

RESEARCH ARTICLE

Economic disadvantages and migrants' subjective well-being in China: The mediating effects of relative deprivation and neighbourhood deprivation

Yuqi Liu^{1,2}  | Fangzhu Zhang¹ | Ye Liu²  | Zhigang Li³ | Fulong Wu¹

¹Bartlett School of Planning, University College London, London, UK

²School of Geography and Planning, Sun Yat-sen University, Guangzhou, China

³School of Urban Design, Wuhan University, Wuhan, China

Correspondence

Ye Liu, School of Geography and Planning, Sun Yat-sen University, Guangzhou, China.
Email: liuye25@mail.sysu.edu.cn

Funding information

British Academy project, Grant/Award Number: IC160171; China Scholarship Council; ESRC, Grant/Award Number: ES/N015185/1; U.K. Economic and Social Research Council (ESRC)/Department for International Development (DFID), Grant/Award Number: RES-167-25-0448; National Natural Science Foundation of China, Grant/Award Numbers: 41501151, 41422103 and 41771167

Abstract

China's new-style urbanisation plan has aroused public concern about the well-being of internal migrants in large cities. Although a large body of literature has documented and explained migrants' economic disadvantages in the host city, only a few studies have attempted to unravel the link between their actual economic conditions and their subjective well-being (SWB). What is missing in the literature on migrants' well-being in Chinese cities is a systematic investigation into how both individuals' feeling of relative deprivation and neighbourhood deprivation mediate the relationship between their economic disadvantages and their SWB. To bridge this knowledge gap, this paper examined to what extent and in what ways migrants' actual economic disadvantages affected their SWB in Guangzhou, China, using questionnaire survey data and multilevel linear regressions. More particularly, it explored the pathways through which deprivation (in both absolute and relative terms) at both individual and neighbourhood levels influenced migrants' SWB. Results from the multilevel analysis showed that migrants' absolute economic disadvantages were negatively associated with their SWB. Results from mediation analysis indicated that feeling socio-economically deprived relative to other people in the host cities and living in deprived neighbourhoods were two important pathways through which migrants' absolute economic disadvantages negatively affected their SWB. Our findings suggest an urgent need to bridge the migrant-local social gap and curb the poverty of migrant neighbourhoods to enhance migrants' SWB.

KEYWORDS

China, migrants, neighbourhood deprivation, relative deprivation, subjective well-being

1 | INTRODUCTION

Understanding subjective well-being (SWB) is impossible without understanding objective quality of life (QoL). Much literature has documented the association between one's absolute income and their self-perceived well-being (Clark, Frijters, & Shields, 2008; Easterlin, 1995). However, this seemingly straightforward relationship is neither linear nor deterministic, and its strength varies from place to place

(Diener, Diener, & Diener, 1995; Easterlin, 1995). Studies on low-income residents of distressed neighbourhoods have shown that individual predicaments are intertwined with area poverty to threaten residents' well-being (Ellaway, Macintyre, & Kearns, 2001; Ross, Reynolds, & Geis, 2000; Sampson, Morenoff, & Gannon-Rowley, 2002). As important dimensions of disadvantages, migration, and ethnicity have been incorporated into the study of well-being (Knight & Gunatilaka, 2010; Mitra, 2010; Nowok, Van Ham, Findlay, & Gayle,

This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2018 The Authors. Population, Space and Place Published by John Wiley & Sons Ltd

2013). Low-income immigrants tend to have a lower level of SWB than low-income locals, because they suffer from the intersection of multiple axes of disadvantage (e.g., economic, social, cultural, and political disadvantages; Alba, Logan, Stults, Marzan, & Zhang, 1999; Musterd, 2006; Portes, 1995). Recent studies have examined disadvantaged immigrants' SWB through the lens of multiple disadvantages and area deprivation in their local places of residence (Ley & Smith, 2000).

A growing body of literature is dedicated to the well-being of migrants from rural areas and small towns in Chinese cities (Chen, 2016; Hao & Tang, 2017; Liu, He, & Wu, 2008; Liu & Xu, 2017; Shen, 2016a; Shen, 2016b; Wu, 2006; Wu & Logan, 2015). The heart of this literature is a structuralist view that migrants, as a socio-economically disadvantaged and politically disenfranchised group, have limited access to housing, social benefits, and entitlements and therefore experience a lower-than-standard QoL (He, Liu, Wu, & Webster, 2010; He, Wu, Webster, & Liu, 2010; Huang & Yi, 2015; Li, 2006; Liu et al., 2008; Liu, Li, Liu, & Chen, 2015; Shen, 2016b). Although much research has documented and explained the objective conditions of migrants' well-being, few studies touch on their subjective evaluation of well-being. Among this sparse literature are a handful of studies that have explored the possible link between migrants' absolute income and their SWB (Cheng, Wang, & Smyth, 2014; Knight & Gunatilaka, 2010; Wen & Wang, 2009).

However, the above literature leaves some questions unanswered: How do actual economic disadvantages interact with the perception of these disadvantages to influence migrants' feelings about their well-being? Do impoverished migrants who live in deprived neighbourhoods face a "double disadvantage" and thus have a lower level of SWB than migrants who live elsewhere? Through what channels do migrants' economic conditions influence their evaluation of QoL? To address these questions, this paper aims to examine to what extent and in what ways migrants' absolute economic disadvantages affect their SWB in Guangzhou, China, using survey data and multi-level linear regressions. It employs a mediation analysis to shed light on two pathways through which their actual economic disadvantages influence their evaluation of QoL: their perceptions of relative deprivation and the deprivation level of their residential neighbourhoods.

This research advances knowledge of migrants' SWB in Chinese cities in several respects. First, it disentangles the complex relationship between the reality and the perception of deprivation and explores how these two dimensions of deprivation influence migrants' SWB. Second, it employs a mediation analysis to examine how migrants' actual economic disadvantages are intertwined with neighbourhood deprivation to affect their evaluation of QoL. For example, using the mediation analysis, we are able to take into account the process of neighbourhood selection (low-income migrants are sorted into deprived neighbourhoods and therefore are likely to be exposed to distressed environments) when investigating the link between migrants' individual economic disadvantages and their SWB.

2 | LITERATURE REVIEW

2.1 | Absolute economic disadvantages and SWB

SWB refers to an individual's evaluation of his or her QoL in a given time range (Diener, 1984). It consists of two elements: cognitive

judgement and emotional responses (Diener, 1984). The cognitive element represents how a person views his or her life circumstances in global terms. The emotional element refers to people's emotional responses to ongoing events, including emotions, moods, and feelings. Given that the cognitive element is comparatively stable and subject more than the emotional element to environmental factors, this research only focuses on the cognitive element of SWB.

A large body of literature has tried to unravel the relationship between absolute income and SWB. However, research hitherto has yielded mixed results in this regard. As suggested above, this seemingly straightforward relationship is, in fact, neither linear nor deterministic, and it has been found to be mediated by a range of sociopsychological factors. For example, Easterlin (1995, 2001) argued that individuals' material aspirations grew along with an increase in their income, weakening the positive effect of the rising income on their SWB. Runciman (1972) and Michalos (1985) affirmed that individuals might feel deprived and unhappy when they realised that their income was far lower than that of their reference groups. Diener and Fujita (1997) and Hagerty (2000) found that individuals tended to feel better about themselves when they made downward social comparison and feel worse when they made upward social comparison.

