

BMJ Open Career orientation and its impact factors of general practitioners in Shanghai, China: a cross-sectional study

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ABSTRACT

Objectives To understand the career orientation and impact factors of general practitioners (GPs) in Shanghai.

Design A cross-sectional study was carried out from August 2014 to December 2015 using the Career Orientations Inventory (short form).

Setting and participants We conducted a cross-sectional study of 1159 GPs, of which 1067 (92.06%) completed the assessment tools, from 223 community healthcare centres in Shanghai

Results The top career orientation was organisational job security (71.60%), followed by technical competence (12.18%). Compared with female GPs, male GPs scored higher in managerial competence ($p<0.001$), creativity and entrepreneurship ($p<0.001$), and lower in organisational job security ($p=0.034$). Compared with GPs younger than 40, those aged 40 years and older scored higher in sense of service ($p=0.003$) and lower in autonomy ($p=0.022$) and lifestyle integration ($p=0.039$). Compared with GPs with lower education levels, those with at least a bachelor's degree scored higher in managerial competence ($p=0.001$ and autonomy ($p=0.025$). In addition, those with fewer than 10 years of work experience scored higher in managerial competence ($p=0.008$) and scored lower in geographical security ($p=0.032$) compared with GPs with longer durations of work experience. GPs with senior professional positions scored higher in technical competence ($p=0.012$) compared with those with lower professional positions.

Conclusions The search for job stability and the lack of career prospect planning are two factors that impact community GP growth. Individualised skills training and career development planning should be provided to GPs of specific genders, educational background and vocational competence, in order to enhance their job satisfaction and service quality, thereby achieving retention of this staff group.

INTRODUCTION

The concept of general practice was introduced into China in the late 1980s.¹ In 2011, The State Council's Guidance on Establishing the General Practice System stated clearly that we should gradually establish a unified standard general practice training system to increase the number of qualified general practitioners (GPs).² Compared with the more developed GP training system of other

Strengths and limitations of this study

- This is the first study to use the Career Orientations Inventory (Short Form) to assess the needs and satisfaction of general practitioners (GPs) in community healthcare centres in Shanghai. The results will help health policy makers develop career development strategies for GPs, as well as address the current GP shortage.
- Our study covered almost all of the community healthcare centres in Shanghai, which may increase our representation of the subject population.
- There was selection bias since we purposefully chose GPs receiving Continuing Medical Education as examinees. Among the examinees, there were more women than men, and most examinees held intermediate positions. Therefore, caution should be taken when extrapolating the results of this study.

countries, where the GP training system is a three-stage process that encompasses a GP programme in medical schools or colleges, GP resident vocational training and continuing medical education (CME), the Chinese GP training programme is underdeveloped.³ China has two types of GPs: the registered GP assistant and the registered GP.³ The training of assistant GPs is an alternative way for rural doctors to obtain their licenses. To qualify as assistant GPs, students undergo 3 years of clinical medicine education and two additional years of training. Registered GP assistants are eligible for prescriptions only in rural and township clinics. They can only practice under the guidance of registered GPs in community healthcare centres and hospitals. Typically, registered GP assistants have the education level of junior college, while registered GPs have finished 5 years of coursework in a medical college. The professional positions of registered GPs include primary, intermediate and senior positions. Primary professional position refers to residents, intermediate position refers to attending physicians and senior position refers to associate chief physicians and chief

physicians.¹ By June 2008, there were 10670 registered GPs in China.¹ Chinese patients are unrestricted in their choice of medical care providers. They can use one social security card to see any doctor in any hospital with their costs covered by medical insurance. The vast majority of GPs work in the public sector in community healthcare centres. GPs earn low salaries and have lower chances of job promotion, thus making it difficult to attract and retain GPs in current work settings.² Many graduates are unwilling to become GPs.⁴ During 2003–2007, the loss rate of chief physicians, associate chief physicians and attending physicians in community healthcare centres (CHCs) were 35.7%, 10.1% and 9.5%, respectively,⁵ which severely weakened the primary healthcare workforce.

