believed that after these migrants obtain nonagricultural hukou, they can gain improvements in the labour market, social security, and social capital and then have a higher level of happiness (Huo et al. 2018).

As hukou policy was reformed after 2014[2], Chinese social media focused on these two types of migrants[3], and reports have shown that they faced many psychological problems in the process of integrating into cities. Moreover, even if they meet the same needs for material well-being, their spiritual feelings are obviously different from those of urban natives, especially those of the "Phoenix Men/Phoenix Women", who tend to have low self-esteem. That is, these migrants feel inferior to urban natives and usually have a relatively low socioeconomic status compared with that of local urban natives. Moreover, they often experience psychological discomfort because it is difficult to adapt themselves to urban social networks.

China is strongly influenced by Confucian culture, emphasizing the importance of family[4]. As the proverb goes, "a golden phoenix flies out of the poor rural areas", the "Phoenix Men/Phoenix Women" often rank very high in their hometown, but it is highly difficult for them to "escape" the rural environment. In fact, when self-motivated migrants enter cities and achieve upwards class mobility, this represents an honor and pride for their whole family (Liu et al. 2016). As China is a "human relationship society", the majority of social networks are maintained through family members, which is also a possible way for other family members to receive promotions and increase social standing (Yueh 2009; Xiong et al. 2017). Thus, after settling in cities, many self-motivated migrants shoulder the responsibility of "bringing honor to family (guangyao menmei in Chinese)", and they often have a sense of obligation to improve the social and economic status of the whole family (Higginbotham and Weber 1992). However, few studies have focused on the psychological conditions of migrants who succeed in class mobility, as well as their upward movement expectations for their family status. During China's urbanization process, the subjective mental state of this special group of individuals, such as subjective social status and subjective family economic status, which reflect the integration of migrants into urban life and are directly related to the performance of urbanization, is highly important.

This study answers the following questions. (1) Compared with urban natives, do migrants who have achieved upwards class mobility truly have relatively low subjective social status and lack self-esteem? (2) Do these migrants believe that they can truly bring honor to their families? (3) Is there any significant heterogeneity in the subjective perceptions of social status between self-motivated and policy-based migrants?

The paper is organised as follows. Section 2 presents the literature review. Section 3 describes the data sources, variables, and empirical strategy. Section 4 presents the empirical results. Section 5 provides a further discussion, and finally, Section 6 draws conclusions, policy implications and contributions.

Literature review

Trondman (2006) described migrants who consider education an investment in social mobility and cross class boundaries by obtaining high academic achievements as "class travellers".

However, moving into a new social context with a relatively high socioeconomic environment affects the physical health of migrants (Chen et al. 2022) while also making them feel a sense of uncertainty (Destin et al. 2017). Accordingly, the experience that migrants have towards social upward mobility usually has a negative effect on their understanding of their own social status and social identity (Destin and Debrosse 2017). In Western countries, social classes are often distinguished by income, education degree, and occupation (Vanneman and Pampel 1977; Dias 2020); thus, migrants who have achieved class mobility usually represent a group of individuals who succeed in their academic performance or jobs through their own efforts (Bullock and Limbert 2003).

Unlike in the conventional sense, China's migrants derive from a specific institutional background, that is, the hukou system, which was established in 1958 and then caused an invisible but rigid institutional barrier between urban and rural areas (Lu 2008; Liu and Cheng 2009). Hukou identities, namely, agricultural hukou and nonagricultural hukou, also contribute to the division of social classes (Song 2014). Therefore, Chinese rural–urban migrants who have achieved class mobility refers to rural residents who acquire nonagricultural hukou through certain approaches while working and living in cities to experience upwards social mobility (Cheng 2016).

Nevertheless, Chinese migrants are often stigmatized and discriminated against, whereas urban natives have a low acceptance rate towards them and have stereotypes such as "rustic (*xiangxiaren* in Chinese)" or "Phoenix Men/Phoenix Women (*fenghuang nan* or *fenghuang nv* in Chinese)" (Cheng 2016), making them less confident and difficult to integrate into urban life. In conclusion, although some migrants have converted their hukou type from agricultural to nonagricultural and are regarded as experiencing "upwards class mobility", they still face psychological challenges caused by changes in their social status (Xu et al. 2023); however, deep depictions are relatively rare in previous studies.

Previous studies have defined subjective social status (SSS) as an individual's perception of their own hierarchical rank in current society, as well as a belief in their social status (Ostrove et al. 2000). However, it can be regarded as a further optimization on the basis of subjective socioeconomic status, which could supply better solutions for measuring an individual's view of their social status relative to others in society than that of subjective socioeconomic status (Adler et al. 2000). Scholars tend to quantify subjective social status as an ordered discrete dependent variable (Adler et al. 2000). Moreover, subjective family economic status (SFES) also has an impact on individuals' subjective status in society, which is regarded as two sides of the coin together with subjective social status. However, subjective family economic status usually includes indicators such as parents' education level, occupation and family economic status (Yan et al. 2021).

Recently, an increasing number of studies have investigated individual SSS as a predictor of personal health and psychological outcomes (Euteneuer 2014; Hoebel and Lampert 2020), and the SFES is often regarded as an important path influencing children's educational outcomes and employment quality (Cheng and Kaplowitz 2016); however, research examining the impact of social identities on subjective social status, as well as subjective family economic status, seems to be neglected.

On the basis of previous research, we find that the factors that affect individual SFES are highly similar to those of SSS due to its relatively simple metrics, whereas the literature subdivides the determinants of SSS (SFES) into three major factors, namely, the factors of objective status, socioeconomic factors, and psychosocial factors.

With respect to the factors of objective status, traditional factors such as personal income, education, occupation, and home ownership play a significant role in explaining one's SSS, whereas the strength of the relationship between socioeconomic variables that predict SSS has weakened over time (Chen and Williams 2018). Van Noord et al. (2019) reported that education is an important source of SSS for individuals across all countries, while the connection between them is more independent of other sources of status (e.g., income, gender). In addition, personal net worth has a greater effect on the promotion of SSS (Andersson 2017), such as housing properties (Fang and Huang 2021), leading to the emergence and differentiation of a "housing hierarchy" based on housing wealth as opposed to income stratification (Zhang et al. 2020a; Li 2021).

With respect to socioeconomic factors, Kim and Lee (2021) reported that social capital is an essential source of SSS, especially in Chinese society, whereas social capital is also an important predictor of subjective well-being (Winkelmann 2009; Adedeji et al. 2023). In addition, Cheng and Kaplowitz (2016) reported that parental cultural capital is strongly associated with parents' economic status. Moreover, early-life situations (e.g., gains and losses, socioeconomic conditions, stress) also play a role in affecting current individual SSS (Weiss and Kunzmann 2020; Kim and Radoias 2021). For example, greater early-life stress is related to lower individual SSS (Rahal et al. 2020).

Recent studies are devoting more attention to psychosocial factors based on the "reference group argument" theory (Chen and Williams 2018). In fact, objective factors cannot predict one's SSS precisely, but psychosocial variables (e.g., depressive symptomatology, neighbourhood satisfaction, self-rated health) are significantly associated with an individual's SSS (Kahneman and Deaton, 2010). For instance, Woo et al. (2018) highlight the contribution of social comparison in the neighbourhood, while they believe that Asians with high household absolute income, as well as higher relative income than the neighbourhood median, are more likely to report higher SSS.

It is believed that conventional factors (e.g., income, education, occupation) that affect one's SSS have been well researched. With respect to the hukou system, some scholars note that the type of hukou has an essential effect on one's subjective factors, such as happiness, health rights, and the evaluation of social identity (Xie 2014; Yu and Ho 2016; Huo et al. 2018; Zhang et al. 2022). However, the connection between hukou and SSS still needs future discussion.

