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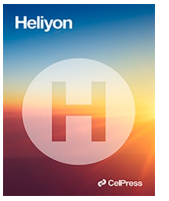

Research article

The impact of overqualification on the intention of urban withdrawal from the perspective of talent crowding

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ABSTRACT

Talent agglomeration greatly promotes the development of cities as a special form of talent allocation. However, excessive agglomeration of talent also leads to talent crowding and overqualification, which undermines the effectiveness of employing human resources and stimulates talent urban withdrawal. Based on the data from 327 questionnaires, data analysis was performed using Mplus 8.0 and HLM 6.08, this study explores the internal mechanism between overqualification and talent's intention of urban withdrawal from the perspective of talent crowding. The following conclusions were drawn: (1) Overqualification is positively correlated with talents' intention of urban withdrawal. (2) Psychological contract breach plays a mediating effect between overqualification and the talents' intention of urban withdrawal. (3) Relational mobility is negatively correlated with talents' intention of urban withdrawal. (4) Relational mobility plays a moderating role in the relationship between overqualification and talents' intention of urban withdrawal. (5) Urban livability is negatively correlated with talents' intention of urban withdrawal. (6) Urban livability plays a moderating role in the relationship between overqualification and talents' intention of urban withdrawal. The results can further improve the human resource management theory and serve as a foundation for developing and implementing population management policies in cities.

1. Introduction

Resources are scarce, and human resources are particularly scarce. Rational allocation of scarce human resources is particularly important to make them play an effective role. As a special form of talent allocation, talent agglomeration refers to the agglomerating phenomenon formed in a certain region (physical space) or industry (virtual space) by a large number of talents of the same type or related according to certain connections with the flow of talents in a certain time period [1]. In comparison to rural areas, excellent education and medical services, as well as livable and convenient facilities draw talent to the city [2]. On the one hand, talent agglomeration considerably promotes the development of cities with high efficiency of resource allocation and strong competitive advantages [3]. On the other hand, excessive agglomeration of talents will result in talent crowding, and some talents will be constrained to "compromise employment". Relevant data shows that 33.2% of male college students in the UK are still engaged in professions that do not match their degrees after graduation [1]. In addition to the United Kingdom, key cities in United States and Japan

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have various degrees of excessive talent agglomeration, and various negative effects emerge endlessly [1].

When cities are crowded with talents and talents are overqualified, talents lack opportunities for career growth [4]. In this case, the talent will have a sense of psychological contract breach. When the overqualified individuals perceive that the city is crowded with talents, they may tend to move to other cities, generating the intention of urban withdrawal. For example, in recent years, China has experienced rapid urbanization, but also a large number of young people fleeing from the "Beijing, Shanghai, Guangzhou and Shenzhen" social phenomenon, and this phenomenon is increasingly prominent [5]. This is based on the escape from excessive competitive pressure, the consideration of personal development planning, and the retaliation of the psychological contract breach. But the research in this field needs to be further in-depth. On one hand, the existing literature on talent agglomeration, researchers now focus on the positive effects of talent agglomeration [3,6,7], and infrequently explore the crowding and its negative effects caused by excessive and rapid talent agglomeration [8]. On the other hand, studies on the intention of urban withdrawal place a greater emphasis on the urban environment [9,10], housing costs [5] economic incentive, as well as social humanistic aspects [11,12], individual subjective perception of living environment [13], and policy system [14]. However, from the perspective of talent crowding, there is a relative lack of research on the interaction mechanism between overqualification and the intention of urban withdrawal.

Relationship mobility is an individual's perception of the opportunities for group members in their group to find new partners or establish new partnerships [15]. It is the individual's perception of the difficulty of establishing new relationships or getting rid of old ones around him. Traditional society is a relational society, established by the network of relationships. The establishment and maintenance of relationships are relatively stable, and it is not easy to break them and seek them again. Before an individual intends to withdraw from the city, it is necessary to fully consider the difficulty, gain, and loss of the reconstruction of interpersonal relationships and make a comprehensive assessment of the advantages and disadvantages of the subsequent withdrawal behavior. In the flow of the population, the role of social psychological factors has been given more and more attention. Psychological integration has become the advanced stage of social integration of the floating population [16]. Relational mobility emphasizes the perception of individuals about the characteristics of the social environment around them and is a strong predictor of positive psychological and behavioral performance.