At present, China is devoted to increasing the number of trained GPs to better satisfy public demand, as a crucial way to strengthen healthcare reform.¹ Shanghai spearheads China not only in economic development, but also in GP training. Shanghai's 45500 general practice physicians serve an area of 6500 sq. km and a permanent resident population of 23 million.⁶ At the end of 2013, there were 245 CHCs and 4229 licensed GPs in Shanghai. In Shanghai, one GP serves at least 4000 residents, a number higher than that recommended by WHO standard.⁷ Therefore, there is a long way to go to in raising the number of GPs through vocational training. In our previous study, we surveyed 183 GP graduates of Zhongshan Hospital, Fudan University, the first institute of higher medical education to carry out the GP vocational training programme in Shanghai. We found that 10.06% had quit their practice after vocational training and many graduates lacked great enthusiasm for their work.² In one recent work satisfaction study of 1041 GPs working in 223 CHCs in Shanghai, 37.4% of the investigated GPs were not satisfied with their jobs and 9.7% were willing to quit, pointing to another significant challenge in GP training and development.⁷

Career anchor theory was first brought forward by American managerial and vocational psychologist EH Schein after many years of study.^{8,9} It was originally based on a 13-year longitudinal study of 44 early 60s alumni of the MIT Sloan School Masters Degree Program in Management, supplemented by early and midcareer interviews of several hundred managers, teachers and members of various other professions and occupations to see if the career anchor categories applied to them. Schein broke down the concept of career into 'internal career' and 'external career'. External career was defined as opportunities and constraints that exist in a given occupation and organisation. An important element of an employee's internal career is the career anchor.⁹ A career anchor refers to an individual's self-perceived needs, values and talents that give shape to his or her career decisions. It influences career choices, affects decisions to move from one job to another, shapes what one is looking for in life, determines an individual's views of the future and affects the employee's reactions to his or her work experiences. It is the 'motivator' or 'driver'

of an individual, which can effectively guide, restrict and stabilise one's future career.¹⁰ Schein asserted through several observations that career anchors existed in every culture, but the priorities among them, how careers were perceived and how work and family concerns were balanced would vary from culture to culture.¹¹ Regardless of such differences in priorities, however, helping people to figure out their own anchor is necessary for all cultures and occupations.

For any organisation, different motivational measures such as reward and punishment policies in the training system should adapt to individual career development wills and demands, and, based on their career orientations, enable them to work happily and efficiently.¹² Schein's career anchor theory has been applied to different occupational groups to understand the needs individuals aspire to fulfil.¹² For over 35 years, career researchers, corporations and individuals have used career anchor models to increase employee and organisational success.^{10 13–15}

Career anchors have been translated into eight different languages, including Chinese.¹¹ It has been validated in China for university students, college students, teachers, tutors, nurses, IT enterprise employees, employees of state-owned bank, research and development personnel, software engineers, civil servants and policemen.^{16–18} Huang in 2005 researched the application of career anchor theory in the employees of state-owned bank aged 41–50.¹⁶ She found that the dominant career anchors of employees of state-owned bank were sense of service, lifestyle integration and managerial competence. She demonstrated that career success had an obvious relationship with the dominant career anchors. Zhang studied career anchors of 450 university students in six universities in Shanxi and analysed the characteristics of career anchors of different gender, grade and specialty, subsequently providing career planning advice for them in 2009.¹⁷ However, research in Chinese physicians' career anchor is limited. One study of 160 male nurses in China in 2012 found that the top three dominant career orientations were technical competence, sense of service and organisational job security.¹⁸ Lin and Xu demonstrated that male nurses older than 25 years scored higher in sense of service than those younger than 25 years.¹⁸ In one of our previous studies, we investigated 152 graduates of GP vocational training programme and found that their top career anchor was job security (69.7%), followed by technical competence (18.4%).⁷

As the GP is the basis of healthcare system and remains at an early developmental stage in China, we conducted research in career orientations for GPs in Shanghai to provide reference for community healthcare centres and health authorities to develop and implement career development strategies for GPs in order to help address the current GP shortage.