In general, an individual's subjective social status, as well as subjective family economic status, has been discussed qualitatively in sociological and psychological studies, but few studies have explored them as dependent variables and estimated them via economic models. Moreover, former studies confuse SSS with SFES because of their similar definitions, which lack discussion in specific cultural contexts and among different groups of individuals. Moreover, some scholars notice that the mobility of China's social class has increased considerably during the course of urbanization, but whether migrants' hukou conversion plays an important role is still unknown. Finally, almost none of the former studies clearly provide an exact definition of China's rural–urban migrants, nor do they conduct studies on their psychosocial status. On this basis, the heterogeneity within the different types of migrants should receive more attention.

Strategy

Data. The data for this study come from the Chinese General Social Survey (CGSS)[5], which is one of the earliest national, comprehensive, and continuous cross-sectional survey projects in China conducted by the National Survey Research Center (NSRC) at Renmin University of China. The respondents in the CGSS are required to be aged 18 years and above. In our research,

we employ the latest five waves (2013, 2015, 2017, 2018 and 2021) of the dataset to conduct empirical analysis.

The CGSS systematically and comprehensively collects data on multiple levels of society, including demography, income, household, and individuals' subjective perceptions, from over 10,000 households located in 28 provinces (or the equivalent)[6] in mainland China. Furthermore, the CGSS dataset has particular advantages for our research because of the rich information related to an individual's hukou status, including the respondent's current and past hukou details as well as the exact time and approaches by which the respondent obtained the nonagricultural hukou. For the purpose of our research, we keep only the observations of rural-urban migrants and urban natives[7] among all the respondents. In addition, for the accuracy of our identification, we exclude observations with wrong and indistinct information on their hukou status[8]. Additionally, we restrict our analysis sample to those with complete information on all the variables and exclude those observations with zero or above ten million yuan annual family income. The final sample size includes 16,880 observations.

Key variables

Population group. In this paper, the sample contains two groups of participants, that is, rural-urban migrants and urban natives, which are divided by the individual's hukou information.

The urban natives include respondents who have one of the following two conditions: (1) the individuals who have held the nonagricultural hukou (or residential hukou, same below) since birth and (2) the individuals who acquired the nonagricultural hukou earlier than 14 years old. In the CGSS questionnaire, we employ the following question: "When did you obtain the nonagricultural hukou or residential hukou?" We subtract the individual's year of birth from the year when they obtained the nonagricultural hukou. If the difference time was less than or equal to 14 years, the participants were considered urban natives. There are three reasons for this definition: (1) To be admitted to university, rural children often visit high schools in the city at the junior high school stage, so hukou conversion occurs around the age of 14; (2) it is difficult for children of younger age and lower education level to have a clear and profound understanding of their social status; and (3) the CGSS database takes the age of 14 as the age node in the questionnaire collection, whereas existing studies also default to use the age of 14 as the dividing condition (Shi and Yan 2018).

The rural-urban migrants include individuals who have achieved the conversion of their hukou status from agricultural to nonagricultural. Moreover, the CGSS data provide us with the specific approaches through which the participants converted their hukou status. Specifically, eight different approaches are listed in the question "What is your approach to obtain nonagricultural hukou" in CGSS data, which are "attaining higher education", "joining the military", "getting a job that can provide the quota of nonagricultural hukou", "becoming the 'full-standing bureaucrat' (*ganbu bianzhi* in Chinese)", "(rural) land acquisition", "converting hukou through relatives (including through marriage, etc.)", "purchasing nonagricultural hukou directly or house properties", and "hukou system reform"[9]. Following Shi and Yan (2018) and Wu and Zheng (2018), we distinguish an individual who changed agricultural hukou to nonagricultural hukou by being policy driven or by their own motivation. Accordingly, we divide migrants into two different groups: "*policy-based migrants (pbm)*" and "*self-motivated migrants (smm)*". Specifically, the former group contains individuals who acquired nonagricultural hukou due to "land acquisition" and "hukou policy reform", whereas the latter group
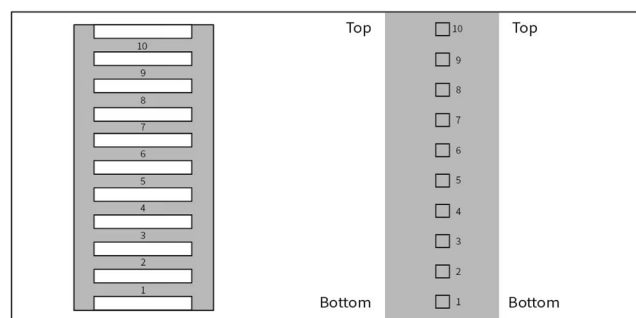

Fig. 1 Measurement on individual's subjective social status on the questionnaire (for answering the question "In your opinion, which class are you at in today's society?").

includes observations that obtained nonagricultural hukou through the other six approaches.

Subjective Social Status and Subjective Family Economic Status. In this work, we use an individual's subjective social status and subjective family economic status as the dependent variables. The measurement of an individual's SFES is based on the following question: "What is your judgement of the economic status of your family locally?" The answer to this question ranges from 1 to 5, with "well below average" to "well above average". With respect to an individual's SSS, we employ the question: "In your opinion, which class are you at in today's society?". When answering this question, the interviewees were shown a picture of a social ladder with ordered numbers (as shown in Fig. 1), allowing them to develop a sense of the social class. The answer to this question ranges from 1 to 10, with higher scores indicating higher levels of an individual's subjective social status.

Empirical model. As the dependent variables SSS_{ij} and $SFES_{ij}$ are both observable discrete variables, the most commonly used models are ordered logit or probit models, whose error terms are normally distributed or logistic distributed, respectively. However, scholars are more accustomed to employing the ordered logit method (Wang et al. 2022). Accordingly, we use the ordered logit method to estimate the model.

Specifically, the empirical model is established as follows:

$$Y_{ijt}^* = \beta_0 + \beta_1 migrant_{ijt} + \gamma X_{ijt} + P_j + \delta_t + \varepsilon_{ijt} \qquad (1)$$

where Y_{ijt}^* is the latent variable of Y, Y indicates the dependent variables, including the individual's SSS and SFES, and $migrant_{ijt}$ is the dummy variable indicating individual *i*'s population group in province *j* in year *t*, where the base group includes the urban natives. X_{ijt} is a vector of control variables.

Owing to data limitations, there may be unobservable factors, but we identify as many control (and instrumental) variables as possible. Following the literature (Chen and Williams 2018; Cai and Wang 2018), we control for: (1) individual characteristics, including gender, age, age squared, degree of education, cognitive ability, marital status, self-rated physical and mental health, individual ethnicity, and Communist party membership; and (2) household characteristics, including the logarithm of "household annual income plus one"[10] in the previous year, the number of houses owned by the household, the degree of education of the individual's mother, and the degree of education of the individual's father. In addition, social fairness and social relationships have strong effects on individuals' subjective perceptions (Di Martino and Prilleltensky 2020). We therefore also control for individuals' perceived social fairness, as well as the frequency of socializing during free time. To consider the

Table 1 Variable definition.