Social comparison is a process in which individuals evaluate their abilities and personal worth based on the ways they stack up against others (Festinger, 1954). Earlier studies have indicated that individuals' evaluation of their own socio-economic status was a pathway through which their income influenced their SWB. First, people's absolute socio-economic status largely determines their perceived status relative to others (Diener & Fujita, 1997; Festinger, 1954; Hagerty, 2000). Second, in the process of social comparison, a person normally feels better about themselves when comparing with people who are worse off or inferior to them (i.e., downward comparison) but worse about themselves when comparing with people who better off or superior (i.e., upward comparison; Diener & Fujita, 1997; Festinger, 1954; Gartrell, 2002; Hagerty, 2000; Kingdon & Knight, 2007; Stewart, 2006; Suls, Martin, & Wheeler, 2002; Townsend, 1979; Veenhoven, 1991; Whelan, Layte, Maître, & Nolan, 2001; Wilkinson & Pickett, 2007). In this case, individuals' comparison with others mediates the relationship between their absolute income and their SWB.

Neighbourhood environment has been shown to mediate the relationship between individuals' absolute economic condition and their SWB. As suggested by many studies on neighbourhood sorting, individuals' income strongly influences where they live and how good their living conditions are (Hedman, van Ham, & Manley, 2011; Kearns & Parkes, 2003). Neighbourhood environments play an important role in shaping individuals' SWB (Elliott, 2000; Hickman, 2013; Liu, Dijst, & Geertman, 2016; Ludwig et al., 2012; Okulicz-Kozaryn & Mazelis, 2018; Schwanen & Wang, 2014; Wang & Wang, 2016; Wen, Browning, & Cagney, 2007; Wen, Hawkey, & Cacioppo, 2006). The detrimental effect of deprived neighbourhoods is at the heart of this line of inquiry. Scholars have shed light on several pathways through which neighbourhood deprivation influences individuals' SWB. First of all, individuals are under pressure and stress when exposed to a series of environmental stressors such as poor sanitary conditions, dense and congested housing, and the lack of open space (Mair, Diez Roux, & Morenoff, 2010). Second, residents are more likely to encounter crime

or antisocial behaviours in deprived neighbourhoods and consequently more often live in fear and anxiety (Ellaway et al., 2001; Elliott, 2000; Ludwig et al., 2012). Third, the competition for limited resources in deprived neighbourhoods can raise tension between residents. Fourth, residents may be less able to seek help from neighbours, who possess limited economic and social resources. Fifth, deprived neighbourhoods are often filled with a culture of despair, which dampens residents' ardour to improve their QoL and achieve upward social mobility (Sampson et al., 2002). Therefore, individuals' residential neighbourhood is assumed to be a pathway through which their absolute income influences their SWB.

2.2 | Migrants' SWB in Chinese cities

In the Chinese context, a plethora of studies have documented the disadvantages and marginalisation of migrants in the host city (Du, 2017; Huang, Dijst, Weesep, Jiao, & Sun, 2017; Huang, Tao, Salet, & Savini, 2015; Shen, 2016b; Wang & Fan, 2012; Wu & Wang, 2014). Migrants' economic disadvantages are largely attributable to the constraints of the *hukou* system and urban-rural disparities (Chan & Buckingham, 2008). Due to urban-rural development disparities, migrants from rural areas have less schooling, lower occupational status, and lower income than local urban residents (Chen, 2011; Fan, Sun, & Zheng, 2011; Pan, Xu, Huang, & Wang, 2017; Sun & Fan, 2011). They are more likely than their local counterparts to be involved in the secondary labour market, which consists of high turnover, low pay, and temporary work. They are excluded from the access to government-provided or government-subsidised housing due to *hukou* system constraints (Huang et al., 2015; Wu & Wang, 2014), and they are generally not able to afford the skyrocketing housing prices in the urban formal housing market due to their low income and low willingness to pay (Zheng, Long, Fan, & Gu, 2009). Thus, numerous migrant workers have no choice but to live in private rental housing or employer-provided housing such as dorms. Migrant housing is often haunted by the problems of crowding, poor quality, and lack of facilities and amenities. Therefore, migrants' economic disadvantages, along with institutional inferiority and social exclusion, lead to their low QoL, and their poor working and living conditions lead to a low level of SWB. We propose our first hypothesis as follows:

Hypothesis 1: *Migrants who are subject to absolute economic disadvantages tend to have a lower level of SWB than other migrants.*

Previous studies on migrant workers in Chinese cities have found a close link between migrants' SWB and their perception of relative deprivation (Knight & Gunatilaka, 2010). Migrants feel fulfilled when they gain a certain level of income. However, when they find themselves trapped on the lowest rung of the social ladder with no hope for upward social mobility, they may feel frustrated and disappointed (Cheng et al., 2014; Gui, Berry, & Zheng, 2012; Knight & Gunatilaka, 2010; Liu, Zhang, Liu, Li, & Wu, 2017). Migrants, especially those from the countryside, having experienced the urban-rural economic inequalities in China, tend to develop a strong sense of relative deprivation. For instance, Knight and Gunatilaka's (2010) study on rural-urban migrants in China indicated that they had false expectations about the conditions they would experience in the city when they

made their decisions to move and that their low happiness scores were due to the huge gap between their expectations and the reality. Other studies suggested that migrants tended to feel unhappy when they compared themselves with urban residents after their arrival in the host city (Cheng et al., 2014; Knight & Gunatilaka, 2010; Knight, Song, & Gunatilaka, 2009). The shift of the reference group from rural households in the hometown to urban residents in host cities is the main reason for decreases in migrants' happiness. We propose our second hypothesis on this basis:

Hypothesis 2: *Economically disadvantaged migrants tend to have feelings of relative deprivation, which leads to a lower level of SWB than other migrants.*

As mentioned previously, the disadvantaged are more likely than others to live in deprived neighbourhoods, and neighbourhood deprivation has a detrimental effect on residents' SWB. This may also be the case for migrants, as those living in deprived neighbourhoods are exposed to environmental stressors and have little access to public services (Ouyang, Wang, Tian, & Niu, 2016; Wu, He, & Webster, 2010; Xiao, Wang, Li, & Tang, 2017; Yuan & Wu, 2014). Although scholars have started to investigate the effect of neighbourhood environment on urban residents' SWB in China (Liu, Zhang, Liu, et al., 2017; Liu, Zhang, Wu, Liu, & Li, 2017; Wang & Wang, 2016; Yin, Cao, Huang, & Cao, 2016), there is a dearth of literature on the role of neighbourhoods in migrants' SWB. Among the few exceptions is Wen and Wang's (2009) research on migrants' mental well-being, which indicated that migrants who lived in neighbourhoods with better amenities were happier than those who lived in other neighbourhoods. Thus, we put forward the following hypothesis:

Hypothesis 3: *Economically disadvantaged migrants tend to live in deprived neighbourhoods, which leads to a lower level of SWB than other migrants.*

Migrants' SWB in Chinese cities may be influenced by social support, in addition to the abovementioned factors (Cheung, 2014; Jin, Wen, Fan, & Wang, 2012; Ma, Dong, Chen, & Zhang, 2018; Wang, Zhang, & Wu, 2017; Wen & Wang, 2009). Migrants tend to turn to their relatives, home-region fellows, neighbours, and friends for help when faced with mental distress and financial difficulties (Jin et al., 2012; Liu, Li, & Breitung, 2012; Wu & Logan, 2015). Such social support helps migrants forestall the occurrence of stressful events and reduce psychological distress (Cohen & Wills, 1985; Mair et al., 2010; Ross & Jang, 2000). In this light, migrants who receive a high level of social support are expected to have a high level of SWB. Figure 1 illustrates the conceptual framework of mechanism of migrants' SWB in Chinese cities.

