

RESEARCH

Open Access



The mediation of matchmaking: a comparative study of gender and generational preference in online dating websites and offline blind date markets in Chengdu

Hannah Rose Kirk^{1,3*}  and Shriyam Gupta^{2,3}

*Correspondence:

hannah.kirk@oii.ox.ac.uk

¹ Oxford Internet Institute,
University of Oxford, 1 St
Giles, Oxford OX1 3JS, UK
Full list of author information
is available at the end of the
article

Abstract

Online dating has modernized traditional partner search methods, allowing individuals to seek a partner that aligns with their preferences for attributes such as age, height, location, or education. Yet traditional forms of partner selection still exist, with continued parental involvement in the matching process. In this paper, we exploit different matchmaking methods with varying degrees of youth autonomy versus parental involvement. We use a unique dataset collected in Chengdu, China, where profiles from the blind date market ($n = 158$) capture parental preferences and profiles from an online dating website ($n = 500$) capture individual preferences. Regarding gender, we find that men generally display a desire for women younger, shorter, and less educated than themselves, while women desire older and taller men of the same education as themselves. With regards to parental influences, we find parents specify a narrower range of accepted partner attributes. Further, we find an interaction effect between gender and generational influences: the preferences of parents advertising their daughters on the blind date market show a greater discrepancy in attribute preferences to the online daters than parents advertising their sons.

Keywords: Online dating, Blind date market, Gender differences, Generational differences, China

Introduction

Since the advent of the reform and opening-up, Chinese society has undergone a considerable structural change (Guan et al. 2018; Gao and Wang 2020). These modernizing influences on Chinese society and economy have simultaneously recast mate selection and matchmaking approaches (Chang et al. 2011; Blair and Madigan 2016, 2018). Under traditional approaches to matchmaking in China, third parties such as parents and other connections within a closed-form social network recommend partners from a known pool of individuals with strategic benefits for the family in mind (Riley 1994). Such traditional forms relying on social connections lessen the probability of matching with a stranger. The coming of the internet age has revolutionized methods of matchmaking

with the rise of online dating. One of China's most popular dating websites claims to host up to 60 million daters, with the largest fraction of users being between 20 and 30 years old and mostly single (Xia et al. 2014).

While new forms of matchmaking have been introduced, gender¹ and generational norms that have defined the partner selection process for centuries continue to exert their influence, creating a push and pull between traditional and modern values on China's youth. Regarding gender, while on the one hand, women have more say in both social and economic life owing to their greater educational and occupational freedoms, substantial progress still needs to be made in attitudes towards gender equality (Attané 2012). Similarly, with reference to generational norms, while individualism is on the rise (Sun and Ryder 2016), filial piety continues to determine parent–child relationships (Zhang 2016; Hu and Scott 2016). It is unclear how this negotiation between two temporally shifting value systems has engendered changes in the attribute preferences that Chinese men and women hold for their prospective partners. Thus, it is not surprising that researchers have called for more empirical work on the partner selection process in contemporary China and investigations into how attitudes and expectations are moderated by factors such as gender and generation (Blair and Madigan 2016, 2018).

This paper aims to assess how partner preferences are moderated by gender and generational norms in China. This assessment has three specific objectives. First, whether there are differences in attribute preferences for partners by gender, i.e., are there differences in partner preferences for males and females? Second, whether there are differences in partner preferences across generations, i.e., are there differences between parents acting on behalf of their children versus these children acting autonomously? Lastly, building on the two above, whether there is an interaction of gender and generation in determining partner preferences, i.e., do parents have differential preferences for their daughters as compared to their sons?

To answer these questions, we use two samples with varying degrees of youth autonomy versus parental involvement. The former preferences are captured by individual dating profiles from an online website, and the latter by profiles advertised by parents on 'blind date markets' (*xiangqinshichang*, 相亲市场),² which are public gatherings in large open parks where daters' details are displayed on printed placards (Wong 2014). Clearly, individuals acting for themselves online still have implicit channels of parental influence. Thus, this study does not seek to distinguish between individuals and parents explicitly but instead uses a proxy of the greater strength of parental involvement in partner preferences by comparing matchmaking methods. Overall, we find significant differences in gender preferences for attributes such as age, height, and partner education. Furthermore, we find that parents' preferences for their sons are different from their daughters. These findings suggest that gender and generational norms continue to mediate the mate selection process in contemporary China and do so in different ways for youths and parents.

¹ In this paper, our analysis is limited by the available data to studying binary gender (man; woman) and we use sex terms interchangeably (male; female). We acknowledge gender identity lies on a spectrum.

² We use the term 'blind date market' as it is a commonly-used English translation of the *xiāngqīn shìchǎng*. Please see "Capture parental preferences via blind date market placards (Offline sample)" section for more details.

The paper proceeds as follows: In [Related works](#) section, we discuss the relevant theoretical background to the study and provide an overview of how norms have changed with socioeconomic transformations in China. [Data and methods](#) section provides details of the data collection and our statistical methodology. [Results](#) section presents the results, and [Discussion](#) section situates these findings and the limitations of our study within existing empirical and theoretical frameworks. Finally, [Conclusion](#) section offers concluding remarks and recommendations for future research.

Related works

Theoretical background

Based on convergence theory, the Goode model of family changes argues that as societies modernize and industrialize, family life too will transform from a more “traditional” setup to a more “modern” conception (Goode 1963). Some studies have applied this theory to explain how modernization has impacted Chinese familial life (Xu and Whyte 1990; Xu 1994). In ascertaining the causes of changes in family traits and norms from past to present, numerous mechanisms have been proposed, such as social structural changes, direct government intervention, and cultural influence from western values (Whyte 1990).

Regarding the specific influences on an individual's mate selection process, Kalmijn's (1998) theory identifies three core determinants: first, the marriage candidate's own preferences play a role in determining the desirability of a potential spouse. These preferences are partly defined by resource requirements, such as socioeconomic resources and cultural resources, but these resource-based needs are supplemented with preferences for homogamy, i.e., marrying into a partnership with shared income, status, taste, values, and lifestyles (Kalmijn 1991). Second, third-party involvement from parents or extended family members is incentivized by preserving in-group homogamy. The extent to which younger generations are embedded in the same set of cultural and societal values determines the conflict between these first and second determinants and the relative strength of an individual's preferences versus the preferences of those not directly involved in the marriage. Finally, an individual is limited by opportunity constraints in selecting whom to marry. Kalmijn (1998) argues that structural constraints define the pool of possible candidates based on daily interactions, facilitated by group membership to schools, workplaces, and religious organizations and limited by geographic proximity to a local marriage market.

While Kalmijn's theory focuses on selecting a marriage partner and explaining homogamy, we apply a similar framework to our study. Specifically, one can ask how Kalmijn's three determinants increase and wane in relative strength as a society modernizes. Technological advancement and the advent of the internet has resulted in ‘the death of distance,’ lessening the restrictiveness of Kalmijn's third hypothesis over opportunity constraints, though not entirely abating its influence. The interplay between Kalmijn's first and second hypotheses is of greater relevance for our work. We wish to ascertain the continuity and conflict between an individual's preferences and those of a third-party influencer (i.e., parents).

Matchmaking methods have varying degrees of third party influence, where more traditional forms may represent a greater ascription to historical gendered and generational

norms, while emerging forms, such as online dating, place greater emphasis on individualism and have wider pools of choice, but do not guarantee that traditional norms are ignored. Irrespective of the mode of matchmaking, different generations and genders may display specific preferences for certain attributes of a suitable partner, and the values assigned to these partner attributes (e.g., income, education, or filial piety) are subject to changing social dynamics of the time (Blair and Madigan 2016 2018; Lui 2019; Chang et al. 2011; Ong and Wang 2015). Studying such preferences in mate selection thus reflects how the values of today's world operate and are passed onto future generations (Schwartz 2013) and offer an insight into tomorrow's social values and norms.

The following section documents the relevant literature and background on the modernization of Chinese society over the past three decades and how it has introduced tensions between traditional and emerging value systems around gender and generational norms in mate selection.

Gender influences on mate selection

In traditional Chinese society and philosophy, men and women were assumed to exist in a natural hierarchy of the superior and the inferior (Rosenlee 2006). The separation of the sexes was rooted in the believed natural order of the cosmos, where men, equated with *yang*, are dominant, dynamic, powerful, and superior, and women, paired with *yin*, are subservient, still, gentle and inferior (Hall and Ames 1998; Wang 2012). These supposed innate differences relegated women to the 'inner' sphere concerning domestic duties and support for the husband and men to the 'outer' sphere focusing on legal, economic, and political matters³ (Hall and Ames 1998). The assumed natural hierarchy of women as the weaker sex moralized a system of oppressive practices, including approval of concubinage, foot binding, and widow chastity (Ebrey 2020; Wang 2003). By the end of the Han dynasty, the Confucian treatment of women as the lowest rank in relational hierarchies was broadly established, and the distinct separation of women from mainstream political and intellectual discourse presided into the Song and Qing dynastic periods (Internet Encyclopedia of Philosophy, accessed August 10, 2020).