Variables	Definition
SSS	Individual's subjective social status, with 1 representing the lowest level and 10 representing the highest level.
SFES	Individual's subjective family economic status. 1 = well-below average; 2 = below average; 3 = average; 4 = above average; 5 = well-above average.
migrant	1 = migrant; 0 = urban native.
pbm	1 = policy-based migrant; 0 = others.
smm	1 = self-motivated migrant; 0 = others.
age	Age of the respondent.
agesq	Age square.
gender	1 = male; 0 = female.
house	The number of house properties owned by the household.
cpc	1 = membership of Communist Party of China; 0 = others.
marriage	1 = unmarried; 2 = cohabitation; 3 = unmarried.
minzu	1 = ethnic Han; 0 = others.
social	Individual's frequency of socializing: 1 = never; 2 = seldom; 3 = sometimes; 4 = often; 5 = always.
fairness	Perceived social fairness: 1 = totally unfair; 2 = relative unfair; 3 = neither unfair nor fair; 4 = relative fair; 5 = totally fair.
medu	Mother's degree of education: 0 = obtaining no school education, old-style private school or literacy class; 1 = primary school; 2 = middle school; 3 = high school, technical school and junior college; 4 = bachelor and above.
fedu	Father's degree of education: 0 = obtaining no school education, old-style private school or literacy class; 1 = primary school; 2 = middle school; 3 = high school, technical school and junior college; 4 = bachelor and above.
income	The logarithm of "household annual income plus one".
edu	Individual's degree of education: 0 = obtaining no school education, old-style private school or literacy class; 1 = primary school; 2 = middle school; 3 = high school, technical school and junior college; 4 = bachelor and above.
ca	Cognitive ability, with a higher value representing better ability to speak and listen Mandarin and English[a].
health	Self-rated health: 1 = very bad health; 2 = relatively bad health; 3 = neither good nor bad; 4 = relatively good health; 5 = very good health.
mentalhealth	Self-rated frequency of depression and upset over the past four weeks: 1 = always; 2 = often; 3 = sometimes; 4 = seldom; 5 = never.

[a]Specifically, we sum the questions from a49 to a52 in the CGSS dataset to get the value of the cognitive ability. The value of each question ranges from 1 to 5, with higher value representing better ability to listen to Mandarin, speak to Mandarin, listen to English and speak English, respectively.

potential regional heterogeneity across different provinces in socioeconomic conditions and the time heterogeneity across different years, we include the province fixed effect P_j and the time dummy variable δ_t, while ε_{ijt} is the error term. β_1 is the parameter that we are interested in, as it indicates the disparities in SSS and SFES between migrants and urban natives.

Specifically, we list *income*, *edu*, *ca*, *health*, and *mental health* as individual income and human capital variables. First, we include variables other than the income and human capital variables to estimate our ordered logit model. We then add the income and human capital variables. Following Wen and Zheng (2019), we compare the differences in the coefficients of *migrants* between the two estimations. If the magnitude and significance of the coefficient of *migrants* significantly decreases after adding income and human capital variables, these variables can be considered to have strong explanatory power for the difference in a certain subjective perception between rural–urban migrants and urban natives. However, the coefficient of *migrant* remaining significant suggests that, after controlling for a series of variables, the identity of being a migrant itself affects the prominent difference in a certain subjective perception between rural–urban migrants and urban natives.

We are also interested in exploring the disparities in the SSSs and SFESs of the two types of migrants compared with those of urban natives. We further use the ordered logit method to estimate the following model:

$$Y_{ijt}^* = \beta_0 + \beta_2 pbm_{ijt} + \beta_3 smm_{ijt} + \gamma X_{ijt} + P_j + \delta_t + \varepsilon_{ijt} \quad (2)$$

where pbm_{ijt} and smm_{ijt} are dummy variables indicating individual i's population group in province j in year t. β_2 and β_3 are parameters that require investigation, as β_2 and β_3 represent the disparities in an individual's SSS or SFES between

Table 2 Descriptive statistics.

Variables	Obs	Mean	Std. Dev.	Min	Max
SSS	16,880	4.601	1.619	1	10
SFES	16,880	2.761	0.704	1	5
migrant	16,880	0.294	0.456	0	1
pbm	16,880	0.069	0.253	0	1
smm	16,880	0.226	0.418	0	1
age	16,880	50.45	16.898	18	103
agesq	16,880	2,831.098	1,746.519	324	10,609
gender	16,880	0.494	0.500	0	1
house	16,880	1.155	0.715	0	20
cpc	16,880	0.314	0.464	0	1
marriage	16,880	2.514	0.849	1	3
minzu	16,880	0.948	0.222	0	1
social	16,880	2.696	1.003	1	5
fairness	16,880	3.143	1.017	1	5
medu	16,880	0.971	1.149	0	4
fedu	16,880	1.322	1.238	0	4
income	16,880	2.128	0.756	0.030	6.901
edu	16,880	2.762	1.170	0	4
ca	16,880	2.762	1.170	0	4
health	16,880	3.704	0.986	1	5
mentalhealth	16,880	4.026	0.927	1	5

the policy-based migrants and urban natives and between self-motivated migrants and urban natives, respectively.

The specific definitions of all the variables are shown in Table 1, while Table 2 presents the descriptive statistics.

Empirical results

Primary analysis. We first examine the group disparities in individuals' SSSs and SFESs by estimating an ordered logit model

Table 3 Results of the baseline regression.

VARIABLES	(1) SSS	(2) SSS	(3) SFES	(4) SFES
migrant	−0.087***	−0.038	−0.174***	−0.100***
	(0.033)	(0.033)	(0.037)	(0.038)
age	−0.033***	0.000	−0.059***	−0.019***
	(0.006)	(0.006)	(0.006)	(0.007)
agesq	0.000***	0.000***	0.001***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
gender	−0.116***	−0.191***	0.063**	−0.034
	(0.028)	(0.028)	(0.031)	(0.032)
house	0.312***	0.152***	0.517***	0.251***
	(0.025)	(0.021)	(0.030)	(0.027)
cpc	0.268***	0.106***	0.337***	0.140***
	(0.036)	(0.036)	(0.040)	(0.042)
minzu	−0.016	−0.004	−0.195**	−0.217***
	(0.071)	(0.070)	(0.082)	(0.082)
marriage (ref.=unmarried)				
cohabitation	0.392***	0.186	0.395***	0.015
	(0.117)	(0.121)	(0.147)	(0.150)
married	0.395***	0.148***	0.455***	0.023
	(0.039)	(0.040)	(0.043)	(0.045)
social (ref.= never)				
seldom	0.272***	0.205***	0.288***	0.191***
	(0.052)	(0.053)	(0.054)	(0.056)
sometimes	0.409***	0.310***	0.439***	0.312***
	(0.052)	(0.053)	(0.054)	(0.058)
often	0.402***	0.261***	0.492***	0.322***
	(0.056)	(0.057)	(0.060)	(0.063)
always	0.497***	0.395***	0.403***	0.278**
	(0.102)	(0.104)	(0.108)	(0.111)
fairness (ref.= totally unfair)				
relative unfair	0.750***	0.638***	0.531***	0.387***
	(0.072)	(0.073)	(0.075)	(0.078)
neither unfair nor fair	1.026***	0.909***	0.749***	0.608***
	(0.072)	(0.074)	(0.076)	(0.079)
relative fair	1.467***	1.281***	1.201***	0.988***
	(0.070)	(0.071)	(0.073)	(0.077)
totally fair	1.739***	1.608***	1.206***	1.062***
	(0.120)	(0.122)	(0.124)	(0.133)
medu (ref.= under primary school)				
primary school	0.139***	0.068	0.141***	0.061
	(0.043)	(0.044)	(0.048)	(0.049)
middle school	0.117**	−0.015	0.140**	−0.020
	(0.055)	(0.055)	(0.061)	(0.062)
high school	0.294***	0.085	0.223***	−0.027
	(0.064)	(0.064)	(0.072)	(0.074)
bachelor and above	0.769***	0.371***	0.837***	0.290*
	(0.121)	(0.120)	(0.146)	(0.148)
fedu (ref.= under primary school)				
primary school	0.134***	0.023	0.130***	−0.012
	(0.043)	(0.044)	(0.048)	(0.050)
middle school	0.310***	0.132**	0.310***	0.076
	(0.052)	(0.053)	(0.058)	(0.061)
high school	0.339***	0.089	0.432***	0.118*
	(0.057)	(0.058)	(0.065)	(0.067)
bachelor and above	0.293***	−0.000	0.606***	0.238**
	(0.092)	(0.092)	(0.107)	(0.108)
income		0.598***		1.197***
		(0.027)		(0.035)
ca		0.081***		0.062***
		(0.007)		(0.008)
education (ref.= under primary school)				
primary school		0.047		0.175**
		(0.076)		(0.089)
middle school		0.083		0.246***
		(0.070)		(0.083)
high school		0.120*		0.344***
		(0.072)		(0.086)
bachelor and above		0.313***		0.442***
		(0.078)		(0.093)
health (ref.= very bad health)				
relatively bad health		0.269**		0.346**
		(0.123)		(0.145)
neither good nor bad		0.435***		0.553***
		(0.120)		(0.142)
relatively good health		0.699***		0.804***
		(0.120)		(0.143)
very good health		0.753***		0.987***
		(0.124)		(0.146)
mentalhealth (ref.= always)				
often		−0.059		0.336
		(0.175)		(0.205)
sometimes		0.350**		0.668***
		(0.166)		(0.195)
seldom		0.526***		0.861***
		(0.166)		(0.195)
never		0.589***		0.861***
		(0.167)		(0.195)
Observations	16,880	16,880	16,880	16,880
Province FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Pseudo R-squared	0.0352	0.0608	0.0608	0.137