3 | DATA AND METHODS

3.1 | Data collection

The main data used in this research were collected in Guangzhou using a questionnaire survey conducted between June and August 2015. Guangzhou is one of the most attractive destinations for internal migrants in China. We used a two-stage random sampling method to select respondents for the survey. In the first stage, we randomly

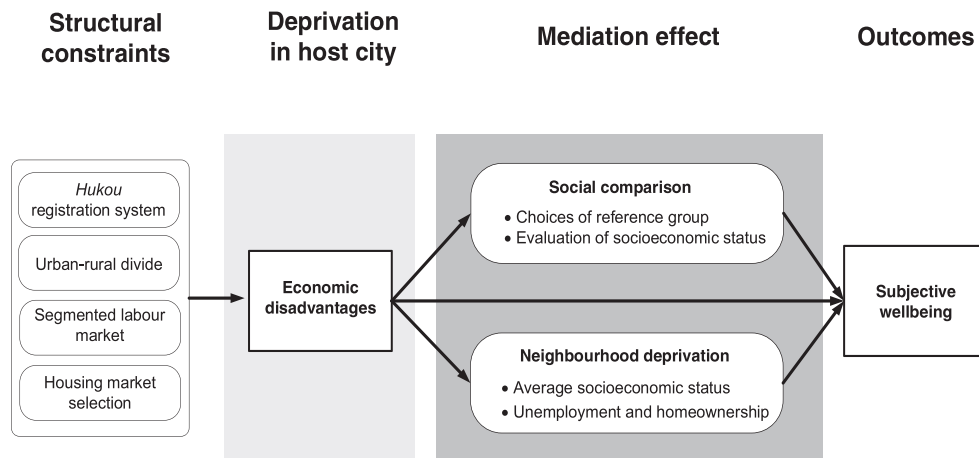


FIGURE 1 Conceptual framework of migrants' subjective well-being in Chinese cities

chose 23 neighbourhoods (*she qu*)¹ using a stratified probability proportionate to size technique. The data frame for neighbourhood sampling contained all neighbourhoods in seven districts located in the inner city and nearby suburbs of Guangzhou (namely, Liwan, Yuexiu, Haizhu, Tianhe, Baiyun, Panyu, and Huangpu).² The probability of selecting a particular neighbourhood was proportionate to the total population of the neighbourhood.

The second stage of sampling involved choosing around 50 households within each sampled neighbourhood and one household member within each sampled household. Systematic sampling based on residential addresses was used to choose households, and a Kish grid was used to choose household members within each sampled household. The survey yielded 1,150 valid respondents, among which 467 were migrants and 683 were locals. We defined migrants as people who did not have a Guangzhou *hukou* at the time of the survey and who had stayed in Guangzhou for at least half a year. Given that respondents' neighbourhoods may have little influence on their SWB if they had only recently moved there, we dropped the respondents who had lived in the sampled neighbourhoods for less than one continuous year. In addition, we also left out those who were outside the labour force at the time of the survey. The final dataset was composed of 1,064 respondents, among whom 426 were migrants and 638 were local residents.

Neighbourhood-level data were sourced from the Sixth China National Population Census Dataset of Guangzhou (2010). Small-area census data are superior to other datasets in terms of reliability, validity, and spatial scope. All people living in Guangzhou on the census day were enumerated, and data collected from individuals were aggregated at the neighbourhood level. We chose four neighbourhood-level census indicators to generate a neighbourhood deprivation index: homeownership rate, unemployment rate, education level, and occupation distribution. We used principal component analysis to extract a neighbourhood deprivation index across 23 neighbourhoods from these neighbourhood-level indicators.³

3.2 | Methods

This research treats migrants' SWB as a function of their absolute income, their evaluation of their social status, and the overall deprivation

level of their residential surroundings. Given that individual respondents were nested within neighbourhoods and the indicator of SWB was a continuous variable, multilevel linear regressions were employed to examine the effect of migrants' absolute income on their SWB. Multilevel models are superior to traditional single-level models because they can conduct correct inferences by allowing for residual components at both individual and neighbourhood levels. In the models, 426 migrants at Level 1 were nested within 23 neighbourhoods at Level 2.

We used the mediation analysis to explore the underlying mechanism by which an independent variable (absolute income) influenced a dependent variable (SWB) through two mediator variables (the feeling of relative deprivation and neighbourhood deprivation; Figure 2). We tested the existence of a mediation effect employing a stepwise approach (Baron & Kenny, 1986; Bollen, 1989). First, we regressed the dependent variable (SWB) on the independent variable (absolute income) and control variables. Second, we regressed the two mediator variables (feeling of relative deprivation and neighbourhood deprivation) on the independent variable and control variables. Third, we regressed the dependent variable on the independent variable, mediator variables, and control variables. A mediation effect exists when four requirements are met: (a) The independent variable significantly influences the mediator variables (Path A or D), (b) the independent variable has significant impact on the dependent variable (Path B), (c) the mediator variable affects the dependent variable (Paths C and E), and (d) the effect of the independent variable on the dependent variable is less or insignificant when the mediator variable is

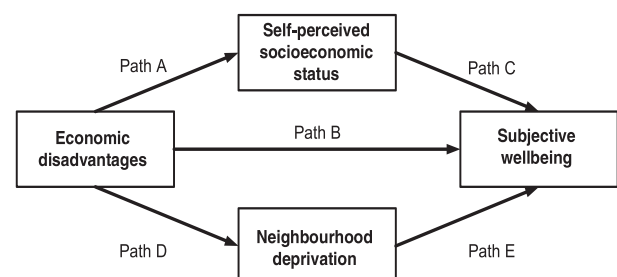


FIGURE 2 Mediation models of social comparison and neighbourhood deprivation on migrants' subjective well-being in Chinese cities

TABLE 1 Descriptive statistics for migrants in Guangzhou, China

Variables	Description	Migrants (N = 426)		Urban local residents (N = 638)		T value/ χ^2
		Mean	SD	Mean	SD	
<i>Dependent variable</i>						
Subjective well-being (5–35)	Accumulative score of 5 statements. To what extent would you agree with the statement “In most ways my life is close to my ideal,” “The conditions of my life are excellent,” “I am satisfied with my life,” “So far I have gotten the important things I want in life,” and “If I could live my life over, I would change almost nothing” (7-point Likert scale, 1 = <i>strongly disagree</i> , 7 = <i>strongly agree</i>).	19.9	5.1	21.5	5.5	–4.681
<i>Independent variable</i>						
Monthly income (Chinese yuan)	The monthly income of respondents (natural log).	5,209.9	7,177.1	5,075.7	6,285.9	0.322
<i>Mediator variables</i>						
Self-rated socio-economic status in Guangzhou (1–10)	Respondents' self-evaluation on their stratum in Guangzhou. Which stratum do you think you are in in Guangzhou? (1 = <i>the bottom of the society</i> , 10 = <i>the top of the society</i>)	6.0	1.6	6.3	1.8	–3.124
<i>Neighbourhood deprivation</i>						
Education of junior school or below (%)	Proportion of residents with education of junior school or below in the community.	52.4	18.0	44.6	14.7	7.731
Homeownership rate (%)	Percentage of residents with homeownership in the community.	44.1	30.3	57.9	27.7	–7.669
Low-end occupation rate (%)	Proportion of residents who are manufacturing, commercial, or service workers within the community.	67.7	21.4	59.9	20.2	6.061
Unemployment rate (%)	Percentage of unemployed residents within the community.	5.7	4.1	6.4	4.3	–2.667
<i>Control variables</i>						
Age		37.4	9.6	43.6	10.7	–9.592
<i>Gender (%)</i>						
Female		44.6		48.1		1.270
Male		55.4		51.9		
<i>Marital status (%)</i>						
Single, divorced, and widowed		16.9		18.8		18.874
Married and living together with family		78.9		80.7		
Married and living apart with family		4.2		0.5		
<i>Education (%)</i>						
Junior school and below		47.4		21.0		92.734
High school, technical secondary school, and professional college		30.8		35.4		
University and above		21.8		43.6		
<i>Hukou status (%)</i>						
Urban hukou	The <i>hukou</i> status of respondents at the time of the questionnaire survey.	22.5		99.5		704.256
Rural hukou		77.5		0.5		
<i>Social insurances in Guangzhou</i>						
Participating in both pension and medical insurance programmes (%)		65.9				
Only participating in medical insurance programme (%)		0.0				
Only participating in pension programme (%)		8.8				
Not participating in pension or insurance programmes (%)		25.3				

(Continues)

TABLE 1 (Continued)

Variables	Description	Migrants (N = 426)		Urban local residents (N = 638)		T value/ χ^2
		Mean	SD	Mean	SD	
Social ties in Guangzhou	How many friends of you are there in Guangzhou who can offer you support when it is needed?	16.4	32.9	23.2	36.9	-3.081
Self-rated health status (%)	How do you think about your health in general? (5-point Likert scale, 1 = <i>very unhealthy</i> , 5 = <i>very healthy</i>)					
Healthy		90.9	80.6			20.812
Unhealthy		9.1	19.4			
Psychological health (GHQ-12; 12-48)	GHQ-12, four-point Likert scale. The positive items were collected from 1 (<i>always</i>) to 4 (<i>never</i>), whereas the negative items were collected from 4 (<i>always</i>) to 1 (<i>never</i>).	22.8	5.2	22.3	5.3	1.461

Note. GHQ-12 = 12-item General Health Questionnaire.

controlled. Sobel's test was used to test the statistical significance of the mediation effect (Sobel, 1982).