Since the 1970s, different scholars defined the concept of livability from different perspectives, but most of them have studied it from the perspective of "whether a city is suitable for people to work and live" [17–19]. Early studies hypothesized that the occurrence of migration behavior is determined by the actual income disparity between urban and rural areas, as well as the likelihood of migrants finding work in cities [20]. In recent years, with the rapid rise of China's housing price level, some scholars have found that the ratio of housing price to income has a significant negative impact on the mobility willingness of China's floating population [21]. In addition to the influence of economic factors, basic public services [22,23] and environmental quality [24] have also drawn researchers' attention. The above studies show that economic income, housing expenditure, basic public services, environmental quality, and other factors, which are the components of urban livability, also impact talents' intention of urban withdrawal. It is worth noting that most of the prior studies focus on a single level of analysis of one element of urban livability but ignore the influence of multiple levels of factors.

Therefore, this study employs a multilevel linear model to empirically analyze the mechanisms of overqualification, relational mobility, urban livability, and talents' intention of urban withdrawal. This study further enriches the human resource management theory and serves as a basis for formulating and implementing population management policies in cities.

2. Theoretical review and research hypotheses

2.1. Individual level

Overqualification occurs when a person's level of education, knowledge, experience, ability or skill exceeds the requirements of the job [25]. There are subjective and objective points for excess qualification. According to relevant academic studies, employees' perceptions of overqualification are the key element influencing their behavior, and psychological responses to overqualification need to be examined in terms of perception rather than reality [26,27]. Therefore, the overqualification problem discussed in this study emphasizes the subjective perception of individuals.

The influence of overqualification is multi-faceted. Talents with this kind of perception, their cognitive feelings, emotional experience, work attitude, behavior and performance, as well as physical and mental health are all negatively affected by perceived overqualification [28]. Such negative evaluations reduce talents' interest in their work [29–32]. Fairness theory further points out that when individuals perceive unfair treatment, they will first seek to restore fairness after accountability or counterfactual thinking [33]. That is to say, when employees perceive that they cannot effectively play their own abilities and skills in the current position, and the enterprise does not provide the expected feedback, they may have inner pressure and seek for the corresponding way to relieve and seek fairness [34]. If talents attribute responsibility to individual leaders or internal rules of the organization, work withdrawal behaviour will become one of the common escape methods for talents who experience uncivilized encounters, such as generating an intention to resign [26] or reducing work engagement [35]. If talents attribute responsibility to the city's talent crowding, the problem of overqualification and the pressure of competition cannot be avoided simply by resigning and reducing work engagement. Relative to the city, Talents are weak in comparison to the city, lacking strategies to obtain and restore equity [36] and making retaliation against the city difficult. Talents can only escape the current cities of excessive talents crowding [8] to find jobs and platforms that match their abilities. In this case, the intention of urban withdrawal is generated. Therefore, the following hypotheses are proposed:

H1. Overqualification is positively correlated with talents' intention of urban withdrawal.

Psychological contract is a variety of beliefs about mutual responsibility and obligation between employees and the organization

[37]. A psychological contract breach is an individual's perception that the organization has not upheld to meet its responsibilities and obligations to the same extent as their contribution [38]. According to the human capital theory, the productivity of an organization depends on the knowledge and ability of employees. As human capital, employees are the potential resources for an organization to maintain competitive advantages. From the perspective of the organization, overqualified talents have additional resources such as intelligence and experience, which should be able to bring higher performance to the organization [39,40]. But from the perspective of the individual, talents who are overqualified believe that organizations or cities breach the psychological contract by not providing jobs that match their abilities or qualifications. Research shows that employees with high sense of overqualification have lower organizational commitment [41], lower career satisfaction [42], and lower life satisfaction [43], low subjective well-being [44], high level of depression [32].

The social exchange theory asserts that the reciprocity principle governs interactions between organizations and skills. If an organization fails to fulfill its commitments, then the reciprocal relationship between employees and the organization is broken [45]. This will induce a specific work state and have an impact on talents' behaviour. Currently, the EVLN model is frequently employed to describe the different responses of individuals to challenges [46,47]. When overqualified talents perceive a psychological contract breach, they usually choose to exit, speak clearly, be loyal, and disregard the situation (EVLN model). When talents attribute the psychological contract breach to the organization or managers of their current work, they will attract the attention of the organization or managers through the four aforementioned behaviors and strive for the change of the status quo and the solution of the problem. It is difficult to solve the problem or change the status quo only by relying on the current organization or managers, when talents attribute the psychological contract breach to the crowding caused by the excessive agglomeration of talents. In this case, talent can only flee the current cities of excessive overcrowding [8]. Therefore, the following hypotheses are proposed:

H2. Psychological contract breach plays a mediating effect between overqualification and the talents' intention of urban withdrawal.