***p < 0.01, **p < 0.05, *p < 0.1. Robust standard errors are in parentheses. We further use the odds ratio and marginal effect to better interpret the practical significance of the coefficients. For example, the −0.1744 coefficient for *migrant* in Column (3) of Table 3 suggests that the odds of reporting a higher SFES for migrants (*migrant* = 1) are 84.00% ($e^{−0.1744}$) of the odds for urban natives (*migrant* = 0). In other words, compared with urban natives, rural–urban migrants are approximately 16.00% less likely to report higher SFES. In addition, we perform a marginal effect analysis for SFES in the specific category of SFES = 4. Specifically, the results reveal that when the migrant variable transitions from 0 to 1, the probability of reporting SFES = 4 decreases by 1.5%. The results for all marginal effects are available upon request.

as specified in Model (1), and Table 3 reports the basic results. On the one hand, as shown in Columns (1) and (3) of Table 3, without controlling for household income and human capital variables, the coefficients on the dummy *migrant* variable are both significantly negative at the 1% significance level, suggesting that the individual SSSs and SFESs of migrants are significantly lower than those of urban natives. Specifically, the odds ratio results show that the identity of being a rural−urban migrant leads to an 8.35%[11] decrease and a 16.00%[12] decrease for a respondent

Table 4 Estimating results for the individual SSS and SFES of the two types of migrants.

VARIABLES	(1) SSS	(2) SSS	(3) SFES	(4) SFES
pbm	−0.396***	−0.070	−0.489***	−0.023
	(0.061)	(0.064)	(0.065)	(0.068)
smm	−0.002	−0.029	−0.084**	−0.121***
	(0.035)	(0.035)	(0.040)	(0.041)
Observations	16,880	16,880	16,880	16,880
Other Controls	YES	YES	YES	YES
Income and Human-Capital Controls	NO	YES	NO	YES
Province FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Pseudo R-squared	0.0358	0.0608	0.0618	0.138

Robust standard errors in parentheses.
***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

to report better levels on an individual's SSS and SFES, respectively.

On the other hand, after controlling for all the covariates, the coefficient of the dummy *migrant* variable is not statistically significant when an individual's SSS is employed as the dependent variable, indicating that the income and human capital variables explain the reason for the lower SSS of migrants to a large extent. However, when an individual's SFES is used as the dependent variable, although the magnitude of the coefficient on the dummy *migrant* decreases, the coefficient itself is still statistically negative at the 1% significance level, showing that the disparity of an individual's SFES between migrants and urban natives is not totally explained by migrants being less educated, having lower family income, or being less healthy but also driven by the difference in identity itself.

In addition, the coefficients of the control variables in Table 3 provide meaningful regularities on the determinants of an individual's SSS and SFES in the Chinese context. First, as shown in Columns (2) and (4), females tend to report higher SSS, but no significant disparity in individuals' SFES can be found between males and females, which is similar to the results for the variable *marriage*. In addition, as indicated by the significantly positive coefficients of the covariates of *house*, *cpc*, *social*, *fairness medu* and *fedu*, individuals who own more real estate property, who are members of the Communist Party of China, have a more positive view of social equity, spend more time socializing, and whose mothers or fathers obtain higher education levels, are more likely to report higher SSSs and SFESs. Moreover, the coefficients of the household income and human capital variables are significantly positive at the 1% significance level, suggesting that higher household annual income, higher educational attainment, better cognitive ability and a healthier body are associated with higher reported individual SSSs and SFES.

Short review of the individual SSSs and SFESs of two types of migrants. Previously, we divided two types of migrants on the basis of the different approaches through which they obtained nonagricultural data. We further implement Model (2) to examine the disparities in SSS and SFES between policy-based migrants and urban natives and between self-motivated migrants and urban natives.

Table 4 presents the results of estimating Model (2). The coefficients of *pbm* are both significantly negative at the 1% significance level when we do not control for household annual income and human capital variables, but both are not statistically

significant when we control for all the covariates. This indicates that the household annual income and human capital variables explain the lower individual SSS and SFES of the policy-based migrants than do those of the urban natives. This result also provides a strong explanation for the significant decreases in the coefficients of *migrants* in Table 3 when we control for the household income and human capital variables. However, different results are shown in the coefficients on *smm*. When we employ SSS as the dependent variable, the coefficients on *smm* are statistically insignificant, regardless of whether we control for household income and human capital variables, providing strong evidence that the SSS of self-motivated migrants is almost equal to that of urban natives. However, when the SFES is employed as the dependent variable, the coefficient of *smm* is significantly negative even after controlling for household income and human capital variables, suggesting that the corresponding significantly negative coefficient for *migrant* in Column (4) of Table 3 is driven entirely by the *smm* dummy. In other words, the individual identity itself, namely, being a self-motivated migrant, has a markedly negative effect on SFES. Specifically, the odds ratio of the coefficient of *smm* shows that compared with urban natives, self-motivated migrants can lead to an 11.39%[13] decrease in the number of respondents reporting higher SFES.

To ensure that the results presented in Table 4 are convincing, we include *pbm* and *smm* separately in two regressions, retaining only the urban natives' sample as the control group in both regressions. Table A1 presents the robustness checks corresponding to Table 4. The significance and implications of all the estimated results are presented in Table A1. The significance and implications of all the estimated coefficients on *pbm* and *smm* are consistent with the corresponding coefficients in Table 4, thereby demonstrating that the results presented in Table 4 are robust and convincing.

Endogeneity. We discuss the possible endogeneity issue of the estimated results in this section. First, it is not believed that there could be a reverse causality problem in this study, since the identity of the rural–urban migrants is predetermined before the respondents answer their perceptions of SSS and SFES. Second, there might be potential endogenous threats due to the confounding variables that influence an individual's identity and SSS or SFES at the same time. However, when SSS is employed as the dependent variable, the coefficients of *migrant* and *pbm* are not significant after controlling for the variables of household income and human capital, suggesting that the disparities in individual SSS between policy-based migrants and urban natives could be largely explained by the variables we control. Moreover, the coefficients of *smm* are both insignificant whether we control for household income and human capital variables, indicating that no disparity can be observed in individual SSS between self-motivated migrants and urban natives.

When we employ SSS and SFES as the dependent variables, although it is difficult for us to exclude the existence of confounding variables, we control for as many variables as possible, including individual characteristics, household characteristics, individuals' subjective perceptions, and province and year fixed effects. Notably, we do not find strong evidence of possible confounding variables in the previous theoretical and empirical literature relevant to SSS and SFES. Accordingly, we expect that endogeneity is unlikely to be a major threat to the estimated results.

To further test the robustness of the estimated results, especially the significantly negative coefficients on *migrant* and *smm* when we employ SSS and SFES as the dependent variables, we construct "Food production per capita of the agricultural

Table 5 2SLS IV robustness test.