Since the establishment of power by the Communist Party of China (CPC) in 1949, the role of women has undergone several key transformations. Firstly, women have enjoyed greater occupational and educational emancipation. Between 1949 and 1952, female labor force participation rose to 74% as compared to 87% for men (Nan and Xue 2002). Nowadays, China's female labor force participation is ranked 47 out of 180 in 2019 (Indexmundi 2019). During the same period, women's educational attainment rose dramatically, and women's college enrolment surpassed men's in the first decade of the twenty-first century (Wu and Zhang 2010; Yeung 2013). Simultaneous changes in the structure of China's economy and society, such as urbanization, individualism, and industrialization, along with the rise of feminist thought, shifted gendered dynamics (Liu et al. 2013). Higher female education and employment allowed for less traditional gender divisions of labor, granting women greater

³ Allowing women to act beyond their assigned sphere was thought to bring cosmic imbalance between *yin* and *yang*, and risked societal and familial chaos. Two proverbial statements in ancient texts reinforce this sentiment: "when the hen announces the dawn, it signals the demise of the family" (*Book of Documents*), and "Male intellect builds state, female intellect topples states" (*Book of Poetry*) (Internet Encyclopedia of Philosophy, accessed 10th August 2020).

financial and occupational freedom (Hu and Scott 2016). Such freedoms changed the power dynamics in personal relationships, with Chinese women exercising greater say and participation in household decision-making (Guthrie 2008; Gittings 2006).

Secondly, since the CPC came to power, gender equality has witnessed a growing role in policy rhetoric, with Mao's famed proclamation that "women hold up half the sky" becoming the slogan of the women's liberation movement (Croll 1995). Support for women's rights gained traction in policy, with China being one of the first countries to disallow all forms of discrimination towards women at the United Nations International Convention in 1980 (Attané 2012). Another way in which policy has changed women's role in Chinese society is through the one-child policy. By reducing family size and domestic burden, four decades of the one-child policy has been attributed to helping women remain in their professional careers and a resultant increase in dual-earner households (Ma et al. 2011). Similarly, the introduction of the one-child policy has been cited as reducing the traction of patrilineal norms (Deutsch 2006).

Despite these transformations of gender norms, aspects of modern Chinese society still confine women to traditional roles and stereotypes (Jankowiak and Li 2014). The survey of Evans (2008) has shown the appropriateness of male and female roles remains unchallenged, with over 60% of respondents retaining belief in the statement "men are turned towards society, women devote themselves for the family." Policy introductions can be a double-edged sword, with studies showing that the one-child policy has negatively affected women as it promoted female infanticides (Croll 2012). Further, research has also shown that post-reform era economic pressures have increased age hypergamy, i.e., women preferred older men for greater financial and social potential, while men marry later to accumulate greater resources (Mu and Xie 2014). In other countries, the resulting gender imbalance of community sex ratio and increased spousal age gap within marriage has been shown to correlate to inter-partner violence and men wielding more control over their wives (Bose et al. 2013; Angelucci and Heath 2020). Further, even with four decades of women's liberation through structural change and government agendas, the role and status of women remain separate and inferior in many regards (Attané 2012).

When considering how these shifts in gender norms subsequently affect family and marriage decisions, seemingly conflicting value systems continue to play. On the one hand, new gender dynamics are taking hold, with both males and females facing a relatively weaker desire to marry young, particularly for women who have access to greater financial and educational freedom in their professional careers (Lui 2019). On the other hand, stereotypical gender norms remain. Blair and Madigan (2016:16) report that "in keeping with long-standing gender stereotypes, females did express a greater preference for more pragmatic qualities in a male partner (well educated, wealthy, successful, and ambitious)." In this regard, the Chinese youth are trying to manage pressures from traditional cultural values and modern progressive expectations (Blair and Madigan 2018). Further work is required to document how these tensions govern mate selection processes.

Generational influences on mate selection

In China, parents play a significant role in their children's romantic life and marriage, which can be traced back to traditional cultural values. The Confucian concept of filial piety (*xiaojing*, 孝敬) enforces a two-part value system on the child: *xiao* (孝), a material or financial commitment of care, where children reimburse their parents in later life, and *jing* (敬), non-material respect and obedience to the elderly (Hu and Scott 2016). Thus, filial piety exerts a culturally-imposed contract between parent and child. Furthermore, China is considered a collectivist society where a person's commitment to social institutions, especially the family, is prioritized over individual preferences (Ting-Toomey et al. 1991). As outlined in the classic Confucian text *The Great Learning*, upholding proper marital and family values serves as building blocks to stabilize society, and elements of this thinking persist to modern-day policy (Kirk et al. 2020).

Traditionally, parental preferences played a dominant role in curating the family unit, where arranged marriages were the norm, and parents assigned spouses to their children on the grounds of social and economic suitability (Yang 1968). In a patrilineal society, a married woman served her elders and her husband with an obligation to produce a male heir (Baker 1979). Under this traditional treatment of marriage, where obligations to the parents and the family take precedence over individual needs, "the marital relationship was hardly the focus of romantic expectations" (Pimentel 2000: 33). Emotional feelings of the individuals involved in the marriage contract were quashed by the responsibility to align with the hierarchical axes of devotion to patrilineal familial values and maintenance of gendered values (Potter 1988).

Over the past three decades, significant socioeconomic and cultural changes in China as part of the modernization process have likely impacted intergenerational relationships. Since 1989, China has opened up dramatically to western influences, and increased international trade has brought about rapid economic changes. Wages have risen, and geographic mobility has increased across the nation, with migrants traveling greater distances (Gao and Wang 2020). This means not only greater physical distance from the family but also more cultural differences with children adopting lifestyles and value systems from those of their parents (Jackson and Liu 2017). For example, the experiences of parents who have lived through the Cultural Revolution are different from those of younger generations who have taken on more individualistic ideas (Jackson and Liu 2017).

This modernization process has also significantly altered both family and relationship dynamics in contemporary China, resulting in differences in the values held by older and younger cohorts. Research has indicated an increasing acceptance of sexual and intimate relationships in college-age daters (Yang 2011), the lower stigma surrounding divorce (Farmer 2020), the later average age of marriage (Lui 2019), and the greater desire for romantic not arranged marriage decisions (Lai and Thornton 2015). When comparing generational priorities for mate selection, Chang et al. (2011) document a decline in the importance of values such as virginity and an increase in significance given to religiosity and earning capacity. Given such changes, the Chinese youth call for less interference from their parents in their dating and marriage life (Xinhuanet.com 2019).

Despite these generational divides, filial piety remains an important determinant in governing Chinese family life (Zhang 2016). Financial emancipation, reduced

patrilocalism (shared occupancy with paternal in-laws), and an improved social security net has reduced the material necessity for filial piety (Ma et al. 2011). However, the non-material aspect (*jing*) continues to be stressed as a moral and virtuous obligation of China's youth (Liu 2008). The societal pressure to fulfill such duties is not abated by geographical distance from one's parents (Jackson and Liu 2017) or greater educational attainment (Hu and Scott 2016). Parental involvement remains strongly influential in family and marital decisions (Riley 1994; Pimentel 2000), and while Chinese youths find their partner, they still wish to satisfy their parents' wishes (Zhang and Kline 2009). Such considerations can yield positive marriage outcomes for couples, and research shows that parental approval of mate choice is a determinant of later marriage quality and happiness (Pimentel 2000).

Marriage also continues to be a binding social norm for the majority of young people, even with contemporary acceptance of other forms of dating (Evans 2008; Lui 2019; Ji and Yeung 2014). In a 2010 survey, Attané (2012:9) reports that 48% of women and 40% of men believed in the statement "a good marriage is better than a good career," indicating marriage is still seen as a conveyor of social status. Despite the continuing importance of marriage norms, both in urban and rural areas (Lui 2019), the process has shifted away from arranged marriage towards more free choice in mate selection (Xu and Whyte 1990).

These tensions between new and old values result in China's youth being pushed and pulled from different directions when making mate selection decisions. On the one hand, the strong social values and need for financial support in old age mean that China's youth continue to feel obligated to provide care for their parents (Zhang 2016), thus accommodating their preferences. While at the same time, they have been exposed to new modern ideas and are moving towards individualism, with greater acceptance for prioritizing their own needs (Yang 2011). Previous attempts have been made to compare generational differences in partner preferences (Chang et al. 2011), but they do so by comparing preferences between two different points in time. Others have attempted to study how parental involvement affects preferences (Huang et al. 2016) but do so only from the husband's perspective. Thus, it is difficult to ascertain how intergenerational tensions play out in a contemporary setting of mate selection.

Interaction of gender and generational influences

How do gender and generational relations interact with each other? In the contemporary setting, while cultural values continue to guide gender and intergenerational values in Chinese society, they do so with heterogeneous effects across the population. Women are likely to be less traditional than men in their views towards patrilineal norms and gender roles (Hu and Scott 2016). Additionally, the dramatic pace of China's modernization has created sizeable differences in the life experiences of younger and older cohorts, but the direction of effect from modernizing influences is not always consistent. For example, Hu and Scott (2016) show that higher education levels corrode belief in traditional gender norms but enhance commitment to filial piety. Similarly, while there have been generational shifts towards a greater acceptance of later marriage age, such a privilege is not accorded to both genders, with higher-educated females who are not married

by the age of 27 years old being considered *sheng nv* (剩女) or “leftover women” (Feldshuh 2017).

The interaction of gender and generational influences affects partner choice and relationship preferences. In past decades, the Chinese youth have been introduced to romantic love and dating culture (Yang 2011; Blair and Madigan 2018). For both genders, the rise of individualism has allowed young people to treat mate selection as a choice to fulfill their own needs and obligations, not that of their family and society as expected in collectivist cultures (Dion and Dion 1988; Yang 1968). Exploratory premarital relationships, dating, and even intimacy among college-age students have become more widely accepted in the past two decades (Yang 2011), and both young men and women wish to date more frequently (Blair and Madigan 2016). However, even in newer and more casual forms of matchmaking, such as online dating platforms, gender differences persist. Studies have found that men tend to message younger females while females message older men (Xia et al. 2014). Further findings suggest women prefer men with higher income, while men message women of all income levels (Ong and Wang 2015; Xia et al. 2014).