2.2. Organizational level

The rapid development of globalized society has brought about the flow of population and the change in interpersonal relationships, and the possible or actual change in interpersonal relationships will affect the psychological and behavioral processes of individuals [48]. According to the relational capital theory, relational capital is the capital formed by necessary investment to achieve corporate goals established, maintained and developed in the cooperation between an enterprise and its external stakeholders, and is the basis for the formation of corporate reputation [49]. In this sense, relational capital is the "relational" investment that expects to get a return. It takes the economic benefits of "relational" as the investment objective, and then "instrumentalizes" the "relational". In reality, people form or deliberately build a social network according to the distance between others and themselves, in accordance with the principle of self-centered extrapolation and self-to-others, and people will secretly use this instrumental relationship to obtain resources. Therefore, whether informal support, such as new interpersonal relationships and social support networks, is established in the destination will affect the living mobility intention of the talents.

Relational mobility reflects the extent to which a social environment provided everyone with the freedom and opportunity to deal with interpersonal relationships based on personal preferences, including the choice of group affiliation and contacts [50]. In a sense, relationship mobility reflects the commitment cost of establishing and maintaining social relationships [51]. Some empirical studies use experiments to support relational mobility as a situational variable, which has psychological differences in behavioral decision-making when individuals adapt to social environment [52,53]. Therefore, faced with the many negative effects of talent crowding, when talents plan to move from their current place of residence to other regions, how to establish a relationship network in a "stranger society" is an urgent problem to solve. After all, it takes a lot of time and energy to build new social relationships, and the level of relational mobility will affect the difficulty of establishing the relationship network, which in turn means the amount of capital invested. In addition, when talents perceive themselves in an environment of high relational mobility, they have a stronger correlation between self-esteem and subjective well-being [54], and their willingness to migrate and flow is weaker. When perceiving themselves in an environment of low relational mobility, to get rid of the possible negative effects of low relational mobility, individuals may have a strong willingness to migrate and flow to find a suitable living environment [48]. Therefore, relational mobility reflects talents' assessment of the surrounding social ecology, which may further influence the formation of talents' intention of urban withdrawal. Therefore, the following hypotheses are proposed:

H3. Relational mobility is negatively correlated with talents' intention of urban withdrawal.

Relational mobility describes how an individual perceives the surrounding social and ecological environment and reflects the effort an individual needs to make to adapt to the surrounding environment [55]. It is an individual's cognition of the environment. If individuals perceive a high degree of mobility in the relationship with the destination, it means that they are likely to establish new interpersonal relationships and social support networks locally through their efforts [56]. On the contrary, if individuals perceive that the degree of mobility of the relationship in the destination is low, it means that it is difficult for them to establish new interpersonal relationships and social support networks in the local area.

The psychological effect of relational mobility will affect residential mobility intention, and residential mobility reflects people's willingness to break away from existing social bonds and find a vibrant environment [57]. Studies have shown that individuals living in environments with high relational mobility report stronger motivations to strengthen social ties and expand social networks [58]. When the city is crowded with talents due to the excessive agglomeration of talents, some talents have to face the dilemma of overqualification. When the talents have the intention of urban withdrawal, they also need to leave the relatively fixed social

relationship and the traditional acquaintance society and reconstruct the social relationship in the "stranger society" [59]. This requires a lot of time, energy, and economic costs. In this case, talents will more carefully compare the advantages and disadvantages brought by the intention of urban withdrawal and then choose from the line with the maximization of benefit. Therefore, the following hypotheses are proposed:

H4. Relational mobility plays a moderating role in the relationship between overqualification and talents' intention of urban withdrawal.