VARIABLES	(1) migrant	(2) SSS	(3) SFES	(4) smm	(5) SSS	(6) SFES
IV	−0.004***			−0.003***		
	(0.001)			(0.001)		
migrant		−0.690	−1.229***			
		(0.732)	(0.415)			
pbm					−0.953	−1.730***
					(1.043)	(0.654)
smm					−0.340	−0.559***
					(0.328)	(0.204)
Constant	0.715***	1.627***	2.096***	0.509***	1.632***	2.105***
	(0.057)	(0.566)	(0.314)	(0.052)	(0.574)	(0.351)
Observations	16,643	16,643	16,643	16,643	16,643	16,643
Other Controls	YES	YES	YES	YES	YES	YES
Income and Human- Capital Controls	YES	YES	YES	YES	YES	YES
Province FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses.
***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

population in 1998 (unit: 10,000 tons)" as the instrumental variable and employ the two-stage least squares (2SLS) method for estimation. The eligibility of the instrumental variable is justified as follows.

On the one hand, the food production per capita of the agricultural population in 1998 is unlikely to be correlated with potential omitted variables, as the IV is predetermined before the dependent variable. The food production data from 1998 are historical and predate the respondents' current status, ensuring that the IV is temporally antecedent to the outcome variable. This temporal precedence supports the argument that the instrument satisfies the exogeneity requirement, as it is unlikely to be influenced by the same factors that affect the dependent variable.

On the other hand, the food production per capita of the agricultural population in 1998 is correlated with the independent variable. Since China liberalized the restriction of population movements in 1984, one of the specific requirements in the policy regulations was that rural-to-urban migrants needed to bring their own food[14]. During periods of low agricultural productivity, food production not only affects the basic livelihood security of residents but also significantly restricts the extent of urban development. Regions with higher food production could support more people, thereby facilitating urban population growth and economic development, which in turn influences local settlement thresholds (Qu and Hu 2022). In fact, settlement policies are formulated primarily by governments at all levels, and past settlement thresholds significantly impact current policies because of path dependence, which affects residents' migration decisions (Zhang et al. 2020b). Therefore, per capita food production in 1998 significantly affected the hukou conversion behaviour of current residents. The higher the per capita food production is, the higher the settlement threshold, and the lower the likelihood of local rural residents converting to nonagricultural hukou.

In addition, China undertook two adjustments of provincial administrative divisions in 1997 and 1998 and loosened hukou mobility restrictions again in 1998, which is often used in academic research as a key milestone in the reform of the household registration system (Wu et al. 2015). Thus, we choose per capita food production in 1998, rather than in 1984, as an instrumental variable.

The estimated results of the first-stage regression further confirm that the IV has a significant correlation with an individual's identity. The F statistic of the weak identification

test is 71.44 when *migrant* is instrumented and 90.57 when *smm* is instrumented, both of which are greater than the critical value of 16.38, which was proposed by Stock and Yogo (2005). Therefore, we believe that the IV is valid and reliable. The results of the second-stage IV regression are reported in Table 5. The coefficients of *migrant* and *smm* are still negative at the 1% significance level, which is consistent with the basic results in Tables 3 and 4. It is possible that the identity of being a migrant, especially a self-motivated migrant, has a significantly negative effect on their SFES compared with that of urban natives. Moreover, after controlling for all the covariates, the coefficients of *migrant*, *pbm* and *smm* are not statistically significant when the dependent variable is SSS. This underscores our statement that income and human capital variables largely account for the lower subjective social status observed among migrants.

Discussion

Why are the SSS and SFES of policy-based migrants still lower? An OB decomposition. The household annual income and human capital variables explain most of the disparities in individuals' SSSs and SFESs between policy-based migrants and urban natives. In this section, we further explore the relative contribution of each variable to these observed disparities by employing the Oaxaca–Blinder (OB) decomposition method. The disparity in the specific outcome variable (SSS or SFES) between urban natives (Group A) and policy-based migrants (Group B) can be decomposed into two parts:

$$R = \{E(X_A) - E(X_B)\}' \beta^* + \{E(X_A)'(\beta_A - \beta^*) + E(X_B)'(\beta^* - \beta_B)\}$$

(3)

The first part, $\{E(X_A) - E(X_B)\}' \beta^*$, is the raw difference in the specific outcome variable caused by the differences in observed endowment characteristics between policy-based migrants and urban natives. The second part, $\{E(X_A)'(\beta_A - \beta^*) + E(X_B)'(\beta^* - \beta_B)\}$, is the unexplained part, which is caused by the different coefficients on the observed variables when the outcome variables are hired to regress on Groups A and B, respectively. β^* is the nondiscrimination coefficient vector.

One problem with decomposition is the estimation of β^*. Using different base groups to estimate β^* may influence the decomposition results, that is, the "index problem" (Wang et al. 2022). To solve this problem, our study follows the work of

Neumark (1988), Cai and Wang (2018), and Wang et al. (2022), who introduce the coefficients from the pooled regression over both groups as an estimate for β^*, while the method of the above decomposition can be estimated as follows:

$$\widehat{R} = \left\{\overline{X_A} - \overline{X_B}\right\}'\widehat{\beta^*} + \left\{\overline{X_A}'\left(\widehat{\beta_A} - \widehat{\beta^*}\right) + \overline{X_B}'\left(\widehat{\beta^*} - \widehat{\beta_B}\right)\right\} \quad (4)$$

where $\overline{X_A}$ and $\overline{X_B}$ are the mean values of the independent variables of Groups A and B, respectively, and $\widehat{\beta_A}$ and $\widehat{\beta_B}$ are estimated from the group-specific regressions. Moreover, β^* is estimated from the pooled regression over both groups. Accordingly, $\left\{\overline{X_A} - \overline{X_B}\right\}'\widehat{\beta^*}$ estimates the explained differences, whereas $\left\{\overline{X_A}'(\widehat{\beta_A} - \widehat{\beta^*}) + \overline{X_B}'(\widehat{\beta^*} - \widehat{\beta_B})\right\}$ estimates the unexplained differences.

To ensure the robustness of our findings, we further apply an alternative OB decomposition method introduced by Fairlie (2005), which is more suitable for nonlinear binary variables and yields more robust results. The initial variables in our manuscript, namely, SSS and SFES, are multicategorical and thus preclude the direct application of Fairlie's method. To address this, we convert SSS and SFES into binary variables. Specifically, we recode responses 1–4 as 0 and responses 5–10 as 1 for the SSS and "individual SSS after 10 years" variables. For the SFES variable, responses 1–2 are recoded as 0, and responses 3–5 are recoded as 1. This binary transformation allows us to apply Fairlie's OB-decomposition method for the robustness check. The results of this analysis are presented in Appendix Tables A2–A4.

Tables 6 and 7 present the results of Oaxaca–Blinder decomposition on the disparities in SSS and SFES between policy-based migrants and urban natives, respectively. It is believed that the differences in observed endowment characteristics account for the majority of the total differences in SSS and SFES between the two groups. Specifically, the covariates in our model account for 80.56% and 93.75% of the disparities in individuals' SSS and SFES, respectively. The results suggest that, compared with those of urban natives, the observed lower SSSs and SFESs of policy-based migrants in the raw data can be attributed almost entirely to their inferior endowments, namely, income and human capital. Moreover, the detailed decomposition results reveal that among all the explanatory variables, the disparities in SSS and SFES between policy-based migrants and urban natives are explained mainly by the gap in household annual income and human capital. As shown in Table 6, household annual income accounts for 63.10% of the total difference in SSS, whereas human capital accounts for 94.83% of the total difference. Similarly, the results of Table 7 show that household annual income and human capital account for 77.22% and 58.33% of the total difference in the SFES, respectively. In addition, Tables A2 and A3 present the robustness checks corresponding to Tables 6 and 7, respectively. The conclusions in the Appendix Tables are consistent with those in Tables 6 and 7, further confirming the robustness of our findings.