3.3 | Variables and data analysis

3.3.1 | Measurement of variables

SWB in this study is defined as individual's perception of his or her QoL. Analysis of respondents' SWB was based on a straightforward measurement of life satisfaction by Diener's (1984) Satisfaction with Life Scale (SWLS). The SWLS includes five items (see Table 1); respondents are asked to rate the extent to which they agreed or disagreed with each of the five statements. A 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) was applied for each statement. For the independent variable, we used migrants' personal monthly income in Guangzhou, as a measure of economic disadvantages in the host city. Self-rated social status in Guangzhou was employed as a measure of the feeling of relative deprivation. As mentioned previously, a neighbourhood deprivation index was constructed to measure how deprived a neighbourhood was.

For control variables, we included variables indicating respondents' demographic characteristics (age, gender, and marital status), educational attainment, *hukou* status (rural or urban *hukou*), access to social welfare programmes, the number of social ties in Guangzhou, and health status. Analysis of the respondents' health status was based on self-reported physical health and psychological health. Physical health was evaluated with one question: "How do you think about your health in general?" (rated from 1 = *very unhealthy* to 5 = *very healthy*). The measurement of self-reported psychological health was adopted from the 12-item General Health Questionnaire, which examines the severity of one's mental problems over the last few weeks. The respondents responded on a 4-point Likert-type scale; positive items ranged from 1 (*always*) to 4 (*never*), whereas negative items ranged from 4 (*always*) to 1 (*never*). A high score indicates bad psychological health.

Table 1 summarises the descriptive statistics of all variables included in the models. It also compares migrants to locals in terms of the mean value and standard deviation of these variables. First, the average score of migrants' life satisfaction is 19.9, lower than that of their local counterparts in the survey (score = 21.5, $t = -4.681$,

$\alpha = .01$) and lower than the national average in China (score = 20.3; Bai, Wu, Zheng, & Ren, 2011). Moreover, according to the benchmark of SWLS⁴ (Diener, Emmons, Larsen, & Griffin, 1985; Pavot & Diener, 1993), the average score of migrants' life satisfaction indicates slight dissatisfaction with their QoL. Second, the average monthly income for migrants was 5,209.9 yuan, and there was no significant difference between migrants and locals in monthly income (5075.7 yuan, $t = 0.332$). Third, the average level of migrants' self-perceived social status in Guangzhou was 6.0, which was lower than locals (6.3, $t = -3.124$, $\alpha = .01$). Fourth, migrants were more likely than locals to live in deprived neighbourhoods, which were characterised by a large share of poorly educated residents (52.4% vs. 44.6%), renters (55.9% vs. 42.1%), workers in low-end occupations (67.7% vs. 59.9%), and unemployed residents (5.7% vs. 6.4%).

4 | RESULTS

Table 2 illustrates the results of the multilevel linear regressions.⁵ Variance inflation factors indicated the absence of serious multicollinearity among explanatory variables. Results from likelihood ratio tests suggested that multilevel linear regressions had stronger explanatory power than single-level linear regressions. Model 1 was used to estimate the direct effects of absolute income on migrants' SWB without taking into account mediation effects. Models 2 and 4 regressed two mediator variables (feeling of relative deprivation or neighbourhood deprivation, respectively) on the variable of income and the control variables. Models 3 and 5 regressed the variable of SWB on the variable of income along with either of the two mediators. In Model 4, we employed a single-level linear regression to estimate the mediation effect of neighbourhood deprivation, because the index of neighbourhood deprivation as a group-level variable did not vary within the same neighbourhood.

As expected, Model 1 shows that migrants' absolute income is positively associated with their SWB. More specifically, a 1% increase in migrants' monthly income leads to an increase in the score of SWB by 0.758 when all other variables are controlled. This finding confirms our Hypothesis 1 that economically disadvantaged migrants tend to have a lower level of SWB than others. Except for psychological health and social ties in Guangzhou, no control variable is associated

TABLE 2 Linear regression models revealing mediating effects of social comparison and neighbourhood deprivation on migrants' subjective well-being in Guangzhou

	Model 1 SWB (Path B)		Model 2 Self-rated social status (Path A)		Model 3 SWB (Paths B and C)		Model 4 Neighbourhood deprivation (Path D)		Model 5 SWB (Paths B and E)	
	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
Independent variables										
Monthly income (natural log)	0.758**	(0.283)	0.281**	(0.118)	0.594	(0.394)	-0.566***	(0.122)	0.691*	(0.401)
Self-rated socio-economic status					0.656***	(0.164)				
Neighbourhood deprivation index									-0.635**	(0.281)
Control variables										
Age	0.028	(0.030)	0.005	(0.009)	0.025	(0.030)	-0.016	(0.010)	0.026	(0.030)
Gender (reference group: Male)										
Female	0.401	(0.478)	0.212	(0.142)	0.264	(0.471)	-0.384**	(0.154)	0.343	(0.479)
Marital status (reference group: Married and living together)										
Single	0.340	(0.711)	-0.287	(0.210)	0.528	(0.699)	-0.201	(0.227)	0.300	(0.709)
Married and living apart	-0.084	(1.136)	1.105***	(0.336)	-0.806	(1.129)	-0.298	(0.364)	-0.135	(1.132)
Education (reference group: high school, technical secondary school, and professional college)										
Junior school and below	-0.546	(0.566)	-0.294*	(0.168)	-0.360	(0.558)	0.399**	(0.182)	-0.511	(0.566)
University and above	-0.434	(0.699)	-0.084	(0.207)	-0.363	(0.686)	-0.927***	(0.221)	-0.577	(0.703)
Social welfare in Guangzhou (reference group: migrants participating in both pension and medical insurance programmes)										
Not participating in any pension or insurance programmes	0.815	(0.618)	-0.711**	(0.182)	1.285**	(0.617)	0.420**	(0.181)	0.964	(0.616)
Only participating in medical insurance	1.366	(0.855)	-0.517**	(0.253)	1.710**	(0.844)	0.458*	(0.270)	1.438*	(0.852)
Self-rated physical health (reference group: unhealthy)										
Healthy	1.055	(0.823)	0.991***	(0.244)	0.412	(0.824)	0.292	(0.264)	1.096	(0.820)
Psychological health	-0.103**	(0.045)	-0.024*	(0.013)	-0.086**	(0.044)	0.022	(0.014)	-0.101**	(0.044)
Social ties in Guangzhou (natural log)	1.145***	(0.316)	0.226**	(0.094)	0.992***	(0.313)	-0.009	(0.098)	1.143***	(0.315)
Hukou status (reference group: rural hukou)										
Urban hukou status	0.686	(0.599)	0.150	(0.178)	0.587	(0.589)	-0.365*	(0.193)	0.615	(0.599)
Constant	11.024***	(3.977)	2.777**	(1.170)	9.021**	(3.925)	5.154***	(1.200)	11.597***	(3.981)
Within area variances	20.110***	(1.449)	1.773***	(0.129)	19.411***	(1.398)			20.098***	(1.448)
Between area variances	3.929*	(1.822)	0.255*	(0.123)	3.518*	(1.645)			2.923*	(1.358)
N	426		426		426		426		426	
Log likelihood	-1,215.046		-713.637		-1,207.197		-743.208		-1,212.700	

Note. SWB = subjective well-being.
p* < .10. *p* < .05. ****p* < .01.

significantly with the variable of SWB. Migrants who have suffered less from psychological stress and who have established more social ties in Guangzhou tend to have a higher level of SWB.