Urban livability is a multidimensional concept of the urban living environment. Some scholars have elaborated on indicators reflecting human happiness, such as housing quality, transportation accessibility, human health, economic development, education, culture, and leisure [60]. Some scholars evaluate the livability of cities from the aspects of economic level, cultural environment, ecological environment, living conditions, living security, and traffic conditions [61]. Studies have shown that environmental perception [62], perception of discrimination [63], personal income level [64], the wage and unemployment rate gap between the inflow and outflow cities [65], the quality of living, per capita living area, gratification with the urban living standard and other factors [66] all have significant effects on the willingness of migrants to settle in the inflow cities. In addition, urban security, environmental health, and convenience of public service facilities all have significant impacts on the settlement intention of the floating population, and the impact intensity increases successively [67]. When talents choose to "stay" or "withdraw" from the city, it is usually a trade-off process. In the process, it is important to weigh the differences such as wages, education levels, medical conditions and social security before and after withdrawal the city. If the cities where people live now have great advantages in terms of livability, then individuals may endure the "grievances" brought by overqualification in order to enjoy the "convenience" brought by such livability. Therefore, the following hypotheses are proposed:

H5. Urban livability is negatively correlated with talents' intention of urban withdrawal.

As a resident member of the city, the individual has such and such interactions with the city in the course of daily work and life. If a city has strong economic vitality and can strike a balance in many aspects, such as environmental friendliness and sustainability, high living standards, and cultural diversity, security and socio-political harmony, etc. [68], then individuals living in this city will certainly have a sense of belonging or pride in this city. When talents face the plight of qualification and generate the intention of urban withdrawal, if the city has high livability, and the individual based on the long-term relationship between "individual–city" and the city has a strong emotional identity, the talents may reduce the intention of urban withdrawal. Therefore, the following hypotheses are proposed:

H6. Urban livability plays a moderating role in the relationship between overqualification and talents' intention of urban withdrawal.

We propose a research model and shown in Fig. 1.

3. Methods

3.1. Pretest and data collection

Pretest plays a very important role in data collection. Some scholars believe that a sample size of 25–75 is appropriate for pretest [69]. Therefore, we distributed a total of 50 questionnaires and recovered 44 valid questionnaires. The analysis results show the Cronbach α of each variable between 0.783 and 0.841, the explanatory ability of each variable to the topic is more than 0.424, indicating that the questionnaire has good reliability and validity.

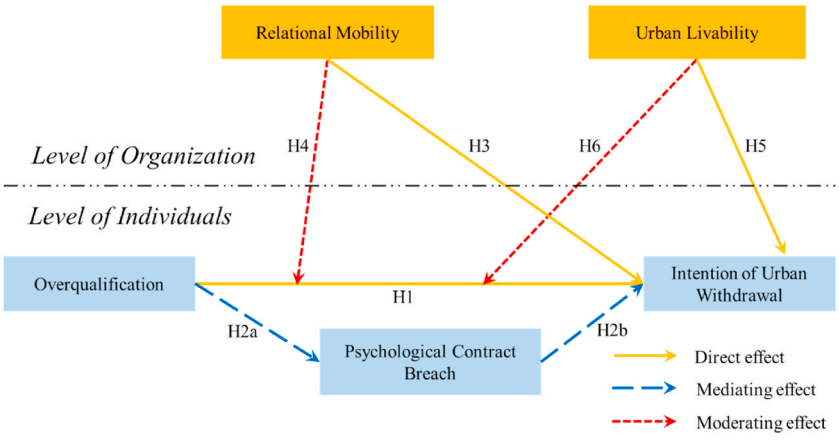

Fig. 1. Research model.

In this study, a questionnaire survey was used to collect data. We selected 60 cities with relatively developed economies and crowded resources, especially human resources. Among them, 14 are in China, such as Beijing, Shanghai, Shenzhen, Hong Kong, etc., 10 are in Japan, such as Tokyo, Yokohama, Osaka, etc., 8 are in South Korea, such as Seoul, Busan, Incheon, etc., 10 are in the United States, such as New York, Los Angeles, Chicago, etc., 6 are in the United Kingdom, such as London, Birmingham, Sheffield, etc., 6 are in France, such as Paris, Marseille, Lyon, etc., 6 are in Australia, etc. Such as Sydney, Melbourne, Canberra, etc. In the above 60 cities, each city invited 5–8 respondents to fill in the questionnaire. All the respondents were mainly from universities, hospitals or famous companies. We obtained the consent of the respondents and asked them to confirm that they fully understood the content of the questionnaire, its significance, and our intended use of the data.

380 questionnaires were sent out and 346 were finally received back. After excluding invalid questionnaires, 327 valid questionnaires from 55 cities were retained. This sample size meets the standards recommended by Hox et al. [70]. Of the 327 respondents, 191 were female and 136 were male, and their average age was 36.4 years. From the analysis of the levels of education, there are 31 respondents (9.5% of the effective sample) with a high school education or below; 78 respondents (23.9%) with junior college degrees; 129 respondents (39.4%) with bachelor's degrees; and 89 respondents (27.2%) with master degrees or above.