Finding a partner who conforms to gender and generational expectations becomes a complicated negotiation process, as structural shifts in traditional norms and family values have introduced sharp discontinuities across both lines (Blair and Madigan 2016; Hu and Scott 2016). Understanding this negotiation process requires us to understand the preferences across both gender and generational influences and how they interact with each other. By documenting partner preferences by gender, generation, and their interaction, our research contributes to the literature on changing partner preferences and family life in China.

Data and methods

Site of study

The site for our study is the city of Chengdu, located in China's Sichuan Province. According to Chengdu Statistical Yearbook 2019 (Statistic Bureau of Chengdu and NBS Survey Office in Chengdu 2019), Chengdu is the seventh-largest city in China with an urban population of 8.5 million. The GDP per capita is 105,399 RMB (15,737 in U.S. dollars), and Chengdu is often regarded as one of China's fastest-growing urban centers. As the capital of Sichuan Province, Chengdu serves as the political, cultural, and economic hub of south-western China (Qin 2015).

We conduct our study in Chengdu for several reasons. First, Chengdu's blind date market is a well-known and active site, with visitors participating every week to seek partners for themselves and their children (Hu 2017; Jialin 2017). Second, previous studies have demonstrated heterogeneity in contemporary marriage patterns across China's East, West, North, and South regions (Ji and Yeung 2014). Accordingly, we eliminate the potential confounding effect of geographical variation on gender and generational influences by focusing on one city. Third, Chengdu has been selected as a site for prior research on family and marriage structure in urban China. These studies have covered mate selection (Whyte 1990; Xu and Whyte 1990), marriage quality and unemployment (Hu et al. 2010), shifts from arranged to free-choice marriages (Xu 1994), comparisons of Chinese urban areas to American urban areas (Xu 1998), and attitudes towards

homosexual family practices and acceptance (Wei and Siqing 2012). However, we acknowledge the limitations in focusing on one city, and similar to Xu and Whyte (1990) and Xu (1998), we avoid claims that Chengdu is representative of China as a whole.

Capture parental preferences via blind date market placards (Offline sample)

We use ‘blind date markets’ to capture parental preferences in matchmaking.⁴ Emerging in Shanghai in 2004 (Cheng and Tsui 2019), the ‘blind date markets’ (*xiangqinshichang*, 相亲市场) are commonly found in parks or squares in cities and offer a space primarily for parents to advertise their children on printed A4 placards in the hope of setting them up with a partner (Wong 2014). In most cases, media sources report that advertisements consist of education, income, and age of daters, alongside characteristics aspired for in potential partners (Winter 2014). The authors’ observations at the Chengdu blind date market and media reports of other markets (Vandenberg 2018; Wong 2014; Winter 2014) offer confirmation that, in the majority of cases, it is parents or family members who post the placards and then wait beside the placard to gauge potentially interested parties.⁵

Elements of these blind date market placards align to online dating profiles along three key axes: (1) the creation of a structured profile with specific details about an individual’s characteristics, (2) the inclusion of detailed preference revelation for desired partner characteristics, and (3) the admission of strangers to the search pool. While comparable to online dating in the operational data structure, the blind date markets introduce inter-generational variation as matchmaking methods with greater parental involvement.

The offline data in the blind date markets were collected on 6-7th April 2019 from the People’s Park, Chengdu (*renmingongyuan*, 人民公园), which hosts the largest such gathering in the city. We selected Saturday and Sunday to collect the data as the market is most active at weekends. For our research, we collected information from every publicly displayed placard in the park, i.e., a full population sample ($n=369$). These were collected by taking photographs of each placard separately.

Our objective for using the blind date market placards was to generate a sample with a high likelihood of parental involvement. To ensure our sample focuses on parental involvement, we use a quantitative heuristic where we only keep placards in our sample when the placard explicitly mentions a parent’s phone number as contact details. Direct parental involvement is indicated in 39% of male placards and 66% of female placards ($n=158$). We analyze this subsample in the rest of the main paper. Appendix 1 presents additional analysis with the full blind date market sample for a robustness check. We find some significant differences between the placards with and without explicit mention of parental contact details suggesting our decision to retain only “confirmed” parents is required to avoid sample contamination.

⁴ We use the term ‘blind date market’ as it is a commonly-used English translation of *xiāngqīn shìchāng*. In our use of the word ‘market,’ we do not imply a financial exchange occurs at any point in the process. A consultation with a bilingual speaker from Sichuan Province confirmed the English translation is acceptable. Throughout this paper, we term participants of the blind date market as ‘offline.’

⁵ We appreciate the blind date markets also serve a social function as a meeting place for elderly Chinese citizens but this function is not mutually exclusive to also seeking a spouse for their children. We conducted 15 interviews with participants at the blind date market, finding that 7 interviewees, when asked “why are you at the blind date market”, gave a response including the motivation “looking for a spouse for my daughter/son.”

To clean up the data, we took the following steps. First, we allocated each placard with a unique identifier using the last five digits of the phone number displayed on the card. To ensure the privacy of the individual profiles, we did not collect any personally identifying information, such as full phone numbers or names. All data analysis was conducted on anonymized data. Second, each photograph was passed through optical character recognition (OCR) software which extracts the text from the image, then translated from Chinese to English. We manually check the translation to ensure accuracy and refer to the original photograph in the case of discrepancies. Third, we manually coded the profile information from each placard into a data frame to mimic an online profile structure, i.e., own attributes and desired partner attributes. In particular, we extract data on a person's age, height, education, and relationship status, and the corresponding attributes desired in a partner. Fourth, we identified duplicate profiles by matching the last five digits of the phone numbers and then checked the original data to confirm true duplication. After clearing duplicate profiles, we were left with 274 profiles. Lastly, we only retain profiles that explicitly mention parents' phone numbers in our final offline sample ($n = 158$).

Capture individual's preferences from online dating profiles (Online sample)

We use online profiles on a dating website to capture individuals' (youth) preferences. While we recognize the inherent structural and behavioral differences in online dating platforms versus blind date markets, we are interested in comparing these samples because they inherently have different degrees of parental involvement. Furthermore, as Finkel et al. (2012:13) demonstrate, online dating has caused a fundamental shift in the "dating landscape," but this conclusion does not imply "the acquaintance process or the matching processes has fundamentally changed" allowing for the assessment of differences between the two samples.

We selected an online website for sampling based on three motivations. First, it must resemble the blind date market placards in the design of the profile, i.e., it should not only display the height, age, and education qualification of the profile owner but also showcase these attributes in the desired partner. This criterion excluded China's most popular dating websites because they only display individual attributes, not partner preferences. Second, the website must have a search function that limits the returned profiles to Chengdu.⁶ Lastly, the website must have a non-demanding sign-up process, without ID or phone number verification, to allow us to conveniently make both a male and a female profile for data collection.

Based on the above criteria, we selected a popular dating website that has been active for 15 years and has over 1.4 million users. The online data was collected from April 20 to 25, 2019. To ensure privacy, no personal identifying information was collected from the profiles, i.e., names or profile pictures. For the purpose of analysis, every anonymized profile was given a unique identifier. After creating a male and female profile, we searched for a potential partner (male for the female profile, and female for the male profile) using the following search restrictions: (1) location: we limited the searches

⁶ This was important as the researchers were based in Beijing during the period of data collection from the online platform, and some dating platforms only allow individuals to 'search for daters in your area.'

to 50 miles from Chengdu to match profile location to the offline sample; (2) nationality: we limited searches to Chinese nationals, so foreigners were excluded to avoid a bias introduced from cross-national dating patterns; (3) age: we limited searches to between 18–55 years old. We took several steps to ensure that we only collected data from real and active profiles. First, we filtered out all profiles without a photograph. Second, we filtered out profiles that were inactive for more than three months. Based on the above, we used our male profile login to collect data on 250 female profiles and our female login to collect data on 250 male profiles, giving a total of 500 profiles in our online sample.

Select and define variables

For the purpose of the study, we restrict our analysis to age, height, and education qualifications⁷ and do so for three reasons. First, given that the purpose of the paper is to compare the offline and online samples, we focus on characteristics listed on both the blind date market placards and online dating profiles. Our scope was limited by the relative scarcity of details on the blind date market placards, which only consistently advertised these three attributes. Second, the selected variables are objective and easily coded for analysis. Other characteristics, such as personal attributes (“kind,” “homely”) and physical appearance (“beautiful,” “fair-skinned”), are more open to subjective inference and vulnerable to bias in Chinese-English translations. We appreciate that other variables, such as house prices and occupations, likely influence mate selection in China but the analysis of these other influences is outside the scope of our study due to a lack of consistent data on the blind date market placards and online profiles.

Finally, prior research has empirically demonstrated that the variables analyzed in this study are relevant for determining partner selection in the Chinese context (Blair and Madigan 2016; Ong 2016; Su and Hu 2019; Xia et al. 2014). Age is commonly accepted as an attribute that influences partner choice (Pawłowski 2000) and age ranges are used to filter potential partners from an available pool of candidates (Schwarz and Hassebrauck 2012; Dunn et al. 2010). Similarly, due to gender stereotypes and societal norms, height plays a central role in partner selection (Yancey and Emerson 2014). Lastly, education too has been shown to be an important determinant of mate selection and is a trait commonly associated with the theory of assortative matching (Becker 1973; Blossfeld 2009; Skopek et al. 2011). Further, in China specifically, education is often considered a proxy for economic prospects and is shown to be determinant of marriage formations (Yu and Xie 2015). High demand for housing (Davis 2005) and rising housing prices (Wu et al. 2012) have intensified the relevance of economic prospects to marriage decisions.