METHODS

A cross-sectional survey of GPs receiving CME was conducted from August 2014 to December 2015. Our investigation covers 223 CHCs (91.02% of the total number of CHCs in Shanghai). Five to eight GPs from each CHC, equalling 1/5 to 1/3 of the GP team in a CHC, were examined. A high response rate of 92.06% yielded 1067 survey results. We used the Career Orientations Inventory (short form) as a tool for investigation. Self-reported questionnaires were conducted to collect data.

Career Orientations Inventory (short form) originated from Schein's Career Anchor Inventory and was developed and validated by Igbaria and Baroudi.¹⁹ Extensive evidence of the reliability and validity of the short form was demonstrated by various studies and has been applied in many different research settings.^{10 12 20} Many authors have used the short form of the Career Orientations Inventory.^{12 20 21} It has been translated into Chinese and has been used in research on the application of career anchor theory in the employees of a state-owned bank.¹⁶ Career Orientations Inventory (Short Form) contains 25 items, including nine subscales for career orientation: technical competence, managerial competence, pure challenge, autonomy, security (both organisational job security and geographical security), sense of service, lifestyle integration, creativity and entrepreneurship (table 1).

Individuals were asked to indicate the importance of each of the 15 career items (see online supplementary appendix, items 1–15) on a five-point scale ranging from¹ of no importance to⁵ centrally important. Individuals were also asked to indicate the extent to which they thought that each of 10 items relating to career preferences (see online supplementary appendix, items 16–25) was true of them. The score for each career orientation was calculated and then averaged by the number of items included in each career orientation subscale. Each examinee has nine different average scores for nine career orientations. The career orientation with the highest average score is regarded as the dominant career orientation of the examinee.

Written consent was obtained from all the participants after a description of the study was given prior to the assessment.

Statistical analysis

We input data using Epidata V.3.01, and process the data using SPSS V.16.0. Frequency, means and percentages were used to describe the basic conditions and grade the scores of career orientations. In addition, Student's t-test, χ^2 and analysis of variance followed Scheffe test were used for comparing the career anchor scores among different subgroups. All statistical significance was based on two-side probability with $\alpha=0.05$.

Patient and public involvement

No patients and public were involved.

Table 1 Career anchor orientation categories

| Category | Definition |
|---------------------------------|--|
| Technical competence | Focus primarily on the intrinsic, technical content of the work and the functional area represented by the work |
| Managerial competence | Wish to supervise, influence and lead others, seek promotions to general manager positions to achieve feelings of success |
| Autonomy | Seek work situations in which they will be maximally free of organisational constraints and restrictions to pursue their professional competence |
| Geographical security | Link oneself to a particular geographic area and desire stable lifestyle on a long-term basis |
| Organisational job security | Seek company loyalty, long-term employment and financial security |
| Creativity and entrepreneurship | Need to create something on their own by developing a new product or service, by building a new business enterprise through financial manipulation or by starting and building a business of their own |
| Sense of service | Be dedicated oneself to serve other people and make the world a better place to live and work |
| Pure challenge | Have the preference for overcoming impossible obstacles, solving unsolvable problems and winning against extremely capable opponents |
| Lifestyle integration | Desire to develop a lifestyle that integrates family and career concerns, with concerns for self-development |

RESULTS

Demographic information

Our investigation covered 91.02% (223) of Shanghai's community healthcare centres. The survey was administered to a total of 1159 GPs; 1067 surveys were recalled at a response rate of 92.06%. Data from an average of five to eight GPs from each CHC (about 1/5 or 1/3 of the total number of GPs in a CHC) were collected.

Of the GPs investigated, 65.51% were women, 71.22% were younger than 40 years of age and 76.46% had at least 10 years of working experience. Regarding respondents' geography of practice, there was no significant difference in the percentage of those practising in urban versus suburban areas. The ratio of respondents holding intermediate to senior professional positions was 10.24% (73/713) (table 2). However, 81.69% of the respondents held bachelor's degrees, which was significantly higher than the national percentage (19% of current practice physicians (assistant) in CHCs in China have bachelor's degree²²).