3.2. Measure

The scale for measuring overqualification was adapted from Maynard et al. [26], and contained four items, such as "My formal education overqualified me for my present job," and "My talents are not fully utilized on my job."

The scale for measuring psychological contract breach was adapted from Robinson & Morrison [71], and contained four items, such as "So far, the organization has fulfilled almost everything it promised me," and "I received nothing in exchange for my contribution."

The scale for measuring relational mobility was adapted from Yuki [55], and contained five items, such as "You have a lot of opportunities to meet new people," and "You often don't have the freedom to choose who they meet."

The scale for measuring urban livability was adapted from Guo & Peng [72], and contained five items, such as "The cost of living in this city has been at a low level in the past two years," and "I think the locals will accept me as one of them."

The scale for measuring intention of urban withdrawal was adapted from Tripp et al. [36], Crossley [73] and Grégoire et al. [74], and contained three items, such as "I don't want to deal with any company in my current city any more," and "I often want to leave my current city and go to other cities for development."

In this study, we used a 7-point Likert scale to measure all items, where 1 means strongly disagree and 7 means strongly agree.

Table 1
Results of reliability and convergent validity tests.

Dim	Item	Parameters of significant test			Item Reliability	Composite Reliability	Convergence Validity
		Estimate	S.E.	Two-Tailed *P*-Value	SMC	C.R.	AVE
OQ	OQ1	.714	.021	***	.510	.830	.552
	OQ2	.841	.025	***	.707		
	OQ3	.672	.017	***	.452		
	OQ4	.735	.027	***	.540		
PCB	PCB1	.746	.022	***	.557	.815	.524
	PCB2	.743	.014	***	.552		
	PCB3	.695	.018	***	.483		
	PCB4	.709	.025	***	.503		
RM	RM1	.741	.014	***	.549	.826	.488
	RM2	.659	.017	***	.434		
	RM3	.704	.015	***	.496		
	RM4	.672	.013	***	.452		
	RM5	.713	.021	***	.508		
UL	UL1	.682	.014	***	.465	.850	.533
	UL2	.715	.023	***	.511		
	UL3	.662	.017	***	.438		
	UL4	.831	.015	***	.691		
	UL5	.748	.012	***	.560		
UW	UW1	.712	.016	***	.507	.809	.587
	UW2	.839	.025	***	.704		
	UW3	.742	.013	***	.551		

Note 1: OQ = Overqualification; PCB = Psychological Contract Breach; RM = Relational Mobility; UL = Urban Livability; UW = Intention of Urban Withdrawal. The same below.
Note 2:*** Indicates P < 0.001; ** Indicates P < 0.01; * Indicates P < 0.05, the same below.

3.3. Tools

In this study, SPSS 26.0, Mplus8.0 and HLM6.08 were used for data analysis.

4. Results

4.1. Reliability and validity

Table 1 shows the reliability and validity of the variables. Each measurement item's factor load is above 0.659; Each variable's CR (Composite Reliability) is between 0.809 and 0.850, and the AVE is above 0.488, indicating good reliability and convergent validity. Table 2 shows the correlation coefficient between variables, indicating good differential validity.

4.2. Basic characteristic test

The relational mobility and urban livability in this study belong to the shared construct. In practice, r_{wg} is considered acceptable if it is greater than 0.70 [75]. In this study, the average r_{wg} of relational mobility and urban livability are 0.782 and 0.816, which meet relevant requirements.

4.3. Hypothesis testing

(1) Null Model

The models are described below. The results show that σ^2 is 0.261, τ_{00} is 0.237, $ICC1$ is 0.476, According to Cohen [76], it is highly correlated. It indicates that differences between groups must be taken into account.

Level 1: $UW_{ij} = \beta_{0j} + r_{ij}$.

Level 2: $\beta_{0j} = \gamma_{00} + u_{0j}$.

Mixed Model: $UW_{ij} = \gamma_{oo} + u_{oj} + r_{ij}$.

(2) Random coefficients regression model

The models are described below. The results are shown in Table 3, H1was verified. Meanwhile, σ^2 is 0.184, a decrease of 0.077, the ES (Effect Sizes) is 0.295.