For our analysis, we define both an attribute and an attribute preference for age, height, and education. *Own Attribute* refers to the listed attribute of the profile owners themselves, and *Partner Attribute* refers to the desired attribute for a suitable partner. We categorize individuals who did not specify their own attribute as *Unspecified Own*, and those who do not specify a partner attribute as *Unspecified Partner*. By comparing both an own and a partner attribute, we construct a number of distance variables. For age, we take the difference between *Own Age* and the maximum of the specified range

⁷ We also report statistics on relationship status to aid our interpretation of age distributions, though it is not the core focus of analysis and discussion.

Table 1 Summary of *Own Attributes* between males and females within the online and offline sample

	Online sample		<i>p</i> value	Offline sample (Parents)		<i>p</i> value
	Male (<i>n</i> = 250)	Female (<i>n</i> = 250)		Male (<i>n</i> = 31)	Female (<i>n</i> = 127)	
Age (years)						
Mean (SD)	33.8 (7.44)	39.7 (7.80)	< 0.001	35.9 (6.89)	31.8 (4.79)	0.004
Median [Min, Max]	33.0 [19.0, 50.0]	41.0 [19.0, 50.0]		35.0 [27.0, 49.0]	31.0 [22.0, 49.0]	
Unspecified	0 (0%)	0 (0%)		1 (3.2%)	0 (0%)	
Height (cm)						
Mean (SD)	174 (5.32)	161 (4.26)	< 0.001	172 (5.31)	162 (3.94)	< 0.001
Median [Min, Max]	175 [157, 206]	160 [150, 173]		171 [163, 184]	162 [150, 173]	
Unspecified	12 (4.8%)	2 (0.8%)		0 (0%)	2 (1.6%)	
Educ						
BA own	150 (60.0%)	166 (66.4%)	< 0.001	18 (58.1%)	83 (65.4%)	0.062
MA own	19 (7.6%)	27 (10.8%)		3 (9.7%)	24 (18.9%)	
PhD own	8 (3.2%)	3 (1.2%)		1 (3.2%)	4 (3.1%)	
School own	39 (15.6%)	17 (6.8%)		4 (12.9%)	4 (3.1%)	
Vocational own	24 (9.6%)	37 (14.8%)		1 (3.2%)	0 (0%)	
Unspecified own	10 (4.0%)	0 (0%)		4 (12.9%)	12 (9.4%)	
Status						
Single	165 (66.0%)	105 (42.0%)	< 0.001	23 (74.2%)	100 (78.7%)	0.15
Separated/ divorced	69 (27.6%)	133 (53.2%)		5 (16.1%)	7 (5.5%)	
Widowed	3 (1.2%)	10 (4.0%)		0 (0%)	1 (0.8%)	
Other	13 (5.2%)	1 (0.4%)		0 (0%)	0 (0%)	
Unspecified	0 (0%)	1 (0.4%)		3 (9.7%)	19 (15.0%)	

for *Partner Age* and call this variable *Max Age*. Similarly, we calculate the difference between *Own Age* and the minimum of the specified range for *Partner Age*, calling this variable *Min Age*. Analogous calculations are made for height, to construct the variables of *Max Height* and *Min Height*. For education, a distance variable is calculated by comparing whether the level of minimum specified partner education is *Lower*, the *Same*, or *Higher* than the profile's *Own Education* level.

Statistical methods

To demonstrate and describe differences in partner preferences by gender and by parental influence, we present summary statistics for each comparison group across our three key variables. To assess the significance of any differences, we conduct One-way ANOVA tests for equality of means for age and height variables and Chi-squared tests for equality of distribution for education variables.

To assess the main effects of gender and parental influence, alongside their interaction effect, we employ a regression framework that indicates the effect of categorical membership on preference specifications. Specifically, we regress a number of key preference variables on a female dummy, an offline sample dummy (i.e., under parental influence), and the interaction of these dummies alongside an idiosyncratic error term. For numeric and continuous dependent variables (*DepV*) in *Max Age*, *Min Age*, *Range Age*, *Max*

Table 2 Desired *Partner Attributes* between males and females within the online and offline sample

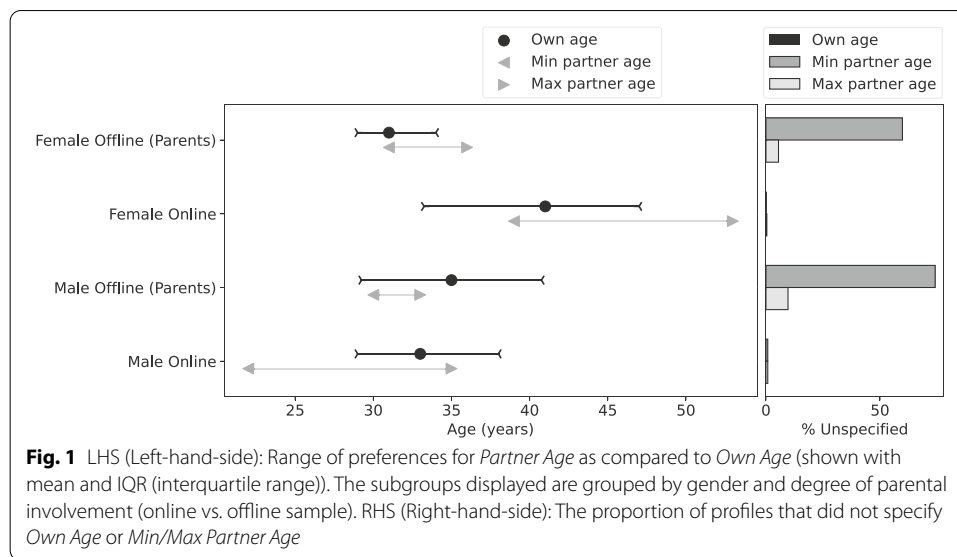
	Online sample		<i>p</i> value	Offline sample (Parents)		<i>p</i> value
	Male (<i>n</i> = 250)	Female (<i>n</i> = 250)		Male (<i>n</i> = 31)	Female (<i>n</i> = 127)	
Min Age						
Mean (SD)	— 11.1 (6.08)	— 2.46 (3.65)	< 0.001	— 5.71 (2.29)	0.353 (2.37)	< 0.001
Median [Min, Max]	— 11.0 [— 30.0, 5.00]	— 2.00 [— 18.0, 11.0]		— 5.00 [— 8.00, — 3.00]	0.00 [— 8.00, 7.00]	
Unspecified	2 (0.8%)	0 (0%)		24 (77.4%)	76 (59.8%)	
Max Age						
Mean (SD)	1.92 (7.04)	12.2 (4.58)	< 0.001	— 2.85 (3.00)	4.92 (2.39)	< 0.001
Median [Min, Max]	2.00 [— 20.0, 67.0]	12.0 [— 1.00, 33.0]		— 2.00 [— 9.00, 1.00]	5.00 [0.00, 12.0]	
Unspecified	2 (0.8%)	1 (0.4%)		4 (12.9%)	7 (5.5%)	
Min Height						
Mean (SD)	— 17.1 (5.77)	10.8 (5.07)	< 0.001	— 14.2 (3.64)	9.18 (3.23)	< 0.001
Median [Min, Max]	— 17.8 [— 30.5, — 2.54]	10.2 [— 10.2, 25.4]		— 15.0 [— 24.0, — 8.00]	10.0 [0.00, 20.0]	
Unspecified	171 (68.4%)	108 (43.2%)		7 (22.6%)	16 (12.6%)	
Max Height						
Mean (SD)	— 0.943 (7.85)	26.3 (6.48)	< 0.001	— 10.5 (0.707)	14.0 (NA)	0.022
Median [Min, Max]	— 2.54 [— 12.7, 45.7]	25.4 [10.2, 45.7]		— 10.5 [— 11.0, — 10.0]	14.0 [14.0, 14.0]	
Unspecified	180 (72.0%)	143 (57.2%)		29 (93.5%)	126 (99.2%)	
Min Educ						
			< 0.001			0.185
Specify Higher Partner Educ	0 (0%)	22 (8.8%)		0 (0%)	2 (1.6%)	
Specify Lower Partner Educ	32 (12.8%)	40 (16.0%)		3 (9.7%)	19 (15.0%)	
Specify Same Partner Educ	20 (8.0%)	74 (29.6%)		10 (32.3%)	62 (48.8%)	
Unspecified Own Educ	10 (4.0%)	0 (0%)		4 (12.9%)	12 (9.4%)	
Unspecified Partner Educ	188 (75.2%)	114 (45.6%)		14 (45.2%)	32 (25.2%)	

Height, Min Height, and Range Height, we report beta coefficients from an OLS regression of the form:

$$DepV_i = \alpha + \beta_0 Female_i + \beta_1 Offline_i + \beta_2 (Female * Offline)_i + \epsilon_i$$

For education, we construct a binary variable indicating if an individual's preferences specify a BA (Bachelor's degrees) or higher for their partner and report odds-ratios from a Logit regression of the form:

$$\ln \left(\frac{P(Specify \geq BA = 1)}{1 - P(Specify \geq BA = 1)} \right) = \alpha + \beta_0 Female_i + \beta_1 Offline_i + \beta_2 (Female * Offline)_i + \epsilon_i.$$



Results

Summary statistics of dater attributes

Table 1 summarizes dater characteristics (i.e., the dater's own attributes) from the online and offline samples. Considering the online sample first, males are significantly younger than females (33.8 years vs. 39.7 years, $p < 0.001$). This age discrepancy may be driven by the composition of relationship status. There are considerably more single men than single women (66% vs. 42%, $p < 0.001$) and more divorced women than divorced men (53.2% vs. 27.6%; $p < 0.001$). Online female daters are more educated, with a higher proportion of Bachelor's degrees (66.4% vs. 60%) and Master's degrees (10.8% vs. 7.6%).