This study provides explanations for these results as follows. First, with China's rapid urbanization, the target of land acquisition has expanded rapidly from urban or suburban villages to rural areas far from the core urban areas. Moreover, with the broadening reform of the hukou system, more populations who originally held agricultural hukou have been uniformly redefined as "residential hukou" (Zhang et al. 2022). In this context, policy-based migrants could convert their agricultural hukou to the nonagricultural hukou directly through land acquisition, as well as hukou reform, indicating that they would not experience fierce competition or make their own efforts to convert the hukou type, unlike self-motivated migrants. Therefore, the access to non-agricultural hukou for policy-based migrants is essentially due to national policies rather than through their own efforts or outstanding human capital.

In addition, since most land acquisition has occurred in rural areas and the broader reform of the hukou system has not been implemented for a long period of time, it is difficult for policy-based migrants to access the equalization of various social resources, services, and welfare as residents living in core urban areas. Furthermore, policy-based migrants do not have the advantages of human capital and political capital; however, they often need to rely on national employment policies to be engaged in certain nontechnical or inferior occupations (Wu and Zheng

Table 6 Oaxaca–Blinder decomposition of group disparity in SSS.

Variables	Overall (SSS)	%	Variables	Explained	%
urban natives	4.625***		income	0.183***	63.103
	(0.015)			(0.014)	
pbm	4.265***		edu	0.074***	25.517
	(0.050)			(0.018)	
total difference	0.360***	100.000	ca	0.148***	51.034
	(0.052)			(0.016)	
explained	0.290***	80.556	health	0.034***	11.724
	(0.029)			(0.006)	
unexplained	0.070	19.444	mentalhealth	0.019***	6.552
	(0.044)			(0.005)	

Robust standard errors in parentheses. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively. The unexplained factors may be data limitations or unobservable factors, which are difficult to measure.

Table 7 Oaxaca–Blinder decomposition of group disparity in SFES.

Variables	Overall (SFES)	%	Variables	Explained	%
urban natives	2.777***		income	0.139***	77.222
	(0.006)			(0.009)	
pbm	2.585***		edu	0.033***	18.333
	(0.021)			(0.007)	
total difference	0.192***	100.000	ca	0.050***	27.778
	(0.022)			(0.006)	
explained	0.180***	93.750	health	0.016***	8.889
	(0.014)			(0.003)	
unexplained	0.013	6.771	mentalhealth	0.006***	3.333
	(0.018)			(0.002)	

Robust standard errors in parentheses.
***p < 0.01, **p < 0.05, *p < 0.1.

Table 8 Oaxaca–Blinder decomposition of group disparity in "individual SSS after 10 years".

Variables	Overall (SSS)	%	Variables	Explained	%
urban natives	5.350***		*income*	0.176***	54.154
	(0.018)			(0.015)	
pbm	5.033***		*edu*	−0.002	−0.615
	(0.061)			(0.020)	
total difference	0.317***	100.000	*ca*	0.154***	47.385
	(0.064)			(0.019)	
explained	0.325***	102.524	*health*	0.040***	12.308
	(0.034)			(0.007)	
unexplained	−0.008	−2.524	*mentalhealth*	0.015***	4.615
	(0.052)			(0.004)	

Robust standard errors in parentheses.
***p < 0.01, **p < 0.05, *p < 0.1.

2018). Accordingly, although policy-based migrants have successfully converted their agricultural hukou to nonagricultural hukou and are regarded as "upwards class mobility", they do not have better job opportunities, more income, higher quality educational resources, and wider social networks in cities, leading to disparities in their SSSs and SFESs, which is the epitome of the rural-urban gap in contemporary China. Further investigations listed in Tables 8 and A4 show that even in terms of expectations, disparities still exist in "individual SSS after 10 years" between policy-based migrants and urban natives, which could also be attributed mainly to the inferior current household income and human capital of policy-based migrants.

Rethinking the SSS between self-motivated migrants and urban natives. As shown in Table 4, the disparity in individuals' SSS between self-motivated migrants and urban natives has already been insignificant, which has aroused our interest. In this section, we focus on explaining the basically equal SSS between self-motivated migrants and urban natives.

Before the reform of the hukou system, the hukou restriction prevented the rural population from moving to urban areas, while nonagricultural hukou per se determined whether people could be entitled to urban benefits. However, since the gradual relaxation of the hukou system, China has witnessed many people moving from rural to urban areas. With fewer restrictions on mobility and a more competitive environment, there has been an obviously increasing trend in which urban benefits, including positive income returns, accessible educational resources, better-resourced medical systems, and better social security, are tightly correlated with individuals' endowments, economic capacity, and employment, rather than the nonagricultural hukou per se (Chen and Fan 2016; Cai and Wang 2018). Moreover, self-motivated migrants obtain nonagricultural hukou through carefully considered self-selective and fiercely competitive approaches. Accordingly, it is believed that this group of migrants conforms to the proverb of "A Triton among the minnows", and the success of their hukou conversion is a typical manifestation of their outstanding endowment among their peers (Zhang et al. 2022). In fact, for most self-motivated migrants, obtaining nonagricultural hukou is not the end of the process of "upwards class mobility"; however, fulfilling the "Metropolitan Dream" is their ultimate goal, that is, purchasing urban houses, being employed by government occupations (*tizhi nei* in Chinese), enjoying local social resources, and gaining local economic benefits, while acquiring nonagricultural hukou is the first step in achieving these goals.

Based on the CGSS dataset, our study revealed that a large proportion of self-motivated migrants achieved the goals mentioned above. The research sample shows that 25.36% of

Table 9 Expectations (in the future 10 years) in individuals' SSS.

VARIABLES	(1) after10	(2) after10	(3) gap10	(4) gap10
smm	0.092***	0.059*	0.116***	0.147***
	(0.035)	(0.035)	(0.037)	(0.037)
Observations	16,405	16,405	16,405	16,405
Other Controls	YES	YES	YES	YES
Income and Human- Capital Controls	NO	YES	NO	YES
Province FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Pseudo R-squared	0.0447	0.0589	0.0689	0.0708

Robust standard errors in parentheses.
***p < 0.01, **p < 0.05, *p < 0.1.

self-motivated migrants are in government employment, and their average household annual income is above 121,000 yuan. However, the corresponding numbers are only 10.00% and 72,739.88 yuan for policy-based migrants and 20.33% and 112,594.4 yuan for urban natives in the sample. Thus, compared with policy-based migrants, self-motivated migrants have salient advantages in terms of occupation and income in the urban labour market, while their income is even higher than that of urban-origin residents. In addition, self-motivated migrants have a stronger sense of identity with their urban identities, as well as a higher level of "citizenization" in many aspects (Li 2014). In summary, by successfully obtaining nonagricultural hukou via great effort, self-motivated migrants can obtain better urban benefits, earn their living more easily, and tend to blend themselves more into urban life than policy-based migrants do, thus integrating economically and mentally better into the urban sector. Therefore, it is not surprising that an individual's SSS shows little, or even no, disparity between self-motivated migrants and urban natives.

Moreover, unlike most rural−urban migrants who do not have nonagricultural hukou or are likely to leave away at some point due to hukou or economic reasons[15], self-motivated migrants have already obtained urban benefits and local social welfare. Accordingly, there is no need for self-motivated migrants to worry about leaving urban sectors in the future because their lives in cities are basically stable. Combining their successful past experience in obtaining nonagricultural hukou, as well as their currently stable lives in cities, self-motivated migrants are likely to have a positive trend in individuals' SSS compared with that of urban natives. As shown in Table 9, we estimate the model

Table 10 Estimating results for the individual SSS and SFES of gender-based groups of migrants and urban natives.