Level 1: $UW_{ij} = \beta_{0j} + \beta_{1j}(OQ_{ij} - \overline{OQ}_{.j}) + \beta_{2j}(PCB_{ij} - \overline{PCB}_{.j}) + r_{ij}$.

Level 2: $\beta_{0j} = \gamma_{00} + u_{0j}$; $\beta_{1j} = \gamma_{10} + u_{1j}$; $\beta_{2j} = \gamma_{20} + u_{2j}$;

Mixed Model: $UW_{ij} = \gamma_{00} + u_{0j} + \gamma_{10}(OQ_{ij} - \overline{OQ}_{.j}) + u_{1j}(OQ_{ij} - \overline{OQ}_{.j}) + \gamma_{20}(PCB_{ij} - \overline{PCB}_{.j}) + u_{2j}(PCB_{ij} - \overline{PCB}_{.j}) + r_{ij}$.

(3) Direct and indirect effects.

As shown in Table 4, talents' overqualification on the intention of urban withdrawal's total effect was 0.373 ($P < 0.001$). Among them, the direct effect was 0.259 ($P < 0.001$); The indirect effect was 0.113 ($P < 0.001$), H2 was supported.

(4) Intercepts as outcomes model.

The models are described below. The results are shown in Table 5, and H3, H5 were verified. At the same time, τ_{00} is 0.108, reduced the 0.129, the ES (Effect Sizes) is 0.544.

Level 1: $UW_{ij} = \beta_{0j} + r_{ij}$.

Level 2: $\beta_{0j} = \gamma_{00} + \gamma_{01}(RM_j - \overline{RM}_{.}) + \gamma_{02}(UL_j - \overline{UL}_{.}) + u_{0j}$.

Mixed Model: $UW_{ij} = \gamma_{00} + \gamma_{01}(RM_j - \overline{RM}_{.}) + \gamma_{02}(UL_j - \overline{UL}_{.}) + u_{0j} + r_{ij}$.

Table 2
Results of differential validity tests.

Dim	Convergence Validity		Discriminate Validity			
	AVE	OQ	PCB	RM	UL	UW
OQ	.552	**.743**				
PCB	.524	.512	**.724**			
RM	.488	.147	.162	**.699**		
UL	.533	.128	.184	.309	**.730**	
UW	.587	.472	.418	−.443	−.411	**.766**

Note: The bold diagonal font is the square root value of AVE, and the lower triangle is Pearson correlation coefficient.

Table 3
Results of random coefficients regression model.

	Effect	S.E.	Approx. T-ratio	P-value	Hypothesis (Y/N)
γ00 rowhead	3.037	.171	17.741	***	
γ10 rowhead	.262	.032	8.127	***	H1(Y)
γ20 rowhead	.227	.028	7.982	***	

Table 4
Test of mediating effect.

	Estimate	S.E.	Approx. T-ratio	P-Value	Hypothesis (Y/N)
Total rowhead	.373	.048	7.828	***	
Dir rowhead	.259	.031	8.422	***	
Ind: OQ- > PCB- > UW rowhead	.113	.025	4.494	***	H2(Y)

Table 5
Results of intercepts as outcomes model.

	Effect	Standard Coefficient Error	Approx. T-ratio	P-value	Hypothesis (Y/N)
γ00 rowhead	3.419	.148	23.146	***	
γ01 rowhead	−.261	.043	−6.070	***	H3(Y)
γ02 rowhead	−.207	.051	−4.051	***	H5(Y)

(5) Slope as outcomes model.

The models are described below. As shown in Table 6, H4, H6 were verified. The moderating effect of relational mobility is shown in Fig. 2. There, the slope of high relational mobility was larger than that of low relational mobility. This means that the higher relational mobility the city is, the impact of overqualification on the talents' intention of urban withdrawal is weaker. The moderating effect of urban livability is shown in Fig. 3. There, the slope of high urban livability was larger than that of low urban livability. This means that the better the people perceived the urban livability, the impact of overqualification on the talents' intention of urban withdrawal is weaker.

Level 1: $UW_{ij} = \beta_{0j} + \beta_{1j}(OQ_{ij} - \overline{OQ}_{.j}) + \beta_{2j}(PCB_{ij} - \overline{PCB}_{.j}) + r_{ij}$.