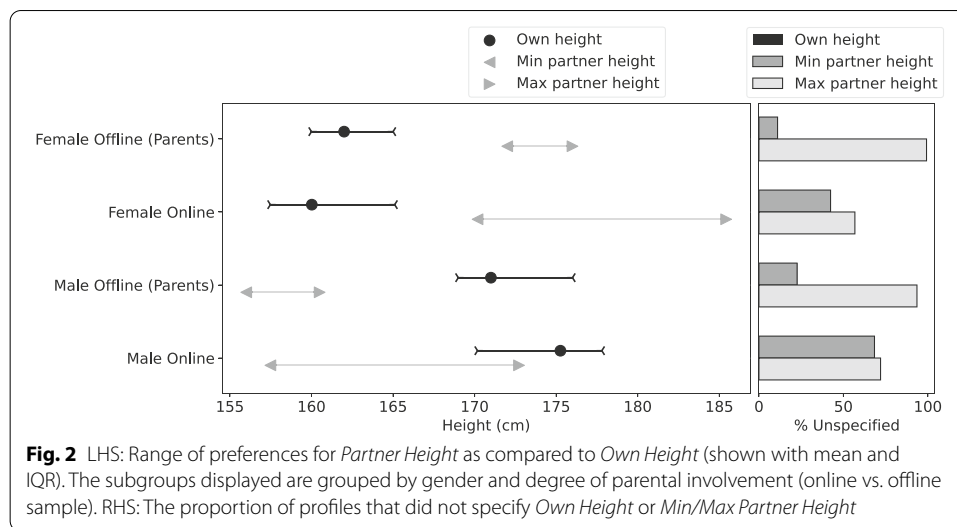
The gender age pattern observed in the online sample is reversed in the offline sample; that is, men are significantly older than women (35.9 years vs. 31.8 years, $p = 0.004$), and the differences in relationship status composition are insignificant. The same education pattern is observed in both samples: females are significantly more likely to hold Bachelor's degrees (65.4% vs. 58.1%) and Master's degrees (18.9% vs. 9.7%).

Gender analysis

Our first research question asks: are there gender differences in partner preferences? Thus, initially focusing on a gender frame, Table 2 summarizes partner preferences across three variables: age, height, and education.

Considering the age in the online sample, males accept a minimum age further from their own age as compared to females, with a gap of 11 years versus 2.5 years respectively ($p < 0.001$). For accepted maximum ages, men on average only allow a woman to be two years older, while women on average allow a man to be 12 years older. In the online sample, an overwhelming majority of daters specify both a minimum and maximum age for their partners.

Regarding age in the offline sample, parents of sons on average accept female partners up to 5.7 years younger but notably specify that the partner cannot be older than the son, with a maximum accepted age of 2.9 years younger. Parents of daughters display



the reversed preference pattern, accepting male partners up to 4.9 years older, but similarly specify that this partner should not be younger than the daughter, with a minimum accepted age of 0.4 years older. As compared to the online sample, parental preferences impose a narrower accepted age range for both genders. However, in the offline sample, more placards do not specify an acceptable age range, especially for minimum age, so those that specify age values may be skewing the observed distribution towards more 'picky' preferences.

Analogous findings are observed for height. In the online sample, men on average accept a partner who is a minimum of 17 cm shorter than themselves and a maximum of 2 cm shorter, i.e., preferences are directed towards women who are no taller than the man himself. In contrast, women online desire men taller than themselves, on average specifying a height range between 10.8 cm taller and 26.3 cm taller. Compared to age preferences, a higher proportion of males online do not specify a minimum height, and a higher proportion of females online do not specify a maximum height. This reinforces the finding that men care most about their partner being shorter, irrespective of how much shorter, and women care about their partner being taller. Similar gender-specific findings can be drawn from the offline sample as to the online sample, and once again, parents specified a narrower range. Parents of sons on average desire a female partner to be between 14.2 cm shorter and 10.5 cm shorter, while parents of daughters on average desire a male partner to be between 9 cm taller and 14 cm taller. However, the vast majority of parents do not specify a maximum height.

Finally, regarding preferences in educational qualifications, no males online specify that they desire partners with higher education levels than themselves, whereas the corresponding figure for females is 8.8%. Further, only 8.0% of males require a partner with the same or higher education levels as themselves, whereas 38.4% of females specify that a partner must match or exceed their own educational qualifications. In general, males are less picky about the educational qualification of their partners, with a higher proportion having no specific requirement for their partner's education (75.2% unspecified partner), unlike females who tend to specify educational qualifications more stringently

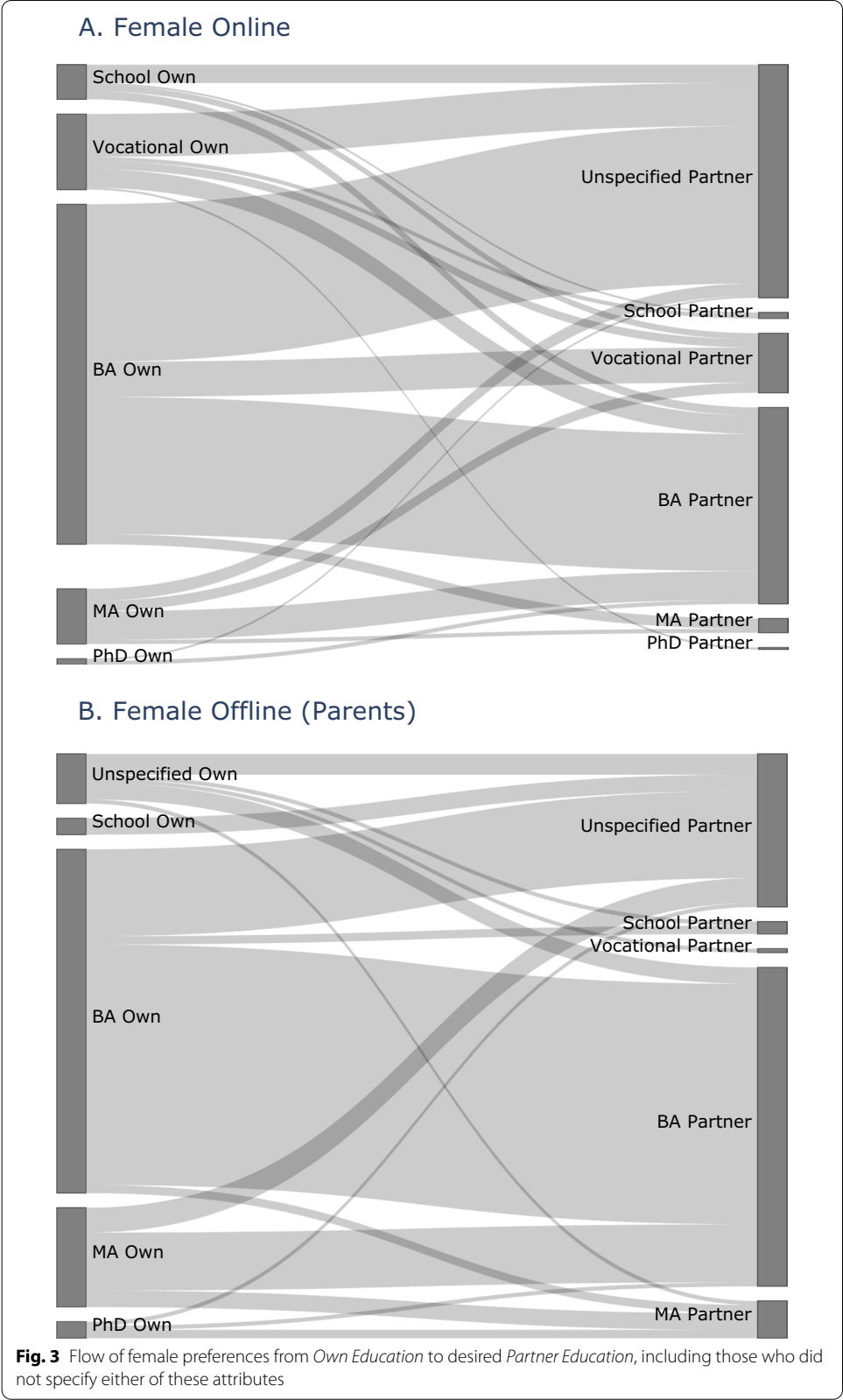
Table 3 Desired *Partner Attributes* between the online and offline sample, within each gender