Table 2 Basic information of general practitioners

| Item | Subject | No | % |
|------------------------|-------------------|-----|-------|
| Gender | Male | 368 | 34.49 |
| | Female | 699 | 65.51 |
| Age | <30 | 103 | 9.91 |
| | 30- | 637 | 61.31 |
| | 40- | 262 | 25.22 |
| | ≥50 | 37 | 3.56 |
| Length of work (years) | <5 | 78 | 7.75 |
| | 5- | 159 | 15.79 |
| | 10- | 532 | 52.83 |
| | ≥20 | 238 | 23.63 |
| Education | Junior college | 151 | 14.7 |
| | Bachelor's degree | 839 | 81.69 |
| | Master's degree | 37 | 3.6 |
| Professional position | Primary | 244 | 23.69 |
| | Intermediate | 713 | 69.22 |
| | Senior | 73 | 7.09 |
| Location of work place | Urban | 544 | 50.98 |
| | Suburban | 523 | 49.02 |

Analysis of Career Orientations Inventory

General characteristics of career orientations of GPs

As shown in [table 2](#), the top career orientation for GPs was organisational job security (71.60%), followed by technical competence (12.18%) ([table 3](#)).

Feature of different career orientations of GPs

Our analysis found that compared with female GPs, male GPs scored higher in managerial competence ($p<0.001$) and creativity and entrepreneurship ($p<0.001$) but lower in organisational job security ($p=0.034$). Compared with GPs younger than 40 years of age, GPs who were at least 40 years old scored higher in sense of service ($p=0.003$) but lower in autonomy ($p=0.022$) and life style integration ($p=0.039$). Thus, our findings suggested that GPs under 40 years of age had greater perceived

Table 3 General characteristics of various career anchors of general practitioners

| Category | Mean±SD | No | % |
|---------------------------------|-----------|-----|-------|
| Organisational job security | 4.44±0.62 | 764 | 71.60 |
| Technical competence | 3.86±0.56 | 130 | 12.18 |
| Sense of service | 3.78±0.62 | 42 | 3.94 |
| Managerial competence | 3.60±0.66 | 34 | 3.19 |
| Autonomy | 3.44±0.55 | 16 | 1.50 |
| Lifestyle integration | 3.40±0.40 | 27 | 2.53 |
| Geographical security | 3.19±0.68 | 16 | 1.50 |
| Creativity and entrepreneurship | 3.16±0.56 | 27 | 2.53 |
| Pure challenge | 3.01±0.51 | 11 | 1.03 |

organisational job security than those over 40 years of age. GPs with education levels of at least bachelor's degrees scored higher in managerial competence ($p=0.001$) and autonomy ($p=0.025$) than those with education levels of junior college or lower. Compared with GPs with at least 10 years of work experience, GPs with fewer than 10 years of work experience scored higher in managerial competence ($p=0.008$) and lower in geographical security ($p=0.032$) ([table 4](#)); therefore, results indicated that the shorter length of work experience, the higher the identification of organisational job security. Those with senior professional positions scored higher in technical competence ($p=0.012$) compared with those with intermediate professional positions. The distribution of career anchor orientation is different among GPs of different genders ($p=0.003$), at different ages ($p=0.003$) and with different lengths of work experience ($p=0.0041$) ([table 5](#)).

DISCUSSION

In our study, we found that the top three dominant career anchor types of GPs were organisational job security, technical competence and sense of service. Male GPs scored higher in managerial competence, creativity and entrepreneurship. GPs aged at least 40 scored higher in sense of service. GPs with bachelor's degree or higher education level scored higher in managerial competence and autonomy. Those with less than 10 years work experience scored higher in managerial competence. Those with senior professional position scored higher in technical competence.

Notably, the establishment of GP systems in many developing countries remains young and may be facing problems similar to those in Shanghai.²³ Many developed countries, such as UK and Australia, have highly developed GP systems but also face challenges that include growing work-related stress, low job satisfaction, retirement of GP resources and declining numbers of applications to primary care programmes.^{24 25} Regardless of the countries GPs are in, good assessments for motivation should be taken to retain talent and develop GPs' potential to better serve the public. Career anchors can effectively guide, restrict or stabilise one's future career. They can help CHC develop and implement career development strategies for GPs in order to help address the current GP shortage.⁵ For example, if a GP knows his career anchor is technical competence, the CHC in which he works will have a good understanding of his learning requirements and provide him with suitable training so that he can keep up-to-date with the latest skills and use his technical superiority to serve patients.