We then fit Model 2 to test the existence of the link between economic disadvantages and the feeling of relative deprivation. Migrants' absolute income is significantly associated with their self-rated social status. A 1% increase in monthly income leads to an increase in the score for migrants' self-perceived social status in Guangzhou by 0.281 points. This suggests that economic disadvantages are significantly linked to the feeling of relative deprivation. A number of control variables are associated significantly with the variable of SWB. First, migrants who are married but living apart from the spouse report a higher social status than other migrants. Although migrants living together with the spouse may have higher household income than those living apart from the spouse, the former group of migrants may suffer from a higher cost of living and more financial pressure in the host city than the latter group. In this case, the former group is more likely to feel frustrated about their current working and living conditions, therefore reporting a lower social status than the latter group. Second, migrants with only up to junior high school or high school education on average report a slightly lower social status than others. Third, migrants who participate in neither pension nor medical insurance programmes on average report a lower social status than other migrants. Fourth, migrants who are physically and mentally healthy are more likely than their counterparts to report a higher social status. Fifth, migrants who have more social ties in Guangzhou are more likely than others to report a higher social status.

To explore the underlying mechanism by which migrants' economic disadvantages influence their SWB through their evaluation of relative deprivation, we run Model 3, by adding the variable of self-rated social status to Model 1. Results show that migrants' self-perceived social status is positively associated with their SWB (with a coefficient of 0.656), and including the variable of self-perceived social status substantially decreases the effect of migrants' monthly income on their SWB (from 0.758 significant at 0.05 level to 0.594 not significant at 0.05 level). The result of the Sobel test confirms that the mediation effect of feelings of relative deprivation is significant at 0.05 level ($z = 2.183$). Therefore, the findings verify our Hypothesis 2 that economically disadvantaged migrants tend to have feelings of relative deprivation, which leads to a lower level of SWB than in those who are less disadvantaged economically. This finding also confirms Knight and Gunatilaka's (2010) and Cheng et al.'s (2014) assumptions that migrants suffering from a strong sense of relative deprivation tend to be less happy than other migrants.

We fit Model 4 to examine the relationship between migrants' absolute income and the deprivation level of their neighbourhood. The results show that migrants' monthly income is negatively related to neighbourhood deprivation. A 1% increase in monthly income leads to a 0.556 standard deviation decrease in the index of neighbourhood deprivation. As for control variables, female migrants and highly educated migrants (with the college education or above) are less likely than their counterparts to live in deprived neighbourhoods. Migrants with access to both pension and medical insurance programmes in Guangzhou are less likely than others to live in deprived neighbourhoods. In addition, urban migrants are less

likely to live in deprived neighbourhoods than rural migrants. The above findings suggest that economic disadvantages and institutional constraints drive some migrants to live in deprived neighbourhoods.

In Model 5, we include the variable of neighbourhood deprivation in Model 1 to clarify the mediation effect of neighbourhood deprivation. Neighbourhood deprivation index appears to be associated negatively with migrants' SWB. An increase of one standard deviation in the index of neighbourhood deprivation leads to a decrease in migrants' SWB, by 0.635. Also, including the mediator of neighbourhood deprivation significantly weakens the relationship between monthly income and SWB (from 0.758 significant at 0.05 level to 0.691 significant at 0.10 level). The results from the corresponding Sobel's test confirm the presence of a significant mediation effect ($z = 2.529$, $p < .05$). Therefore, neighbourhood deprivation shapes the observed relationship between economic disadvantages and SWB as a mediator, and our Hypothesis 3 turns out to be confirmed.

5 | DISCUSSION AND CONCLUSION

This paper examined to what extent and in what ways migrants' actual economic disadvantages affected their SWB in Guangzhou, China, using questionnaire survey data and multilevel linear regressions. In particular, it explored the mechanisms underlying the effect of deprivation (in both absolute and relative terms) on migrants' SWB. Results from multilevel analysis showed that migrants' absolute economic disadvantages were negatively associated with their SWB. Results from mediation analysis indicated that feeling socially deprived and living in deprived neighbourhoods were two important pathways through which migrants' absolute economic disadvantages negatively affected their SWB. Our findings suggest an urgent need to bridge the migrant–local social gap and curb the poverty of migrant neighbourhoods to enhance migrants' SWB.

This article has made conceptual and empirical contributions to the understanding of migrants' SWB in Chinese cities. Conceptually, our study has incorporated neighbourhood social environments into the analytical framework of SWB and has taken into consideration both objective and subjective measures of relative deprivation. Empirically, we have disentangled the relationships between migrants' economic disadvantages and their SWB by investigating two pathways through which the former affected the latter. These pathways are helpful to unravel the puzzle of the decrease in migrants' happiness with rising income.

Local government policies may play a role in shaping migrants' SWB in the following ways. First, the discriminatory *hukou* system and its bundled social welfare policies exclude migrants from many kinds of government-provided goods and services, which exerts a negative influence on migrants' well-being. Second, the spatial distribution of public services matters for the variability of migrants' SWB: Those living in neighbourhoods with insufficient public services and social support are more vulnerable to adversity and stressful events. Third, local government policies may influence migrants' SWB by promoting effective community governance. For example, diverse stakeholders (local communities, non-governmental organizations, and charities, etc.) can be mobilised to provide social support to migrants and improve their well-being.

Improving migrants' well-being is an essential component of China's recently proposed agenda of inclusive urbanisation. However, some researchers have observed that migrants who move to cities report a lower level of SWB than urban locals (Cheng et al., 2014; Knight & Gunatilaka, 2010). One important reason for migrants' low SWB is that their achievements are far lower than their aspirations after their arrival in the city. Their feeling of relative deprivation arises from not only their generally low level of absolute income but also their restricted access to various rights, opportunities, and resources that are normally available to urban locals. This study thus verifies the necessity of a more radical reform of the current *hukou* system and public welfare policies to address these issues.

This study goes further by pointing out the necessity of curbing area poverty and neighbourhood deprivation. To achieve this goal, it is advisable to implement a more ambitious affordable housing scheme, which will benefit not only local residents but also migrants, and to avoid the overconcentration of affordable housing residents in certain areas. Another approach is to ensure equitable access to public services and enable migrants to access government-provided goods and benefits. This will eventually benefit migrants by dealing with neighbourhood deprivation and improving their QoL.

This study has some limitations that should be mentioned. First, our estimation of multilevel linear regressions might have been biased by the presence of unobserved individual heterogeneity. For example, our models did not include variables related to personality traits, which may affect the choice of neighbourhoods migrants choose to live in. Readers must be cautious about the possible bias in the estimation of these effects. However, personality traits are not at the centre of this study and are therefore not included in our regression specification. Second, reverse causality is a potential source of endogeneity when researchers attempt to estimate the relationship between migrants' SWB and the characteristics of neighbourhoods where they live. More specifically, migrants' SWB may affect their choices among residential neighbourhoods, as people normally prefer to live in neighbourhoods where they can feel happy. A single-equation model may lead to a biased estimation of the effect of neighbourhood characteristics (e.g., neighbourhood deprivation) on individuals' SWB. To address the problem of endogeneity, researchers can use an instrumental-variable approach to estimate the causal relationship between SWB and neighbourhood deprivation.