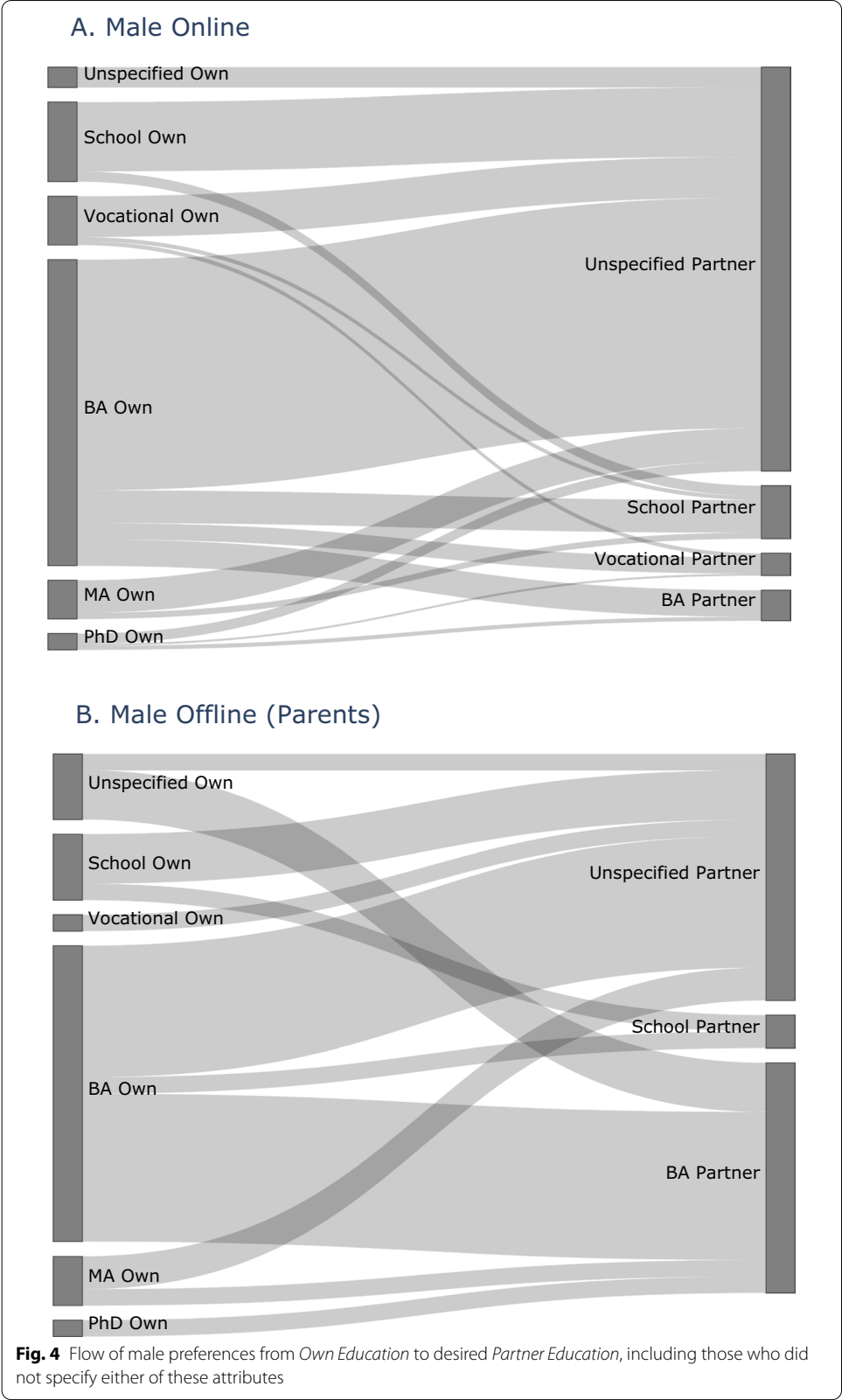
	Male		<i>p</i> value	Female		<i>p</i> value
	Online (<i>n</i> = 250)	Offline (Parents) (<i>n</i> = 31)		Online (<i>n</i> = 250)	Offline (Parents) (<i>n</i> = 127)	
Min Age						
Mean (SD)	— 11.1 (6.08)	— 5.71 (2.29)	<0.001	— 2.46 (3.65)	0.353 (2.37)	<0.001
Median [Min, Max]	— 11.0 [— 30.0, 5.00]	— 5.00 [— 8.00, — 3.00]		— 2.00 [— 18.0, 11.0]	0.00 [— 8.00, 7.00]	
Unspecified	2 (0.8%)	24 (77.4%)		0 (0%)	76 (59.8%)	
Max Age						
Mean (SD)	1.92 (7.04)	— 2.85 (3.00)	<0.001	12.2 (4.58)	4.92 (2.39)	<0.001
Median [Min, Max]	2.00 [— 20.0, 67.0]	— 2.00 [— 9.00, 1.00]		12.0 [— 1.00, 33.0]	5.00 [0.00, 12.0]	
Unspecified	2 (0.8%)	4 (12.9%)		1 (0.4%)	7 (5.5%)	
Min Height						
Mean (SD)	— 17.1 (5.77)	— 14.2 (3.64)	0.005	10.8 (5.07)	9.18 (3.23)	0.002
Median [Min, Max]	— 17.8 [— 30.5, — 2.54]	— 15.0 [— 24.0, — 8.00]		10.2 [— 10.2, 25.4]	10.0 [0.00, 20.0]	
Unspecified	171 (68.4%)	7 (22.6%)		108 (43.2%)	16 (12.6%)	
Max Height						
Mean (SD)	— 0.943 (7.85)	— 10.5 (0.707)	<0.001	26.3 (6.48)	14.0 (NA)	NA
Median [Min, Max]	— 2.54 [— 12.7, 45.7]	— 10.5 [— 11.0, — 10.0]		25.4 [10.2, 45.7]	14.0 [14.0, 14.0]	
Unspecified	180 (72.0%)	29 (93.5%)		143 (57.2%)	126 (99.2%)	
Min Educ						
Specify Higher Partner Educ	0 (0%)	0 (0%)	<0.001	22 (8.8%)	2 (1.6%)	<0.001
Specify Lower Partner Educ	32 (12.8%)	3 (9.7%)		40 (16.0%)	19 (15.0%)	
Specify Same Partner Educ	20 (8.0%)	10 (32.3%)		74 (29.6%)	62 (48.8%)	
Unspecified Own Educ	10 (4.0%)	4 (12.9%)		0 (0%)	12 (9.4%)	
Unspecified Partner Educ	188 (75.2%)	14 (45.2%)		114 (45.6%)	32 (25.2%)	

(45.6% unspecified partner). In the offline sample, a similar pattern is observed where no parents of sons expect a female partner to have higher education, and educational preferences are more stringently specified for daughters than sons. However, the differences between genders are insignificant, suggesting the gender-specific differences in education preferences are less distinct than in the online sample.

Generational analysis

Our second research question asks: do parents acting on behalf of their children have different preferences from autonomous individuals? Given that the prior analysis demonstrates significant gender differences exist within samples, a fair generational comparison can only be made by fixing gender-specific variation as constant. Thus, we compare females online versus parents acting for their daughters offline and then compare males online versus parents acting for their sons offline. For each variable, we present a visual





representation of results (see Fig. 1, 2, 3, 4) and additionally refer to Table 3 for a tabular presentation of summary statistics and p values.

Considering age preferences, Fig. 1 presents the accepted age ranges in each comparison group. It shows the stereotypical associations that the majority of men want a younger female partner, and the majority of women want an older male partner. Despite these shared directional preferences across samples, it can immediately be seen that parental preferences impose stricter constraints on the width of an accepted age range for both genders. While females online on average accept male partners between 2.5 years younger and 12.2 years older, parents of daughters require a male partner to be no more than 0.4 years younger and up to 4.9 years older. Similarly, while males online on average accept female partners between 11.1 years younger and 1.9 years older, parents of sons specify a narrower age range between 5.7 years younger and 2.6 years younger. Considering missing data, a larger proportion of blind date market placards do not explicitly mention a minimum partner age (See Table 3 for details).

As shown in Fig. 2, the observed height preferences further indicate that parents specify a narrower range of accepted attribute values. Parents of daughters accept a height distance to male partners that is significantly narrower than females online. Similarly, for males, a narrower range is desired by parents in the offline sample as compared to the online sample. Given the significant degree of unspecified height preferences, these findings may be skewed towards individuals who are particularly 'picky' about height and should thus be interpreted with caution. The greater extent of unspecified preferences for height as compared to age or education may indicate that this variable may be less important in driving suitable partner selection.

Lastly, Fig. 3 demonstrates the flow of educational preferences from a dater's own education to their partner's desired education. Parents of daughters more frequently specify a BA degree or higher as a requirement, irrespective of their daughter's own education, and less frequently leave a desired partner's education unspecified. The differences between the online and offline distributions are significant ($p < 0.001$), suggesting parental influence has a considerable effect on educational preferences.

Considering males next (see Fig. 4), we find for both samples that there are no specifications for a female partner with education above a Bachelor's degree (BA). However, a greater proportion of parents specify that a partner for their son must have at least a BA degree, while a greater proportion of the online profiles leave partner education unspecified. These distributions for desired partner education are significantly different between males online and parents of sons offline ($p < 0.001$).

Gender and generational interactions

Thus far, our results indicate statistically significant differences when comparing partner preferences along a gender axis and a generational axis. It remains to be seen whether these two determining factors have a significant interaction effect. Thus, to answer our third and final research question, Table 4 presents the results of our regression analysis.