Our findings indicate that the profession of GP featured the pursuit of a stable and safe prospect, achievement in one's professional field and fondness for serving others—attributes that are compatible with the current working environment and role of GPs in Shanghai. While career anchor research for physicians is limited,

Table 4 Score of career anchor for GPs with different characteristics

| Item | Subject | No | Sense of service | Managerial competence | Autonomy | Organisational job security | Geographical security | Technical competence | Pure challenge | Lifestyle integration | Creativity and entrepreneurship |
|------------------------------|-----------------------------|-----|------------------|-----------------------|--------------|-----------------------------|-----------------------|----------------------|----------------|-----------------------|---------------------------------|
| Gender | Male | 368 | 3.80±0.64 | 3.71±0.70 | 3.46±0.61 | 4.39±0.66 | 3.20±0.71 | 3.89±0.59 | 3.04±0.57 | 3.42±0.41 | 3.24±0.59 |
| | Female | 699 | 3.76±0.61 | 3.54±0.63 | 3.43±0.52 | 4.47±0.60 | 3.19±0.66 | 3.84±0.54 | 2.99±0.48 | 3.39±0.39 | 3.11±0.54 |
| | t* | | 1.014 | 3.993 | 0.848 | -2.128 | 0.286 | 1.339 | 1.583 | 1.079 | 3.584 |
| | P | | 0.311 | <0.001 | 0.397 | 0.034 | 0.775 | 0.181 | 0.114 | 0.281 | <0.001 |
| Age | <40 | 740 | 3.74±0.60 | 3.62±0.65 | 3.48±0.56 | 4.47±0.57 | 3.17±0.67 | 3.85±0.52 | 3.00±0.49 | 3.42±0.38 | 3.15±0.55 |
| | ≥40 | 299 | 3.87±0.62 | 3.58±0.69 | 3.39±0.53 | 4.42±0.63 | 3.25±0.69 | 3.89±0.61 | 3.05±0.56 | 3.37±0.41 | 3.19±0.56 |
| | t* | | -2.928 | 0.741 | 2.229 | 1.367 | -1.867 | -0.939 | -1.476 | 2.065 | -0.986 |
| | P | | 0.003 | 0.459 | 0.022 | 0.172 | 0.062 | 0.348 | 0.14 | 0.039 | 0.324 |
| Education | Junior college | 151 | 3.87±0.60 | 3.44±0.64 | 3.35±0.53 | 4.52±0.58 | 3.22±0.62 | 3.86±0.54 | 3.04±0.50 | 3.40±0.45 | 3.19±0.57 |
| | Bachelor's degree and above | 876 | 3.77±0.61 | 3.63±0.66 | 3.46±0.55 | 4.43±0.63 | 3.19±0.68 | 3.85±0.56 | 3.00±0.51 | 3.40±0.39 | 3.15±0.56 |
| | t* | | 1.86 | -3.213 | -2.238 | 1.768 | 0.509 | 0.004 | 0.804 | -0.154 | 0.736 |
| | P | | 0.063 | 0.001 | 0.025 | 0.077 | 0.611 | 0.997 | 0.422 | 0.878 | 0.462 |
| Length of work | <10years | 237 | 3.73±0.59 | 3.71±0.61 | 3.49±0.56 | 4.43±0.66 | 3.12±0.62 | 3.84±0.55 | 2.95±0.50 | 3.40±0.38 | 3.19±0.52 |
| | ≥10years | 770 | 3.79±0.61 | 3.58±0.66 | 3.43±0.54 | 4.44±0.61 | 3.23±0.68 | 3.86±0.56 | 3.00±0.51 | 3.40±0.40 | 3.15±0.57 |
| | t* | | -1.287 | 2.657 | 1.577 | -0.182 | -2.146 | -0.318 | -1.783 | 1.736 | -0.532 |
| | P | | 0.199 | 0.008 | 0.115 | 0.855 | 0.032 | 0.75 | 0.075 | 0.083 | 0.595 |
| Professional position | Primary | 244 | 3.78±0.61 | 3.63±0.68 | 3.50±0.56 | 4.50±0.57 | 3.24±0.64 | 3.89±0.54 | 3.01±0.52 | 3.44±0.40 | 3.18±0.55 |
| | Intermediate | 713 | 3.76±0.62 | 3.59±0.64 | 3.42±0.54 | 4.42±0.65 | 3.18±0.69 | 3.82±0.56 | 3.00±0.50 | 3.38±0.39 | 3.14±0.56 |
| | Senior | 73 | 3.90±0.64 | 3.72±0.80 | 3.42±0.53 | 4.41±0.55 | 3.21±0.65 | 4.00±0.56 | 3.09±0.59 | 3.42±0.42 | 3.24±0.59 |
| | F† | | 1.805 | 1.3 | 2.07 | 1.511 | 0.682 | 4.451 | 1.074 | 2.135 | 1.261 |
| Workplace | P | | 0.165 | 0.273 | 0.127 | 0.211 | 0.506 | 0.012 | 0.342 | 0.119 | 0.284 |
| | Scheffe test | | | | | | | Senior>intermediate† | | | |
| | Urban | 544 | 3.76±0.62 | 3.62±0.64 | 3.45±0.53 | 4.41±0.66 | 3.20±0.67 | 3.86±0.58 | 2.99±0.51 | 3.40±0.39 | 3.17±0.54 |
| | Suburban | 523 | 3.79±0.62 | 3.59±0.68 | 3.44±0.58 | 4.48±0.57 | 3.18±0.68 | 3.86±0.54 | 3.02±0.51 | 3.40±0.40 | 3.15±0.58 |
| GP's, general practitioners. | t* | | -0.77 | 0.756 | 0.012 | -2.017 | 0.65 | 0.064 | -0.91 | 0.31 | 0.667 |
| | P | | 0.442 | 0.45 | 0.991 | 0.044 | 0.516 | 0.949 | 0.363 | 0.757 | 0.505 |