Third, the estimated coefficients of neighbourhood deprivation might have been underestimated due to the presence of confounders. The reason for this is that people living in deprived neighbourhoods tend to have less desire to achieve a successful life than those living in nondeprived neighbourhoods (Cao & Wang, 2016). Deprived neighbourhood residents are more likely than others to be satisfied with the present situation and therefore report a higher level of life satisfaction. If this is the case, the estimated association between neighbourhood deprivation and residents' SWB will be weaker than the actual one. Fourth, our empirical studies have not considered the possibility of multiple reference groups for migrants in Chinese cities. In reality, most rural-urban migrants still keep close connections with relatives and friends in their hometowns. Therefore, migrants may

not only compare themselves with urban local residents but also compare themselves with their relatives and friends left in the hometown. If this is the case, they will feel less deprived after their arrival in the host city.

ACKNOWLEDGEMENTS

This work was supported by the National Natural Science Foundation of China (41501151, 41422103, and 41771167), the U.K. Economic and Social Research Council (ESRC)/Department for International Development (DFID) project (RES-167-25-0448), ESRC project (ES/N015185/1), British Academy project (IC160171), and the China Scholarship Council. The authors would like to thank anonymous reviewers for their valuable comments and suggestions.

ENDNOTES

- 1 A "community" in a Chinese city is an administrative and social collective that always consists of one or more neighbourhoods that adjoin each other. Residents living in the community are provided with community services and governed by the same neighbourhood committee (*ju wei hui*).
- 2 We excluded two county-level cities (Conghua and Zengcheng) and three districts (Huadu, Nansha, and Luogang) located in the outer suburbs of Guangzhou for the following reasons. First, they are physically separated from Guangzhou's inner-city and inner-suburban districts. Second, they are rather independent from the city core of Guangzhou in terms of economic and social activities. Third, some of their residents still do not consider themselves to be Guangzhou residents, as these districts were been administratively annexed by Guangzhou until 2000. Fourth, it was too costly to collect survey data in these areas.
- 3 We do not explain the technical details here due to the word limit. They are available upon request.
- 4 The benchmarks of the SWLS are 5–9 (*extremely dissatisfied*), 10–14 (*dissatisfied*), 15–19 (*slightly dissatisfied*), 20 (*neutral*), 21–25 (*slightly satisfied*), 26–30 (*satisfied*), and 31–35 (*extremely satisfied*).
- 5 Model analysis of native residents will be available upon request. We have done the same analysis for local resident sample members. Regression results show that the mediation effects of both feelings of relative deprivation and neighbourhood deprivation are weaker for local residents than for migrants. The regression results are not reported here, as they are outside the scope of this article. They are available upon request.

ORCID

Yuqi Liu  <http://orcid.org/0000-0002-5282-0751>

Ye Liu  <http://orcid.org/0000-0003-2511-5413>

REFERENCES

- Alba, R. D., Logan, J. R., Stults, B. J., Marzan, G., & Zhang, W. (1999). Immigrant groups in the suburbs: A reexamination of suburbanization and spatial assimilation. *American Sociological Review*, 64(3), 446–460. <https://doi.org/10.2307/2657495>
- Bai, X., Wu, C., Zheng, R., & Ren, X. (2011). The psychometric evaluation of the Satisfaction with Life Scale using a nationally representative sample of China. *Journal of Happiness Studies*, 12(2), 183–197. <https://doi.org/10.1007/s10902-010-9186-x>
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Bollen, K. A. (1989). Structural equations with latent variables. *Series in probability and mathematical statistics*. New York: Wiley.

- Cao, X. J., & Wang, D. (2016). Environmental correlates of residential satisfaction: An exploration of mismatched neighborhood characteristics in the Twin Cities. *Landscape and Urban Planning*, 150, 26–35. <https://doi.org/10.1016/j.landurbplan.2016.02.007>
- Chan, K. W., & Buckingham, W. (2008). Is China abolishing the hukou system? *The China Quarterly*, 195, 582–606.
- Chen, G. (2016). The heterogeneity of housing-tenure choice in urban China: A case study based in Guangzhou. *Urban Studies*, 53(5), 957–977. <https://doi.org/10.1177/0042098015571822>
- Chen, Y. (2011). Occupational attainment of migrants and local workers: Findings from a survey in Shanghai's manufacturing sector. *Urban Studies*, 48(1), 3–21. <https://doi.org/10.1177/0042098009360685>
- Cheng, Z., Wang, H., & Smyth, R. (2014). Happiness and job satisfaction in urban China: A comparative study of two generations of migrants and urban locals. *Urban Studies*, 51(10), 2160–2184. <https://doi.org/10.1177/0042098013506042>
- Cheung, N. W. T. (2014). Social stress, locality of social ties and mental well-being: The case of rural migrant adolescents in urban China. *Health & Place*, 27, 142–154. <https://doi.org/10.1016/j.healthplace.2014.01.013>
- Clark, A. E., Frijters, P., & Shields, M. A. (2008). Relative income, happiness, and utility: An explanation for the Easterlin paradox and other puzzles. *Journal of Economic Literature*, 46(1), 95–144. URL: <http://www.jstor.org/stable/27646948>
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, 98(2), 310–357. <https://doi.org/10.1037/0033-2909.98.2.310>
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95(3), 542–575. <https://doi.org/10.1037/0033-2909.95.3.542>
- Diener, E., Diener, M., & Diener, C. (1995). Factors predicting the subjective well-being of nations. *Journal of Personality and Social Psychology*, 69(5), 851–864. <https://doi.org/10.1037/0022-3514.69.5.851>
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49(1), 71–75. https://doi.org/10.1207/s15327752jpa4901_13
- Diener, E., & Fujita, F. (1997). Social comparisons and subjective well-being. In B. P. Buunk, & F. X. Gibbons (Eds.), *Health, coping, and well-being: Perspectives from social comparison theory*. Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.
- Du, H. (2017). Place attachment and belonging among educated young migrants and returnees: The case of Chaochu, China. *Population, Space and Place*, 23(4), e1967. <https://doi.org/10.1002/psp.1967>
- Easterlin, R. A. (1995). Will raising the incomes of all increase the happiness of all. *Journal of Economic Behavior and Organization*, 27(1), 35–47. [https://doi.org/10.1016/0167-2681\(95\)00003-B](https://doi.org/10.1016/0167-2681(95)00003-B)
- Easterlin, R. A. (2001). Income and happiness: Towards a unified theory. *The Economic Journal*, 111, 465–484. <https://doi.org/10.1111/1468-0297.00646>
- Ellaway, A., Macintyre, S., & Kearns, A. (2001). Perceptions of place and health in socially contrasting neighbourhoods. *Urban Studies*, 38(12), 2299–2316. URL: <http://www.jstor.org/stable/43198199>
- Elliott, M. (2000). The stress process in neighborhood context. *Health & Place*, 6(4), 287–299. [https://doi.org/10.1016/S1353-8292\(00\)00010-1](https://doi.org/10.1016/S1353-8292(00)00010-1)
- Fan, C. C., Sun, M., & Zheng, S. (2011). Migration and split households: A comparison of sole, couple, and family migrants in Beijing, China. *Environment & Planning A*, 43(9), 2164–2185. <https://doi.org/10.1068/a44128>
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7(7), 117–140. <https://doi.org/10.1177/001872675400700202>
- Gartrell, C. D. (2002). The embeddedness of social comparison. In: I. Walker & H. J. Smith (eds.), *Relative deprivation: Specification, development, and integration* (pp. 164–184). Cambridge, UK: Cambridge University Press.
- Gui, Y., Berry, J. W., & Zheng, Y. (2012). Migrant worker acculturation in China. *International Journal of Intercultural Relations*, 36(4), 598–610. <https://doi.org/10.1016/j.ijintrel.2011.11.007>
- Hagerty, M. R. (2000). Social comparisons of income in one's community: Evidence from national surveys of income and happiness. *Journal of Personality and Social Psychology*, 78(4), 764–771. <https://doi.org/10.1037/0022-3514.78.4.764>
- Hao, P., & Tang, S. (2017). Migration destinations in the urban hierarchy in China: Evidence from Jiangsu. *Population, Space and Place*, e2083. n/a. <https://doi.org/10.1002/psp.2083>
- He, S., Liu, Y., Wu, F., & Webster, C. (2010). Social groups and housing differentiation in China's urban villages: An institutional interpretation. *Housing Studies*, 25(5), 671–691. <https://doi.org/10.1080/02673037.2010.483585>
- He, S., Wu, F., Webster, C., & Liu, Y. (2010). Poverty concentration and determinants in China's urban low-income neighbourhoods and social groups. *International Journal of Urban and Regional Research*, 34(2), 328–349. <https://doi.org/10.1111/j.1468-2427.2010.00907.x>
- Hedman, L., van Ham, M., & Manley, D. (2011). Neighbourhood choice and neighbourhood reproduction. *Environment and Planning A*, 43(6), 1381–1399. <https://doi.org/10.1068/a43453>
- Hickman, P. (2013). "Third places" and social interaction in deprived neighbourhoods in Great Britain. *Journal of Housing and the Built Environment*, 28(2), 221–236. <https://doi.org/10.1007/s10901-012-9306-5>
- Huang, X., Dijst, M., van Weesep, J., Jiao, Y., & Sun, Y. (2017). Residential choice among rural–urban migrants after hukou reform: Evidence from Suzhou, China. *Population, Space and Place*, 23(4), e2035. <https://doi.org/10.1002/psp.2035>
- Huang, Y., Tao, R., Salet, W., & Savini, F. (2015). Housing migrants in Chinese cities: Current status and policy design. *Environment and Planning. C, Government & Policy*, 33(3), 640–660. <https://doi.org/10.1068/c12120>
- Huang, Y., & Yi, C. (2015). Invisible migrant enclaves in Chinese cities: Underground living in Beijing, China. *Urban Studies*, 52(15), 2948–2973. <https://doi.org/10.1177/0042098014564535>
- Jin, L., Wen, M., Fan, J. X., & Wang, G. (2012). Trans-local ties, local ties and psychological well-being among rural-to-urban migrants in Shanghai. *Social Science and Medicine*, 75(2), 288–296. <https://doi.org/10.1016/j.socscimed.2012.03.014>
- Kearns, A., & Parkes, A. (2003). Living in and leaving poor neighbourhood conditions in England. *Housing Studies*, 18(6), 827–851. <https://doi.org/10.1080/0267303032000135456>
- Kingdon, G. G., & Knight, J. (2007). Community, comparisons and subjective well-being in a divided society. *Journal of Economic Behavior and Organization*, 64(1), 69–90. <https://doi.org/10.1016/j.jebo.2007.03.004>
- Knight, J., & Gunatilaka, R. (2010). Great expectations? The subjective well-being of rural–urban migrants in China. *World Development*, 38(1), 113–124. <https://doi.org/10.1016/j.worlddev.2009.03.002>
- Knight, J., Song, L., & Gunatilaka, R. (2009). Subjective well-being and its determinants in rural China. *China Economic Review*, 20(4), 635–649. <https://doi.org/10.1016/j.chieco.2008.09.003>
- Ley, D., & Smith, H. (2000). Relations between deprivation and immigrant groups in large Canadian cities. *Urban Studies*, 37(1), 37–62. <https://doi.org/10.1080/0042098002285>
- Li, B. (2006). Floating population or urban citizens? Status, social provision and circumstances of rural–urban migrants in China. *Social Policy and Administration*, 40(2), 174–195. <https://doi.org/10.1111/j.1467-9515.2006.00483.x>
- Liu, Y., Dijst, M., & Geertman, S. (2016). The subjective well-being of older adults in Shanghai: The role of residential environment and individual resources. *Urban Studies*, 54(7), 1692–1714. <https://doi.org/10.1177/0042098016630512>