The significance of the female dummy across 6 out of 7 specifications indicates that females have significantly different preferences as compared to the base category, i.e., males online. In particular, they specify a higher minimum and maximum height, an older minimum and maximum age, and a wider range of acceptable ages and are more

Table 4 Main effects and interaction effects of gender and parental preferences across age, height, and education. Beta coefficients are shown with corresponding *p* values

Dep Var	Min Height	Max Height	Range Height	Min Age	Max Age	Range Age	Specify > BA
Model	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS	(7) Logit
Intercept	− 0.94 (0.84)	− 17.07*** (0.53)	15.47*** (0.86)	− 11.07*** (0.31)	1.92*** (0.34)	12.99*** (0.36)	− 2.75*** (0.27)
Female	27.22*** (1.08)	27.86*** (0.66)	− 0.23 (1.11)	8.62*** (0.43)	10.31*** (0.48)	1.71*** (0.50)	2.41*** (0.30)
Offline (par- ents)	− 9.56* (5.04)	2.91*** (1.09)	− 9.47* (5.07)	5.36*** (1.84)	− 4.77*** (1.09)	− 8.85*** (2.16)	2.56*** (0.45)
Female*Offline (Parents)	− 2.72 (8.68)	− 4.51*** (1.24)	2.23 (8.73)	− 2.55 (1.99)	− 2.55** (1.24)	− 0.41 (2.33)	1.48*** (0.50)
Observations	180	356	175	556	644	554	658
<i>R</i> ²	0.79	0.87	0.01	0.47	0.46	0.19	0.22 [†]
<i>F</i> statistic	220.47***	789.36***	1.51	166.83***	186.00***	43.47***	
Degrees of freedom	(<i>df</i> = 3; 176)	(<i>df</i> = 3; 352)	(<i>df</i> = 3; 171)	(<i>df</i> = 3; 552)	(<i>df</i> = 3; 640)	(<i>df</i> = 3; 550)	(<i>df</i> = 3; 654)

p* < 0.1; *p* < 0.05; ****p* < 0.01, [†]McFadden's Pseudo R²

likely to specify their partner needs a BA degree or higher. The dummy indicating an individual comes from the offline sample, i.e., is under the parental influence, is significant across all specifications, notably so for the accepted age and height ranges, which are significantly narrower than those specified in online profiles.

Finally, the interaction term measures whether parents treat daughters differently from sons. For parents of sons, the preference effect is captured solely by the offline dummy, whereas for parents of daughters, the preference effect comes from the sum of the female dummy, the offline dummy, and the female-offline interaction. Considering significant coefficients, parents of daughters specify a significantly lower maximum height and a significantly younger maximum age suggesting a male partner's attributes must be closer in the distance to a female's own attributes. The aggregate effect from the summed coefficients still implies that male partners are desired to be taller and older than women themselves. Parents of daughters are significantly more likely to specify a BA or higher for their daughters than for their sons. Generally, for all dependent variables apart from *Range Height*, the *R*² is relatively high, suggesting a considerable proportion of variation in partner preferences is determined by a dater's own gender, whether their parent is influencing preference specification, and the interaction of these effects.

Discussion

Discussion of gender axis

Our first research question assesses whether gender is a determining factor of partner preference and our findings confirm there are significant differences by gender for both the online and offline sample. In particular, our findings show that men were on average younger than women on the online dating platform, while sons were on average older than daughters in the blind date market. A higher average female age on the online platform could be explained by the presence of a higher number of divorced females. This,

in turn, may reflect a persistent societal stigma in China towards divorce, especially for women (Zurndorfer 2018). Online dating websites have been shown to cater particularly well to niche or thin dating markets (Dwyer et al. 2020), so for divorced women, this mode of finding a partner grants greater flexibility in partner search than confining oneself to the smaller and more traditional blind date markets. This suggests that the online dating method of matchmaking is more accepting of modern attitudes towards divorce, as compared to traditional gender norms, which may stigmatize divorced women.

Across both samples, our results align with the reported gender norm that women prefer partnering with older men (Choo and Siow 2006; Dunn et al. 2010; Su and Hu 2019). Further, our research shows that women wish to partner with men taller than themselves. In almost all human populations, the natural distribution of heights between males and females has an average male height taller than females drawn from the same population. This natural distribution is reflected in gendered dating norms and preferences, where men commonly expect to partner with smaller women and vice versa. This norm has been demonstrated previously in the US (Yancey and Emerson 2014) and China (Su and Hu 2019).

Considering gender-specific educational preferences, our results demonstrate a female reluctance to partner with lesser educated males and a male reluctance to partner with higher educated females. In our online and offline samples, not only did a higher proportion of women have BA and MA degrees, but they also tended to be more specific about the educational qualifications they desired in their partners. This finding is similar to that of Ong (2016), where male visits to female profiles were unaffected by the profile education level, but female visits to male profiles were positively dependent on education level. The study of Su and Hu (2019) also finds that female users on a Chinese dating website displayed stronger preferences for the education level of potential partners when compared to male daters. Historical norms prioritizing a male breadwinner and deprioritizing female education appear to have been somewhat abated given that the women in our sample had a high average level of education and strong preferences for an educated partner. The interplay between education and ascription to traditional norms aligns with Hu and Scott's (2016) finding that higher education erodes commitment to gender norms. However, the extent of the reversal in traditional gender roles is limited, given that male preferences remain insensitive to partner education levels. This suggests that a man's conceptions of female norms bind more strongly than a woman's conception of her own gender role.

Discussion of generational axis

Our second research question seeks to understand differences between generational preferences by isolating this effect through matchmaking methods with varying degrees of parental involvement. Our key finding in assessing the impact of parental influence is that the accepted age and height ranges are narrower when parents act on behalf of their children in the blind date market as compared to the online dating platform. It is particularly noteworthy that parents of daughters in the blind date market on average exclusively specify that a man must be older than the woman. This finding supports other studies confirming the entrenched traditional norms against women marrying younger and shorter men. It appears that the online dating market, with lesser parental influence,

allows for greater variety in preferences over the “acceptable” range of age and height distances to a partner.

Discussion of interaction effects

Finally, we ask if there is an interaction between gender and parental influence, i.e., whether the effect of parental influence varies by a child’s gender. We find a significant interaction between gender and parental influence across age, height, and education variables. In general, the differences between males online versus parents acting for their sons are less stark than females online versus parents acting for their daughters. It is relevant here to mention the possibility of influence from the *shengnv* (剩女) or “leftover women” phenomena in our offline sample, given parental pressures in China are exacerbated once an unmarried woman reaches a certain age. Those labelled as “leftover” are seen as undesirable partners, and these age-based marriage norms affect females more than males (Fincher 2016; Zurndorfer 2018).

Our findings give evidence for the *shengnv* phenomenon in two ways. Firstly, the average age of female placards (31.8 years) is significantly lower than male placards (35.9 years) in the offline sample, i.e., parents take action in the blind date market much earlier for their daughters. This suggests parental expectations over ‘appropriate’ marriage ages appear to bind stronger for daughters than for sons. The second piece of evidence comes from our findings on the distribution of a woman’s own education and how a man specifies education for their female partner. In the offline sample, there are more women with Bachelor’s and Master’s degrees, and these women desire men with similar educational qualifications. However, the preferences of male daters are insensitive to educational qualifications. Notably, no placard in the blind date market specifically desired a woman with a Master’s degree or higher. This means that while a subset of highly qualified women may want highly qualified males, their desires are not reciprocated. This asymmetry in expectation and the ensuing lack of a “double coincidence of wants” may cause a subset of highly qualified women to be “leftover.” Thus, the decision to postpone marriage by highly educated women, who lack suitable partners and have rising economic opportunities (Lake 2018), creates tension with parental expectations of an acceptable age for a daughter to be still single. The blind date market could potentially act as a platform for parents to exert their third-party influence and advertise “leftover” daughters.

In general, our findings suggest that parental expectations bind more strongly for daughters than sons. This supports the finding of Blair and Madigan (2016) that parental influence was less strong for young men than young women and reveals a deeper pressure from older generations for women to conform to gender norms.

Theoretical positioning of findings

As Table 4 demonstrates, both gender and generational influences are significant determinants in the desired qualities of a partner. Our findings of a significant gender term in the online sample align with Kalmijn’s first hypothesis that an individual’s preferences, as conditioned by their own traits (such as gender), are an important determinant of the mate selection process even when third-party influence is minimal. In the offline sample, we find that parental influence generates significantly different preferences, particularly

in the narrower specification of acceptable partner traits. Thus, Kalmijn's second hypothesis holds: matchmaking methods with greater third-party influence impact preference formation. Finally, we find a significant interaction effect between an individual's own traits, namely their gender, and the degree of parental involvement, where third-party influence affects females more than males. Thus, while Kalmijn's theory deals explicitly with homophily, the framework is useful in explaining our set of results—both gender and generational norms affect the partner selection process, and the interaction of these norms arises from the dual influences of individual preference and third party preference.

Discussion of limitations

We recognize some limitations of our study. First, we cannot ascertain the representativeness of our sample. Regarding geographical specificity, we focus our study only on Chengdu and thus cannot claim our findings represent urban China as a whole. Regarding the users themselves, the samples are drawn from daters who have self-selected into each sample. The issue of self-selection bias may be accentuated with the online dating sample as different platforms may attract different types of "daters." For instance, a website may attract more singles looking for casual "hook-ups" while others may attract users seeking a long-term partner.

Second, our study is limited to assessing differences in partner preferences across gender and generational axes only in three attributes, namely age, height, and education. Other factors, especially economic attributes, such as income, housing assets, and employment status, influence partner selection in China (Ong and Wang 2015; Yu and Xie 2015) but remain uncaptured. We were unable to robustly study these influences due to inconsistent data on such attributes on the marriage placards and dating websites.

Third, these two samples come from modes of matchmaking with inherently different structural and behavioral features. Regarding platform features, structural constraints are relevant when considering the revealed preference ranges for each attribute. The online dating website prompts users to select filters on the displayed profiles, such as height, age, or location. This prompted selection differs in behavioral effect as compared to explicitly writing an accepted height range on a placard without a prompt. An additional difference is imposed by how filtering affects the visibility of other profiles. When a filter is applied online, profiles that do not meet that criterion are not visible to the user. However, because of the nature of an open park with publicly displayed placards, imposing a height or age restriction does not per se remove filtered profiles from view.