*Student's t-test.

†Anova test followed by Scheffe test.

‡p<0.001.

GPs, general practitioners.

Table 5 Influencing factors for distribution of career anchor orientation of GPs

| | Sense of service | | Managerial competence | | Autonomy | | Organisational job security | | Geographical security | | Technical competence | | Pure Challenge | | Lifestyle integration | | Creativity and Entrepreneurship | | P value | |
|-----------------------|-----------------------------|----|-----------------------|----|----------|----|-----------------------------|-----|-----------------------|----|----------------------|-----|----------------|----|-----------------------|----|---------------------------------|----|---------|--------------|
| | N | % | N | % | N | % | N | % | N | % | N | % | N | % | N | % | N | % | | |
| Gender | Male | 14 | 3.80 | 15 | 4.08 | 9 | 2.45 | 240 | 65.22 | 5 | 1.36 | 48 | 13.04 | 7 | 1.90 | 15 | 4.08 | 15 | 4.08 | 0.003 |
| | Female | 28 | 4.01 | 19 | 2.72 | 7 | 1.00 | 524 | 74.96 | 11 | 1.57 | 82 | 11.73 | 4 | 0.57 | 12 | 1.72 | 12 | 1.72 | 1.72 |
| Age | <40 | 27 | 3.65 | 21 | 2.84 | 14 | 1.89 | 544 | 73.51 | 10 | 1.35 | 88 | 11.89 | 2 | 0.27 | 17 | 2.30 | 17 | 2.30 | 0.003 |
| | ≥40 | 15 | 5.03 | 10 | 3.36 | 1 | 0.34 | 200 | 67.11 | 6 | 2.01 | 38 | 12.75 | 9 | 3.02 | 9 | 3.02 | 10 | 3.36 | 3.36 |
| Education | Junior college | 3 | 1.99 | 4 | 2.65 | 2 | 1.32 | 119 | 78.81 | 0 | 0.00 | 13 | 8.61 | 3 | 1.99 | 5 | 3.31 | 2 | 1.32 | 0.215 |
| | Bachelor's degree and above | 39 | 4.45 | 30 | 3.42 | 12 | 1.37 | 617 | 70.43 | 16 | 1.83 | 111 | 12.67 | 8 | 0.91 | 20 | 2.28 | 23 | 2.63 | 2.63 |
| Length of work | <10years | 9 | 3.80 | 7 | 2.95 | 8 | 3.38 | 175 | 73.84 | 1 | 0.42 | 27 | 11.39 | 0 | 0.00 | 7 | 2.95 | 3 | 1.27 | 0.041 |
| | ≥10years | 30 | 3.90 | 27 | 3.51 | 7 | 0.91 | 549 | 71.30 | 15 | 1.95 | 92 | 11.95 | 11 | 1.43 | 17 | 2.21 | 22 | 2.86 | 2.86 |
| Professional position | Primary | 9 | 3.69 | 8 | 3.28 | 8 | 3.28 | 178 | 72.95 | 2 | 0.82 | 30 | 12.30 | 0 | 0.00 | 5 | 2.05 | 4 | 1.64 | 0.110 |
| | Intermediate | 27 | 3.79 | 23 | 3.23 | 7 | 0.98 | 521 | 73.07 | 13 | 1.82 | 77 | 10.80 | 7 | 0.98 | 18 | 2.52 | 20 | 2.81 | 2.81 |
| | Senior | 4 | 5.48 | 3 | 4.11 | 0 | 0.00 | 42 | 57.53 | 1 | 1.37 | 15 | 20.55 | 4 | 5.48 | 3 | 4.11 | 1 | 1.37 | 1.37 |
| Workplace | Urban | 23 | 4.23 | 18 | 3.31 | 7 | 1.29 | 378 | 69.49 | 10 | 1.84 | 73 | 13.42 | 5 | 0.92 | 17 | 3.13 | 13 | 2.39 | 0.721 |
| | Suburban | 19 | 3.60 | 16 | 3.06 | 9 | 1.72 | 386 | 73.80 | 6 | 1.15 | 57 | 10.90 | 6 | 1.15 | 10 | 1.91 | 14 | 2.68 | 2.68 |

χ^2 was used to compare the data. GPs, general practitioners.