- Liu, Y., He, S., & Fulong, W. (2008). Urban pauperization under China's social exclusion: A case study of Nanjing. *Journal of Urban Affairs*, 30(1), 21–36. <https://doi.org/10.1111/j.1467-9906.2007.00372.x>
- Liu, Y., Li, Z., & Breitung, W. (2012). The social networks of new-generation migrants in China's urbanized villages: A case study of Guangzhou. *Habitat International*, 36(1), 192–200. <https://doi.org/10.1016/j.habitatint.2011.08.008>
- Liu, Y., Li, Z., Liu, Y., & Chen, H. (2015). Growth of rural migrant enclaves in Guangzhou, China: Agency, everyday practice and social mobility. *Urban Studies*, 52(16), 3086–3105. <https://doi.org/10.1177/0042098014553752>
- Liu, Y., & Xu, W. (2017). Destination choices of permanent and temporary migrants in China, 1985–2005. *Population, Space and Place*, 23(1), e1963. <https://doi.org/10.1002/psp.1963>
- Liu, Y., Zhang, F., Liu, Y., Li, Z., & Wu, F. (2017). The effect of neighbourhood social ties on migrants' subjective wellbeing in Chinese cities. *Habitat International*, 66, 86–94. <https://doi.org/10.1016/j.habitatint.2017.05.011>
- Liu, Y., Zhang, F., Wu, F., Liu, Y., & Li, Z. (2017). The subjective wellbeing of migrants in Guangzhou, China: The impacts of the social and physical environment. *Cities*, 60, 333–342. <https://doi.org/10.1016/j.cities.2016.10.008>
- Ludwig, J., Duncan, G. J., Genetian, L. A., Katz, L. F., Kessler, R. C., Kling, J. R., & Sanbonmatsu, L. (2012). Neighborhood effects on the long-term well-being of low-income adults. *Science*, 337(6101), 1505–1510. <https://doi.org/10.1126/science.1224648>
- Ma, J., Dong, G., Chen, Y., & Zhang, W. (2018). Does satisfactory neighbourhood environment lead to a satisfying life? An investigation of the association between neighbourhood environment and life satisfaction in Beijing. *Cities*, 74, 229–239. <https://doi.org/10.1016/j.cities.2017.12.008>
- Mair, C., Diez Roux, A. V., & Morenoff, J. D. (2010). Neighborhood stressors and social support as predictors of depressive symptoms in the Chicago Community Adult Health Study. *Health & Place*, 16(5), 811–819. <https://doi.org/10.1016/j.healthplace.2010.04.006>
- Michalos, A. C. (1985). Multiple discrepancies theory (MDT). *Social Indicators Research*, 16(4), 347–413. <https://doi.org/10.1007/BF00333288>
- Mitra, A. (2010). Migration, livelihood and well-being: evidence from Indian City slums. *Urban Studies*, 47(7), 1371–1390. <https://doi.org/10.1177/0042098009353621>
- Musterd, S. (2006). Segregation, urban space and the resurgent city. *Urban Studies*, 43(8), 1325–1340. <https://doi.org/10.1080/00420980600776418>
- Nowok, B., Van Ham, M., Findlay, A. M., & Gayle, V. (2013). Does migration make you happy? A longitudinal study of internal migration and subjective well-being. *Environment and Planning A*, 45(4), 986–1002. <https://doi.org/10.1068/a45287>
- Okulicz-Kozaryn, A., & Mazelis, J. M. (2018). Urbanism and happiness: A test of Wirth's theory of urban life. *Urban Studies*, 55, 349–364. <https://doi.org/10.1177/0042098016645470>
- Ouyang, W., Wang, B., Tian, L., & Niu, X. (2016). Spatial deprivation of urban public services in migrant enclaves under the context of a rapidly urbanizing China: An evaluation based on suburban Shanghai. *Cities*, 60, 436–445. <https://doi.org/10.1016/j.cities.2016.06.004>
- Pan, Z., Xu, W., Huang, Z., & Wang, G. (2017). The effects of labour migration on rural household production in inland China: Do landform conditions matter? *Population, Space and Place*, 24, e2086. <https://doi.org/10.1002/psp.2086>
- Pavot, W., & Diener, E. (1993). Review of the Satisfaction with Life Scale. *Psychological Assessment*, 5, 164–172. <https://doi.org/10.1037/1040-3590.5.2.164>
- Portes, A. (1995). Economic sociology and the sociology of immigration: A conceptual overview. In A. Portes (Ed.), *The economic sociology of immigration: Essays on networks, ethnicity, and entrepreneurship*. New York: Russell Sage Foundation.
- Ross, C. E., & Jang, S. J. (2000). Neighborhood disorder, fear, and mistrust: The buffering role of social ties with neighbors. *American Journal of Community Psychology*, 28(4), 401–420. <https://doi.org/10.1023/A:1005137713332>
- Ross, C. E., Reynolds, J. R., & Geis, K. J. (2000). The contingent meaning of neighborhood stability for residents' psychological well-being. *American Sociological Review*, 65(4), 581–597. <https://doi.org/10.2307/2657384>
- Runciman, W. G. (1972). *Relative deprivation and social justice: A study of attitudes to social inequality in twentieth century England*. London: Penguin Books Ltd.
- Sampson, R. J., Morenoff, J. D., & Gannon-Rowley, T. (2002). Assessing “neighborhood effects”: Social processes and new directions in research. *Annual Review of Sociology*, 28(1), 443–478. <https://doi.org/10.1146/annurev.soc.28.110601.141114>
- Schwanen, T., & Wang, D. (2014). Well-being, context, and everyday activities in space and time. *Annals of the Association of American Geographers*, 104(4), 833–851. <https://doi.org/10.1080/00045608.2014.912549>
- Shen, J. (2016a). Error analysis of regional migration modeling. *Annals of the American Association of Geographers*, 106(6), 1253–1267. <https://doi.org/10.1080/24694452.2016.1197767>
- Shen, J. (2016b). Stuck in the suburbs? Socio-spatial exclusion of migrants in Shanghai. *Cities*, 60, 428–435. <https://doi.org/10.1016/j.cities.2016.03.008>
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13, 290–312. <https://doi.org/10.2307/270723>
- Stewart, Q. T. (2006). Reinvigorating relative deprivation: A new measure for a classic concept. *Social Science Research*, 35(3), 779–802. <https://doi.org/10.1016/j.ssresearch.2005.07.001>
- Suls, J., Martin, R., & Wheeler, L. (2002). Social comparison: Why, with whom, and with what effect? *Current Directions in Psychological Science*, 11(5), 159–163. <https://doi.org/10.1111/1467-8721.00191>
- Sun, M., & Fan, C. C. (2011). China's permanent and temporary migrants: Differentials and changes, 1990–2000. *The Professional Geographer*, 63(1), 92–112. <https://doi.org/10.1080/00330124.2010.533562>
- Townsend, P. (1979). *Poverty in the United Kingdom: A survey of household resources and standards of living*. University of California Press.
- Veenhoven, R. (1991). Is happiness relative? *Social Indicators Research*, 24(1), 1–34. <https://doi.org/10.1007/BF00292648>
- Wang, D., & Wang, F. (2016). Contributions of the usage and affective experience of the residential environment to residential satisfaction. *Housing Studies*, 31(1), 42–60. <https://doi.org/10.1080/02673037.2015.1025372>
- Wang, W. W., & Fan, C. C. (2012). Migrant workers' integration in urban China: Experiences in employment, social adaptation, and self-identity. *Eurasian Geography and Economics*, 53(6), 731–749. <https://doi.org/10.2747/1539-7216.53.6.731>
- Wang, Z., Zhang, F., & Wu, F. (2017). Social trust between rural migrants and urban locals in China—Exploring the effects of residential diversity and neighbourhood deprivation. *Population, Space and Place*, 23(1), e2008. <https://doi.org/10.1002/psp.2008>
- Wen, M., Browning, C. R., & Cagney, K. A. (2007). Neighbourhood deprivation, social capital and regular exercise during adulthood: A multilevel study in Chicago. *Urban Studies*, 44(13), 2651–2671. <https://doi.org/10.1080/00420980701558418>
- Wen, M., Hawkey, L. C., & Cacioppo, J. T. (2006). Objective and perceived neighborhood environment, individual SES and psychosocial factors, and self-rated health: An analysis of older adults in Cook County, Illinois. *Social Science and Medicine*, 63(10), 2575–2590. <https://doi.org/10.1016/j.socscimed.2006.06.025>
- Wen, M., & Wang, G. (2009). Demographic, psychological, and social environmental factors of loneliness and satisfaction among rural-to-urban migrants in Shanghai, China. *International Journal of Comparative Sociology*, 50(2), 155–182. <https://doi.org/10.1177/0020715208101597>

