Height conditions salary expectations: Evidence from large-scale data in China

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HIGHLIGHTS

- Evidence of height premium in China is found by using a large-scale resume data.
- Height premium decreases as the level of education increases for both genders.
- Robustness of the findings is supported by both graphical and regression models.
- Three promising ways are suggested to help short people in career development.

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ABSTRACT

Height premium has been revealed by extensive literature, however, evidence from China based on large-scale data remains still lacking. In this paper, we study how height conditions salary expectations by exploring a dataset covering over 140,000 Chinese job seekers. By using graphical and regression models, we find evidence in support of height premium that tall people expect a significantly higher salary in career development. In particular, regression results suggest stronger effects of height premium on female than on male, however, the gender differences decrease as the education level increases and become insignificant after holding all control variables fixed. Further, results from graphical models suggest three promising ways in helping short people: (i) to accumulate more working experiences, since one year seniority can respectively make up about 3 cm and 7 cm shortness for female and male; (ii) to increase the level of education, since one higher academic degree may eliminate all disadvantages that brought by shortness; (iii) to target jobs in regions with a higher level of development. Our work provides a cross-culture supportive evidence of height premium and contributes two novel features to the literature: the compensation story in helping short people, and the focus on salary expectations in isolation from discrimination channels.

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1. Introduction

Height is the most revealed physical appearance that one person has across the entire lifetime. Previous literature has uncovered strong impact of height on people's daily living and working, for example, physical health, social well-being and profession status [1–3]. Body height not only affects the ability of one person and how he/she regards himself/herself, but

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also affects how others view one person and the future career development [4]. In the past decades, a large amount of studies have found evidences in support of the height premium across countries and genders [5], where tall people receive more benefits across several domains [6], and the height discrimination [7], where short people are discriminated on the basis of their body height in workplace [8].

On the one hand, many factors determine the height of people [9,10], such as genetic makeup [11], demography [12], socioeconomic indicators [13], evolution trends [14,15], etc. Recently, a study of 105 countries provided a better understanding of the environmental determinants of height like the consumption rates of the most correlated proteins [16]. On the other hand, height has been found strong effects on people's psychological abilities [17–19]. For example, tall people are less jealous [18], more happy [20,21], more likely to be married [22,23] and have better educational attainment [24]. More importantly, height has significant impact on people's future career development. Extensive previous studies have shown that height strongly affects the wages in different countries like Germany, Finland and US [25–27] and especially for female [28]. In particular, there has been found a non-linear relationship between height and wages [29,30]. The height premium has been explained by various factors like cognitive and non-cognitive skills [31] and perceptions associated with height [32].

Although there are extensive studies suggesting the effects of height, most of previous literature mainly focused on western countries [33], while China with the world largest population and rapid economic development has not been sufficiently considered [34–37]. Also, most of previous studies used data from administrative records and surveys [28], which potentially limit not only the timeliness of analysis due to the long time delay in the aggregation of administrative data [38], but also the sample size of observations due to the high cost of conducting large scale surveys. Besides, previous work showed extensive evidences of height discrimination in career development but few suggestions on how to solve the dilemma.

Considering it is less possible to rule out discrimination entirely [24], improving education and increasing seniority may help improve the situation of short people [39]. Moreover, height discrimination only expresses how short people are treated unfairly from outside, however, mainly due to the lack of better data [26], less has been considered on whether short people themselves are expecting a low salary. Fortunately, with the rapid development of information and technology in recent years [40], large amount profile data of Chinese job seekers with salary expectations and demographic information are available in many online socioeconomic systems (e.g., human resource service [41], online rating systems [42,43] and reputations systems [44,45]), which makes it possible to investigate how height conditions salary expectations in different culture backgrounds and how to reduce height discrimination.

In this paper, we study the relationship between height and salary expectations by exploring a dataset covering over 140,000 job seekers in China. Using a graphical model, we find that height positively and significantly affects salary expectations for both genders, suggesting the presence of height premium. Then, we study how working experience estimated by seniority and age can offset the disadvantages brought by shortness. Next, we explore whether the education level drives salary expectations by looking at the effects of academic degree and school of graduation. Further, we consider the effects of the economic status in the born, living and targeting cities of job seeking. Finally, we check the robustness of our results using two regression models respectively on sub-sample and pooled sample, and suggest three promising ways for helping short people out. Our work provides cross-culture evidences of height premium and suggests promising directions in getting rid of height discrimination in labor market.

The remainder of this paper is organized as follows. Section 2 briefly summaries the relevant literature. Section 3 introduces the used dataset and the analytic methods for exploring the data. Section 4 presents the results on how height affects salary expectations. Finally, Section 5 provides the conclusions along with discussion.

2. Relevant literature

Height is a reflection of investment in health [46,47], given a variety of factors will affect how tall one person will grow [16], such as genetic constitution [11], malnutrition in childhood [16,48], weather shocks [49], medical and health conditions [50,51], neighborhood characteristics [52], economic status [53,54], socioeconomic indicators [55] and economic development trends [14]. In turn, height has effects on various physical abilities and health outcomes. For example, Jackson and Ervin [1] showed height stereotypes that shortness is more of a liability in an asset for both genders, Stulp et al. [56] found the negative effect of women height on reproductive success in western populations, and Dercon and Sánchez [19] showed that the height in mid childhood tends to increase a set of psychosocial competencies in late childhood. For the cognitive ability, Case and Paxson [57] found that taller children have higher cognitive scores which results in more earnings, Spears [58] found that taller Indian children perform better on tests of cognitive achievement, Heineck [59] found that height is non-linearly associated to male's cognitive abilities, and Guven and Lee [60] showed that height is positively associated with cognitive functioning in later life, which is in line with results reported by Maurer [61]. Moreover, height has been found a negative relationship with total mortality in Norway [62], early life mortality in India [63], and infant mortality in Spain [64].

Height as a useful measure of human welfare affects people's social well-being like self-efficacy, self-esteem and aspirations [65], which are unrelated to the physical features. For personality, Melamed [17] found significant correlations between height and suspiciousness for both genders, Buunk et al. [18] found that male height has negatively correlated jealousy whereas female height is curvilinearly related to jealousy, Carrieri and De Paola [20] found a positive relationship between height and individual happiness using Italian survey data, and Persico et al. [66] found the relationship between