one study conducted by Bester and Mouton found that creativity and entrepreneurship, technical competence and pure challenge were the top three dominant career orientations in psychologists.²⁶ In addition, we examined some research on nurses' career anchors, as nurses typically work in the same environment as physicians. A 2012 study of 160 male nurses in China found that the top three dominant career orientations were technical competence, sense of service and organisational job security.¹⁸ Aside from organisational job security, these results were similar to our findings.¹⁷ A study by Mukri on career anchors in professional navy nurses also found that these individuals' dominant career anchors were security and service orientation.²⁷

Our investigation indicated that GPs in Shanghai tend to have career orientations centred on organisational job security, which could be influenced by gender, age, education level and other variables. One hypothesis as to why career orientation on organisational job security was so common (at 71.60%) among the GP workforce may be due to the gender roles present in Chinese culture, as women account for 65.5% of GPs. Findings from our analysis demonstrated that male GPs scored higher in managerial competence, creativity and entrepreneurship than female GPs, while also scoring lower in organisational job security than female GPs. These results correlate with the traditional gender roles regarding culture and education in China.²⁸ Traditionally, Chinese women have been expected to prefer quieter lifestyles while men prefer more active ones. This may be due to historical expectations of women playing more domestic roles, while men were expected to engage in business outside of the home. The traditional Chinese mindset for men strongly focuses on social responsibility for business success, challenging oneself and leadership. On the other hand, women are educated to focus on professional safety or stability.²⁹ This gender difference of career orientation type has been confirmed by many studies in China.^{16 17 26 28 30 30-32} Schein asserted through several observations that career anchors existed in every culture, but the priorities among them vary from culture to culture.¹¹ Marshall and Bonner assessed the career anchors of 423 graduate students enrolled in management courses in Western Australia, the USA, Malaysia, South Africa and the UK in 2003. This research allowed examination of the distribution of career anchors within a multicultural sample across age groups, genders, cultures and work experience. Culture was found to have an impact on observed career anchors.³³ Igbaria²⁰ found that in research, development and engineering, technology professions, service, lifestyle and security were the overall dominant orientations and women were more lifestyle-oriented than men. In addition, Danziger and Valency demonstrated significant differences in organisational job security, finding that the proportion of individuals driven by the lifestyle orientation was higher in women than in men (38.5% vs 22.7%, $p=0.000$) in a study of 1847 Israeli working adults.²¹ This demonstrated that the interests of Israeli working women conformed to the