VARIABLES	(1) SSS Female	(2) SSS	(3) SSS Male	(4) SSS	(5) SFES Female	(6) SFES	(7) SFES Male	(8) SFES
migrant	−0.144***	−0.050	−0.029	−0.022	−0.312***	−0.179***	−0.034	−0.015
	(0.047)	(0.047)	(0.047)	(0.047)	(0.052)	(0.054)	(0.052)	(0.054)
Observations	8547	8547	8333	8333	8547	8547	8333	8333
Other Controls	YES	YES	YES	YES	YES	YES	YES	YES
Income and Human- Capital Controls	NO	YES	NO	YES	NO	YES	NO	YES
Province FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Pseudo R-squared	0.0379	0.0637	0.0347	0.0606	0.0682	0.148	0.0580	0.132

Robust standard errors in parentheses.
***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

specified in Model (2) by using the "individual's SSS after 10 years" as the dependent variable. The *smm* dummy is significant, indicating that individuals' future expectations of the SSS of self-motivated migrants are greater than those of urban natives. Moreover, when "the gap in an individual's SSS between 10 years after and present" is employed as the dependent variable, the *smm* dummy is significantly positive, implying that the identity of being a self-motivated migrant even has a more positive prospect of upwards social mobility in the future. Accordingly, these results provide strong evidence that self-motivated migrants have already successfully integrated into urban sectors economically and mentally.

Do self-motivated migrants truly realize "bringing honor to family?". As mentioned above, China's hukou system and the resulting rural−urban migration have divided Chinese society into various social groups. In such a society with institutional barriers caused by the hukou system, social groups with different settlements and hukou types are likely to compare themselves with other cohorts when their subjective perceptions are evaluated (Knight and Gunatilaka 2010; Wang 2017). Therefore, it is important to address certain social phenomena in China through comparisons between self-motivated migrants and urban natives.

In fact, individuals of self-motivated migrants and urban natives hold nonagricultural hukou and settle in urban areas, but there is little heterogeneity in their SSS. However, when being asked about an individual's SFES, respondents need to consider not only their own social status but also their family members' economic situations. That is, in the Chinese context, when considering SFES, parents' income, occupation, education levels and social networks should be noted, as they reflect the capacity of households to access and prioritize scarce resources across society. Compared with urban natives, most of the family members of self-motivated migrants still live in rural areas with agricultural hukou and are engaged in agriculture. Although the parents of self-motivated migrants are able to support their families through agricultural production, it is difficult for them to transfer the same urban resources to their children as the parents of urban natives do. In general, the parents of urban natives can provide their children with excellent educational resources, career choices, and financing support for purchasing housing property, all of which can hardly be given by the parents of self-motivated migrants. Therefore, self-motivated migrants tend to be inferior to urban natives in terms of the social and economic status of their original rural families (Xu 2022), leading to a significant disparity in the SFES compared with that of urban natives.

Moreover, for most households with a rural-origin background, parents accumulate all the family resources to raise their

children to receive better education, hoping that their children become "phoenixes" and make better lives in cities. Thus, rural parents make enormous sacrifices for their children's success (Yin 2006). As a result, self-motivated migrants generally feel indebted and have a strong sense of obligation to repay their families while trying their best to help all their family members enjoy the same living conditions and urban social resources as they have in return (Higginbotham and Weber 1992; Cheng 2016). However, owing to the current hukou policy and the disadvantages in terms of human capital, it is still unlikely for rural family members to achieve the same goals as self-motivated migrants have, leading to a great disparity between self-motivated migrants and their original family members; however, this gap can hardly be observed in the group of urban natives. Accordingly, the identity of self-motivated migrants may have negative impacts on the SFES compared with that of urban natives, indicating that it is more difficult for self-motivated migrants to realize "bringing honor to family".

Gender heterogeneity. In the previous sections, we discussed the heterogeneity of SSSs and SFESs among policy-based migrants and self-motivated migrants. Concurrently, gender has a great effect on the differences in the resource acquisition of class travellers. Therefore, during the process of class transition, do females and males also have different subjective perceptions? This section aims to examine this issue from a gender-based perspective.

We regress the baseline model by gender group. As shown in Columns (1) and (2) of Table 10, the coefficient of the dummy *migrant* variable in the female group is significantly negative and is not statistically significant after controlling for income and human capital controls when SSS is employed as the dependent variable. This reveals that the income and human capital variables explain the lower SSS of female migrants to a large extent. However, the coefficients of the dummy *migrant* variable in the male group are not statistically significant, as reported in Columns (3) and (4) of Table 10, suggesting that there are no disparities in SSS between migrants and urban natives in the male group.

In fact, previous studies have shown that, owing to the traditional concepts of their families and the scarcity of resources in rural areas, rural women usually face more severe discrimination than urban native women do, leading to worse education attainment (Hannum et al. 2009; Wu 2010). Moreover, the environment at an early age has an important and strong effect on a person's lifetime cognitive ability and values (Ye et al. 2022). Notably, we define individuals who obtained nonagricultural hukou after the age of 14 years as migrants. Therefore, these

Table 11 Disparities in the gender role concept and individual income of gender-based groups of migrants and urban natives.

	Female		Diff 1	Male		Diff 2	DID
	Migrant (1)	Urban natives (2)	(5) = (1)-(2)	Migrant (3)	Urban natives (4)	(6) = (3)-(4)	(7) = (5)-(6)
Q1	3.020	2.749	0.271*** (8.922)	3.154	3.087	0.067** (2.268)	0.204*** (4.903)
Q2	2.730	2.542	0.188*** (6.594)	2.789	2.816	−0.027 (−0.932)	0.215*** (5.405)
Q3	2.956	2.818	0.138*** (4.721)	2.868	2.930	−0.062** (−2.169)	0.200*** (4.933)
Income	44,849	55,872	−11,023*** (−5.367)	70,288	71,326	−1038 (−0.299)	9985** (2.426)

t-statistics in parentheses.
***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

female migrants are very likely to live in rural areas during their early years, which could have a more irreversible negative impact on their cognitive abilities.

In addition, female migrants are more likely to conform to traditional concepts of gender role norms, such as male chauvinism and the division of labour, where men are breadwinners and women take care of the home. In our questionnaire, respondents were asked whether they agreed with the following concepts: Q1. "Men should prioritize their careers, while women should focus on the family"; Q2. "Men are naturally more capable than women"; and Q3. "It is better to marry well than to work hard". The responses were rated on a scale of 1 to 5, with higher scores indicating greater agreement. The results are shown in Table 11. Without exception, migrant women show significantly greater approval of these traditional concepts than urban native women do, and the differences are significantly greater than those among the male group. Moreover, strong evidence indicates that in addition to differences in endowment and cognition, female migrants face more severe discrimination in the urban labour market than female urban natives do (Magnani and Zh 2012). As shown in Table 11, female migrants also earn less annual income than female urban natives do. The issue of the gender wage disparity within the migrant group is more severe than that among urban natives. Specifically, the gender disparity in individual annual income is approximately 10,000 yuan greater for migrants than for urban natives. Taking all these factors into account, we can conclude that although female migrants have obtained nonagricultural hukou, the lack of human capital, more traditional concepts and discrimination have prevented them from individually earning higher income in the urban labour market than female urban natives do, ultimately resulting in lower status within the family and leading to lower SSS.

Moreover, Columns (5) through (8) in Table 10 indicate that females' SFES remains significantly lower than that of their urban native counterparts, whereas males' SFES is not significantly different from that of urban natives. Compared with males, females' main channel for obtaining nonagricultural hukou is marriage (Goldstein et al. 2010; Xiang, 2015). Moreover, due to their lower individual income and more traditional beliefs, migrant women are often in an inferior status within the family. After marrying, females often live with their in-laws, thereby providing men with more opportunities to extend the advantages of nonagricultural hukou to their family members. In contrast, family members of female migrants can hardly partake in this advancement. This discrepancy may lead females to perceive that they do not increase the social status of their family members, which consequently manifests as a lower SFES relative to that of urban natives.

Conclusion, policy implications and contributions

This study takes China's rural–urban migrants as a typical case and makes a clear distinction between policy-based and self-motivated migrants. On the basis of the five waves of the CGSS dataset, we compare migrants' subjective social status and subjective family economic status to those of urban natives in the Chinese social context.