Level 2: $\beta_{0j} = \gamma_{00} + \gamma_{01}(RM_j - \overline{RM}_{.}) + \gamma_{02}(UL_j - \overline{UL}_{.}) + u_{0j}$;

$$\beta_{1j} = \gamma_{10} + \gamma_{11}\left(RM_j - \overline{RM}_{.}\right) + \gamma_{12}\left(UL_j - \overline{UL}_{.}\right) + u_{1j};$$

$$\beta_{2j} = \gamma_{20} + u_{2j};$$

Mixed Model: $UW_{ij} = \gamma_{00} + \gamma_{01}(RM_j - \overline{RM}_{.}) + \gamma_{02}(UL_j - \overline{UL}_{.}) + \gamma_{10}(OQ_{ij} - \overline{OQ}_{.j}) + \gamma_{11}(RM_j - \overline{RM}_{.})(OQ_{ij} - \overline{OQ}_{.j}) + \gamma_{12}(UL_j - \overline{UL}_{.})(OQ_{ij} - \overline{OQ}_{.j}) + \gamma_{20}(PCB_{ij} - \overline{PCB}_{.j}) + u_{0j} + u_{1j}(OQ_{ij} - \overline{OQ}_{.j}) + u_{2j}(PCB_{ij} - \overline{PCB}_{.j}) + r_{ij}$.

Table 6
Results of slope as outcomes model.

	Effect	Standard Coefficient Error	Approx. T-ratio	*P*-value	Hypothesis (Y/N)
γ_{00}	3.596	.163	22.061	***	
γ_{01}	−.249	.041	−6.108	***	
γ_{02}	−.186	.050	−3.751	***	
γ_{10}	.259	.030	8.678	***	
γ_{11}	.047	.018	2.667	**	H4(Y)
γ_{12}	.063	.021	2.935	**	H6(Y)
γ_{20}	.215	.027	7.850	***	

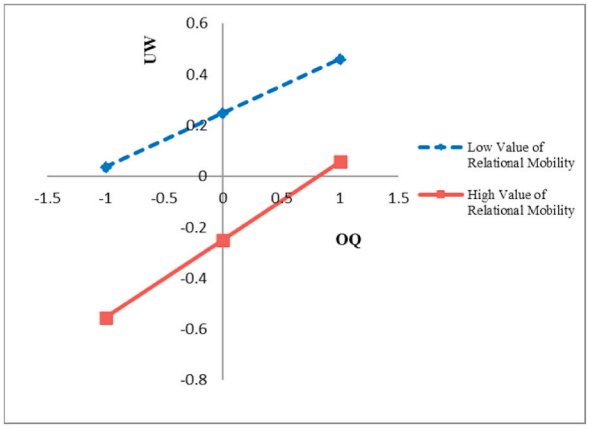

Fig. 2. The moderating effect of relational mobility (RM).

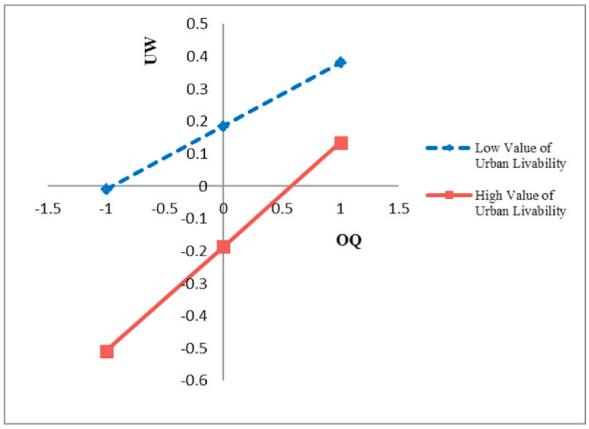

Fig. 3. The moderating effect of urban livability (UL).

5. Discussion

5.1. Theoretical contribution

(1) This study enriches the theory of human resource management. Existing theoretical studies on the negative effects of overqualification mostly emphasize that overqualified employees evaluate their existing jobs negatively [77] and reduce interest in their work [29,30]. There are relatively few studies on urban withdrawal intention as an outcome variable. The study found that if talents attribute the responsibility of overqualification to urban talent crowding, they may escape the current cities of excessive talents crowding (Hu & Zhu, 2013) to find jobs and platforms that match their abilities.