family-oriented values of the Israeli society. We also found statistically significant different results in career anchor types based on age group. GPs of at least 40 years of age scored higher in sense of service compared with those under 40 years of age; however, older GPs scored lower in autonomy and lifestyle integration. Research by Lin and Xu demonstrated that male nurses older than 25 years scored higher in sense of service than those younger than 25 years.¹⁸ A study by Huang also found that employees of state-owned bank aged 41–50 scored higher in sense of service and job security and lower in autonomy compared with younger employees¹⁶. Similarly, in a 2006 article, Schein maintained that individuals tend to prefer more stability as they age and better understand their values and preferences.³⁴ Outside of the workforce, the idea that age influences attitudes, preferences and orientations can also be found in broader literature on human development.³⁵ Furthermore, GPs with education levels of at least a bachelor's degree scored higher in managerial competence and autonomy than those with junior college education levels, indicating that GPs with higher education levels tend to pursue management roles and prefer to avoid constraints by authorities. Research on education level and career anchor type is limited, with one Chinese study on 160 male nurses finding no statistical difference between career anchor types and education level.¹⁸ Our contradicting results may be due to the study's focus on a different occupation or its smaller sample size. Moreover, our study showed that GPs with fewer than 10 years of work experience scored higher in managerial competence than those with at least 10 years of work experience, but scored lower in geographical security; this suggested that GPs with shorter work experience were more fond of seeking management positions and attached less importance to the location of practice. A study by Shen also found that those with more than 10 years of work experience demonstrated greater tendencies for management positions.³⁶ Our study also shows that GPs with senior professional positions scored higher in technical competence than those with intermediate professional positions, indicating that those in more senior positions were more likely to seek achievement and expertise in their professions.

Overall, understanding career orientations is important in analysing employees' career aspirations to better tailor careers and professional development to individual needs. As career incentives include the potential for job advancement and work-based challenges,^{16 21} the scientific management of GPs should be based on the study of the workforce's career orientations to improve the design of training and guidance. Such changes can help develop stronger group cohesiveness in healthcare centres and ultimately help meet the public's growing demand for community healthcare services.^{37 38} When examining Maslow's five hierarchical needs (physiological, safety, social, esteem and self-actualisation),³⁹ it is important to understand that an individual can change occupations if these needs are not met within their work. Thus, if an

employee engages in a career that is consistently aligned with his or her career orientation, work outcomes such as organisational commitment, job satisfaction, retention and career resilience will be enhanced.^{37 38}

The strength of our study lies in using Career Orientations Inventory (short form) to assess the needs and satisfaction of GPs in community healthcare centres in Shanghai. Granted, there were also several limitations in our study. First, we did not investigate of all the registered GPs in Shanghai, and purposefully chose GPs receiving CME as examinees. In addition, among the examinees who received CME, there were more women than men, and most examinees held intermediate positions. These factors may have caused an overestimation of the percentage of GPs with organisational job security orientation among GPs working in CHCs.

CONCLUSIONS

The search for job stability and the lack of career prospect planning are two factors that impact community GP growth. Career planning has been paid insufficient attention by both community GPs and CHCs. As China currently faces a severe shortage of GPs, understanding career anchors is critical for analysing employees' career aspirations to better personalise their professional development. For GPs with an orientation towards managerial competence, CHCs should leverage their value by offering them suitable management training, in order to eventually promote them to appropriate management posts. For GPs with technical competence, CHCs should have a good understanding of their learning requirements and provide them with suitable training so that they can keep up-to-date with the latest technical developments and use their superiority in skills to serve patients. Based on the study of GP career orientations, we can take action to maintain stability of the GP team, retain trained GPs and produce highly qualified community GPs.

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