By employing an ordered logit model and the Oaxaca–Blinder decomposition method, we check the determinants of individuals' SSS and SFES and find that there are obvious disparities in individuals' SSS and SFES between the two categories of migrants. First, certain objective and subjective factors, such as age, education, income and property, cognitive ability, self-rated health, and attitudes towards social equality, significantly explain individuals' SSS and SFES in the Chinese context. Second, the SSS of self-motivated migrants is almost equal to that of urban natives. However, the identity of being a self-motivated migrant itself has negative effects on the SFES, indicating that this group of individuals may not believe that they could bring honor to their families, although they have successfully integrated into the urban sector economically and mentally. Furthermore, rural–urban migrants exhibit gender heterogeneity, with migrants' lower human capital and income leading to prominently lower SSSs than those of urban natives in the female group and a significantly lower SFES in female migrants than in urban natives. Third, both the individual SSS and the SFES of policy-based migrants are significantly lower than those of urban natives, which is largely explained by the obvious gaps in the aspects of human capital endowment and household income between these two groups of individuals. Finally, self-motivated migrants and urban natives may experience no disparities in their expectations of individuals' SSS after 10 years, and self-motivated migrants may even expect more upwards social mobility in the next 10 years, indicating that China's urbanization has positively affected migrants' psychological status.

Based on these conclusions, we propose three policy implications. First, policy interventions should prioritize reducing disparities between policy-based migrants and urban natives by improving human capital and increasing family income through targeted programs, such as skill training, education subsidies, and financial support. Second, policy-makers can enhance the social integration of self-motivated immigrants by strengthening family support structures and promoting family development through education, health care and employment assistance, as family recognition remains critical to their overall integration. Finally, special attention should be focused on female migrants to address the multidimensional challenges they face in work, family, and society, ensuring gender equality and safeguarding their rights in education, employment, and family decision-making.

The contributions of this study are as follows. First, this study makes a clear classification of rural‑urban migrants in the Chinese transitional context, that is, policy-based migrants and self-motivated migrants. The study subsequently examines the disparate impacts of rural–urban migrant status on subjective social status and subjective household economic status and explores the underlying factors contributing to the subjective identity gap with urban natives. This approach could provide a general framework for analysing migrants' subjective mental state in sociological, economic, and political science studies, which could effectively supplement former theoretical research. Second, most of the research on individuals' SSSs and SFESs is qualitative. Our interdisciplinary research is one of the first studies to quantify this issue and employs econometric models to decompose the magnitude of the effects of specific factors, thereby facilitating more in-depth research on the determinants of Chinese rural–urban migrants' SSSs and SFESs. Third, our study reveals that the influence of being a rural‑urban migrant on an individual's SSS and SFES is significantly different between two types of migrants compared with that of urban natives, indicating that the influence should be interpreted differently between an individual's SSS and SFES in specific social and cultural contexts. Finally, this study makes certain realistic contributions. The Chinese central government has repeatedly proposed that the psychological issues of rural‑urban migrants should be considered by society. Moreover, our research goes beyond the individual perspective, providing empirical evidence to inform family policy formulation. Consequently, our findings have constructive implications for a transitional economy when implementing policies aimed at transforming migrants' psychological conditions during the rapid urbanization process.

Despite the contributions of this study, there may be certain limitations. One potential limitation comes from the instrumental variable (IV). This study employs an IV to address endogeneity due to unobserved heterogeneity and conducts robustness checks. However, it is important to acknowledge that IVs are not without limitations and that endogeneity is difficult to eliminate fully. Despite our best efforts to select the appropriate IV to address omitted variable bias, the exogeneity of the IV may remain challenging owing to the potential unobserved factors that may simultaneously influence both the IV and the dependent variables. Given the continuous advancements in the theoretical and methodological understanding of IVs, future research may explore better IVs as data availability improves or seek methodological breakthroughs by employing more cutting-edge techniques to address endogeneity issues further.

Data availability

The data that support the findings of this study are available from Chinese General Social Survey (http://cgss.ruc.edu.cn/), which is available in public domain for research purpose, but are used under licence. The CGSS data are available in Renmin University of China by application from [cgss@ruc.edu.cn]. However, it could block users outside China. In this case, the datasets generated are available from the corresponding author on reasonable request.

Notes

1 Local governments expropriate the agricultural lands from farmers, and convert the lands to urban construction lands for the purpose of expanding the urban living areas.

2 http://www.gov.cn/zhengce/content/2014-07/30/content_8944.htm.

3 https://3g.163.com/dy/article/GCADQC700543OO5R.html.

4 The self-sufficient small-scale peasant economy and household production model under the farming culture are important reasons for Chinese people to attach importance to the concept of family. On this basis, the concept of family of Chinese people includes not only a few family members but also 18 generations of ancestors.

5 http://cgss.ruc.edu.cn/.

6 The 2013, 2015, 2017, 2018 and 2020 CGSS data do not have observations in Xinjiang, Xizang, and Hainan.

7 The specific definitions of these two groups of migrants are explained below.

8 Specifically, we exclude observations that obtain nonagricultural or residential hukou below 0 years. We also exclude observations with a current hukou status of residential hukou (previously nonagricultural) that was not obtained since birth.

9 Through the reform of hukou system, all residents' hukou will be regarded as the "residential hukou", which is also classified as the nonagricultural hukou.

10 As the individual income is subject to greater measurement error than household income (Asadullah et al. 2018). Therefore, we use the household annual income in this paper, which is also done by other researchers (Knight and Gunatilaka, 2010).

11 8.35% is derived from 1 – odds ratio. The odds ratio is calculated by $e^{coefficient}$, where the *coefficient* refers to the estimated coefficient on *migrant* in Column (1) of Table 3 (−0.0871) in this example.

12 16.00% is also derived from 1 – odds ratio. The odds ratio is calculated by $e^{coefficient}$, where the *coefficient* refers to the estimated coefficient on *migrant* in Column (3) of Table 3 (−0.1744) in this example.

13 11.39% is derived from 1 – odds ratio as well. The odds ratio is calculated by $e^{coefficient}$, where the coefficient refers to the coefficient on *smm* in Column (4) of Table 4 (−0.1209) in this example.

14 https://www.gov.cn/zhengce/content/2016-10/20/content_5122291.htm.

15 The rural-urban migrants' children have to go back to their rural hometowns because they do not have nonagricultural hukou and thus have no or limited access to local urban schools. What's more, since most of the migrants face the discrimination in job security and social welfare, it is unlikely for them to afford the rapidly increasing housing rents and living expenses for a long period (Liao and Zhang 2021).

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Acknowledgements

Author contributions

The authors confirm their contribution to the paper as follows: Conceptualization: XY; Methodology: XY and WJ; Software: SC, XY, and YC; Validation: XY and WJ; Formal analysis: XY, SC, and XY; Investigation: XY and YC; Resources: XY; Data curation: XY and WJ; Writing-original draft: XY, SC, XY, and YC; Preparation: SC, XY, and YC; Supervision: XY; Project administration: XY and WJ; Funding acquisition: XY and WJ.

Competing interests

The authors declare no competing interests.

Ethical approval

This is secondary data analysis, and ethical approval was not required. The empirical analysis in this study relied on the Chinese General Social Survey (CGSS) data (http://cgss.ruc.edu.cn/), which has already collected by the National Survey Research Center (NSRC) of Renmin University of China, and is available in public domain for research purpose. The secondary data used was de-identified data, and there is no way it could be linked back to the subjects from whom it was originally collected. Therefore, this article does not contain any studies with human participants performed by any of the authors.

Informed consent

The data used in this article is based on secondary data, which has already collected by the National Survey Research Center (NSRC) of Renmin University of China. The data that support the findings of this study are available in Renmin University of China by application from [cgss@ruc.edu.cn]. Therefore, this article does not contain any studies with human participants performed by any of the authors.

Additional information

Supplementary information The online version contains supplementary material available at https://doi.org/10.1057/s41599-024-04305-6.

Correspondence and requests for materials should be addressed to Wei Jiang.

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