(2) This study reveals the negative effects of excessive agglomeration of talents. In the process of urban development, it will be difficult to guarantee and maintain urban development if talents as key production factors agglomerate gradually and insufficiently. On the contrary, if talents agglomerate rapidly or excessively, there will be a crowding phenomenon of talent elements, resulting in excess and idleness of talent resources. However, from the existing literature on talent agglomeration, researchers focus on the positive role of talent agglomeration in promoting regional economic development [3,6,7], while there are relatively few studies on the crowding phenomenon caused by frequent and rapid talent agglomeration in the region [1,8]. This study focuses on the phenomena of overqualification and "compromise employment" caused by talent crowding, providing a new perspective for the study of regional economic development and talent agglomeration effects.

(3) This study investigates the effects of different levels of variables on outcome variables. Previous studies mainly focus on the single-level [5,10,12], and disregard the cross-level influence of multi-level factors on talents' intention of urban withdrawal. This study indicated that the differences of relevant variables between groups cannot be ignored, so there is a need to use a hierarchical linear model to analyze variables both individual level and organizational level. This may aid scholars in better understanding the impact of variables at various levels on talents' intention of urban withdrawal.

5.2. Practical implications

This study analyzes the effects of overqualification and psychological contract breach on talents' intention of urban withdrawal at the individual level. Therefore, organizational managers should correctly deal with the issue of overqualification. With the improvement of personnel qualification standards and talent crowding in cities, talents need to compete for jobs that are lower than their education level and technical level, which leads to the inevitable phenomenon of overqualification of employees. Managers should guide employees in developing reasonable psychological contracts, establish reasonable assessment standards and procedures, scientifically plan the career of employees, provide diversified career development channels, and then weaken their perception of overqualification.

This study reveals the influence of relational mobility and urban livability on talents' intention of urban withdrawal from the urban level. Therefore, city administrators should improve the level of urban development and create a soft environment that values and respects talent. The focus should be on the talents' needs for a better life to develop more targeted measures for public services, municipal facilities, cultural life, and environmental construction, as well as to continuously improve the liveable level of cities. Additionally, they should provide strong formal social support to shape talents' sense of belonging, allowing talents to adjust smoothly through the re-socialization process and progressively adapt to local life. Furthermore, to improve the efficiency of talent utilization, it is necessary to do a good job in the balanced distribution of talent across industries and enterprises, as well as the reasonable allocation of talent within enterprises.

5.3. Limitations and future directions

On one hand, data sources should be expanded. In this study, the data used are cross-sectional. In order to more accurately infer the causal relationship between variables, so longitudinal data can be used in future research. In addition, when talents in different industries face the same degree of talent crowding, the intensity of their willingness to escape from the city may vary to some extent. In future research, the differences between different industries should be further distinguished.

On the other hand, more variables should be taken into account. In reality, some other variables, such as family endowment, social and cultural background, regional economic development level and other factors may have a certain impact on talents' intention of urban withdrawal. Future studies can consider the influence of more variables on the research results, so as to provide reference for improving the pertinence of urban talent policies.

Author contribution statement

Jianpeng Fan: Conceived and designed the analysis; Analyzed and interpreted the data; Wrote the paper.
Yukun Fan, He Wang: Contributed analysis tools or data; Wrote the paper.

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Data availability statement

Data included in article/supplementary material/referenced in article.

Declaration of competing interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Appendix

The scale of overqualification.

1 My formal education overqualified me for my present job;
2 The work experience that I have is not necessary to be successful on this job;
3 I have job skills that are not required for this job;
4 My talents are not fully utilized on my job.

The scale of psychological contract breach.

1 So far, the organization has fulfilled almost everything it promised me (reversed);
2I feel that my employer has come through in fulfilling the promises made to me when I was hired (reversed);
3 I received nothing in exchange for my contribution;

4 My employer has broken many of its promises to me even though I've upheld my side of the deal.

The scale of relational mobility.

1 You have a lot of opportunities to meet new people;
2 You often don't have the freedom to choose who you meet;
3 Even if you want to leave a group you don't like, you have to stay in that group;
4 It's not unusual for you to talk to strangers you bump into;
5 You are free to choose which groups and organizations you belong to.

The scale of urban livability.

1 The income in this city is ideal;
2 It's easy to get a job in this city;
3 The living environment, medical facilities and traffic conditions in this city are relatively good;
4 The cost of living in this city has been at a low level in the past two years;
5 I think the locals accept me as one of them.

The scale of intention of urban withdrawal.

1 I don't want to deal with any company in my current city any more;
2 I often want to leave my current city and go to other cities for development;
3 I don't want anything to do with this city anymore.

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