- Whelan, C. T., Layte, R., Maître, B., & Nolan, B. (2001). Income, deprivation, and economic strain. An analysis of the European community household panel. *European Sociological Review*, 17(4), 357–372. <https://doi.org/10.1093/esr/17.4.357>
- Wilkinson, R. G., & Pickett, K. E. (2007). The problems of relative deprivation: Why some societies do better than others. *Social Science and Medicine*, 65(9), 1965–1978. <https://doi.org/10.1016/j.socscimed.2007.05.041>
- Wu, F., He, S., & Webster, C. (2010). Path dependency and the neighbourhood effect: Urban poverty in impoverished neighbourhoods in Chinese cities. *Environment and Planning A*, 42(1), 134–152. <https://doi.org/10.1068/a4264>
- Wu, F., & Logan, J. (2015). Do rural migrants 'float' in urban China? Neighbouring and neighbourhood sentiment in Beijing. *Urban Studies*, 53(14), 2973–2990. <https://doi.org/10.1177/0042098015598745>
- Wu, W. (2006). Migrant intra-urban residential mobility in urban China. *Housing Studies*, 21(5), 745–765. <https://doi.org/10.1080/02673030600807506>
- Wu, W., & Wang, G. (2014). Together but unequal: Citizenship rights for migrants and locals in urban China. *Urban Affairs Review*, 50(6), 781–805. <https://doi.org/10.1177/1078087413518172>
- Xiao, Y., Wang, Z., Li, Z., & Tang, Z. (2017). An assessment of urban park access in Shanghai—Implications for the social equity in urban China. *Landscape and Urban Planning*, 157, 383–393. <https://doi.org/10.1016/j.landurbplan.2016.08.007>
- Yin, J., Cao, X., Huang, X., & Cao, X. (2016). Applying the IPA-Kano model to examine environmental correlates of residential satisfaction: A case study of Xi'an. *Habitat International*, 53, 461–472. <https://doi.org/10.1016/j.habitatint.2015.12.013>
- Yuan, Y., & Wu, F. (2014). The development of the index of multiple deprivations from small-area population census in the city of Guangzhou, PRC. *Habitat International*, 41, 142–149. <https://doi.org/10.1016/j.habitatint.2013.07.010>
- Zheng, S., Long, F., Fan, C. C., & Gu, Y. (2009). Urban villages in China: A 2008 survey of migrant settlements in Beijing. *Eurasian Geography and Economics*, 50(4), 425–446. <https://doi.org/10.2747/1539-7216.50.4.425>

How to cite this article: Liu Y, Zhang F, Liu Y, Li Z, Wu F. Economic disadvantages and migrants' subjective well-being in China: The mediating effects of relative deprivation and neighbourhood deprivation. *Popul Space Place*. 2018;e2173. <https://doi.org/10.1002/psp.2173>