Fourth, regarding varied motivations to use a certain mode of matchmaking, the motivation for visiting the blind date market may be different from logging on to an online dating website. One could argue that searching for a partner in the blind date market may be driven by a more serious and long-term commitment as opposed to shorter-term dating motivations on the online dating website. Even if the comparisons between matchmaking methods are weakened by the potential confounding differences in their features, the comparisons for gender within methods are robust because these comparison groups operate within the same structure. It is important to note that we do not wish to compare between "apples and oranges" directly. Instead, we use our two samples

to understand how inherently different matchmaking methods, with different degrees of youth autonomy versus parental influence, affect preference formation.

Fifth, we rely on the blind date market as a proxy for a method of matchmaking with greater parental involvement. It is possible that the offline sample is contaminated by autonomously acting individuals and that the online sample contains some profiles made by parents on behalf of their children. To mitigate contamination, we only keep placards that explicitly mention a parent's contact details, but we cannot ascertain how reliable this proxy is beyond our qualitative observations. While this step increases the likelihood that our remaining offline sample reflects parental preferences, it results in a large reduction in sample size, making the statistical estimates of p -values and beta coefficients less reliable.

Finally, there is a likelihood of individuals misrepresenting themselves while looking for a potential partner. Research worldwide, including in China, has shown that individuals lie about their key characteristics on their online profiles (Hall et al. 2010; Peng 2020; Pursey et al. 2014; Toma et al. 2008). The blind date market is no less susceptible to such misrepresentations. In interviews we conducted at the blind date market during data collection, one respondent even directly admitted to misrepresentation, saying, "I am 32 years old now, here it shows 26. It's incorrect."

Conclusion

While recognizing the limitations of this study, our research uses a quantitative methodology by exploiting differences in matchmaking methods to assess gender and generational influences on partner preferences in Chengdu, China. Specifically, the greater autonomy on modern online dating websites versus greater parental involvement in traditional blind date markets creates variation in preference expression. While these matchmaking methods are not substitutes for each other, they allow us to compare and contrast mate selection processes. We also contribute a new dataset by digitizing a sample of offline blind date market placards using optical character recognition software. We make this dataset publicly available for future researchers. Applying our methodology, we find that partner preferences are significantly influenced by gender and the degree of parental involvement across parameters of age, height, and education.

While our research contributes to the literature on gender-specific preferences and third-party influence in matchmaking through its unique comparison of an online and offline sample, many questions remain to be answered. In particular, attention could be paid to understanding the prior motivations to use either matchmaking methods or to find individuals who have both an online profile and a placard hosted by their parents in a blind date market. These steps could then be used to delineate between autonomously acting individuals and their parents to understand the drivers of preferences better. Equally, future work could be directed towards understanding the posterior outcome, i.e., assessing the long-term consequences of various matchmaking modes on marriage outcomes and family life. Further research that helps to understand these prior

Table 5 Own Attributes and desired Partner Attributes for subsets of the offline sample, within each gender

	Male		<i>p</i> value	Female		<i>p</i> value
	Offline (Known parents) (<i>n</i> = 31)	Offline (Unknown actors) (<i>n</i> = 49)		Offline (Known parents) (<i>n</i> = 127)	Offline (Unknown actors) (<i>n</i> = 67)	
Age (Years)						
Mean (SD)	35.9 (6.89)	39.8 (9.21)	0.036	31.8 (4.79)	36.9 (9.61)	< 0.001
Median [Min, Max]	35.0 [27.0, 49.0]	39.0 [28.0, 70.0]		31.0 [22.0, 49.0]	35.0 [25.0, 66.0]	
Unspecified	1 (3.2%)	0 (0%)		0 (0%)	0 (0%)	
Height (cm)						
Mean (SD)	172 (5.31)	171 (4.47)	0.31	162 (3.94)	162 (3.77)	0.765
Median [Min, Max]	171 [163, 184]	170 [162, 182]		162 [150, 173]	160 [155, 176]	
Unspecified	0 (0%)	1 (2.0%)		2 (1.6%)	0 (0%)	
Educ						
BA Own	18 (58.1%)	22 (44.9%)	0.399	83 (65.4%)	35 (52.2%)	0.055
MA Own	3 (9.7%)	1 (2.0%)		24 (18.9%)	9 (13.4%)	
PhD Own	1 (3.2%)	1 (2.0%)		4 (3.1%)	3 (4.5%)	
School Own	4 (12.9%)	11 (22.4%)		4 (3.1%)	5 (7.5%)	
Vocational Own	1 (3.2%)	3 (6.1%)		0 (0%)	0 (0%)	
Unspecified Own	4 (12.9%)	11 (22.4%)		12 (9.4%)	15 (22.4%)	
Status						
Single	23 (74.2%)	27 (55.1%)	0.109	100 (78.7%)	40 (59.7%)	< 0.001
Separated/ divorced	5 (16.1%)	17 (34.7%)		7 (5.5%)	14 (20.9%)	
Widowed	0 (0%)	0 (0%)		1 (0.8%)	5 (7.5%)	
Other	0 (0%)	0 (0%)		0 (0%)	0 (0%)	
Unspecified	3 (9.7%)	5 (10.2%)		19 (15.0%)	8 (11.9%)	
Min Age						
Mean (SD)	− 5.71 (2.29)	− 5.80 (8.44)	0.971	0.353 (2.37)	0.833 (1.95)	0.402
Median [Min, Max]	− 5.00 [− 8.00, − 3.00]	− 5.00 [− 24.0, 10.0]		0.00 [− 8.00, 7.00]	0.00 [− 1.00, 6.00]	
Unspecified	24 (77.4%)	34 (69.4%)		76 (59.8%)	49 (73.1%)	
Max Age						
Mean (SD)	− 2.85 (3.00)	− 2.10 (6.96)	0.547	4.92 (2.39)	5.59 (3.33)	0.167
Median [Min, Max]	− 2.00 [− 9.00, 1.00]	− 3.00 [− 14.0, 32.0]		5.00 [0.00, 12.0]	6.00 [− 5.00, 12.0]	
Unspecified	4 (12.9%)	9 (18.4%)		7 (5.5%)	8 (11.9%)	
Min Height						
Mean (SD)	− 14.2 (3.64)	− 13.7 (4.31)	0.66	9.18 (3.23)	8.91 (2.44)	0.547
Median [Min, Max]	− 15.0 [− 24.0, − 8.00]	− 13.0 [− 26.0, − 8.00]		10.0 [0.00, 20.0]	9.00 [3.00, 13.0]	
Unspecified	7 (22.6%)	21 (42.9%)		16 (12.6%)	12 (17.9%)	
Max Height						
Mean (SD)	− 10.5 (0.707)	NA (NA)	NA	14.0 (NA)	NA (NA)	NA
Median [Min, Max]	− 10.5 [− 11.0, − 10.0]	NA [NA, NA]		14.0 [14.0, 14.0]	NA [NA, NA]	
Unspecified	29 (93.5%)	49 (100%)		126 (99.2%)	67 (100%)	

Table 5 (continued)

	Male		<i>p</i> value	Female		<i>p</i> value
	Offline (Known parents) (<i>n</i> = 31)	Offline (Unknown actors) (<i>n</i> = 49)		Offline (Known parents) (<i>n</i> = 127)	Offline (Unknown actors) (<i>n</i> = 67)	
Min Educ						
Specify Higher Partner Educ	0 (0%)	1 (2.0%)	0.133	2 (1.6%)	0 (0%)	0.547
Specify Lower Partner Educ	3 (9.7%)	4 (8.2%)		19 (15.0%)	9 (13.4%)	
Specify Same Partner Educ	10 (32.3%)	5 (10.2%)		62 (48.8%)	32 (47.8%)	
Unspecified Own Educ	4 (12.9%)	11 (22.4%)		12 (9.4%)	15 (22.4%)	
Unspecified Partner Educ	14 (45.2%)	28 (57.1%)		32 (25.2%)	11 (16.4%)	

motivations and posterior outcomes is much needed as the push and pull of traditional versus emerging norms continues to have an effect in contemporary China.

Appendix 1: Robustness checks for homogeneity of offline sample

In our main paper, we analyze a subset of the offline sample, retaining only placards at the blind date market in Chengdu, which explicitly mentions parental contact details. This decision is made to ensure that our offline sample has a high likelihood of parental involvement. We now compare the retained subset (“known” parents) to the dropped subset (“unknown” actors) as a robustness check.

Table 5 presents summary statistics of the full offline sample, disaggregated by placards that explicitly mentioned parental contact details versus those that did not. We observe that placards mentioning parental details tend to be significantly younger than those that did not mention parents for both males (35.9 years vs. 39.8 years, $p = 0.05$) and females (31.8 years vs. 36.9 years, $p < 0.001$). There is no significant difference between placards that mention parents versus those that did not regarding age gap preference for males. However, there is a significant difference for females in the accepted age ranges. There is no significant difference in the composition of relationship status for males. However, profiles that were placed by parents had a considerably higher proportion of single females than those that did not mention parents (78.7% vs. 59.7%, $p < 0.001$). There are no significant differences by height or education across placards that mention parents versus those that do not mention parents.

These findings indicate some statistical differences between “known” parents in our offline sample and “unknown” actors, so we cannot claim the offline sample is homogeneous. Accordingly, we opt for a more cautious approach and only keep explicit parents in our sample for the main paper.

Acknowledgements

We thank Yenching Academy for financial support.

Authors' contributions

Equal contributions by both co-authors from research design to manuscript preparation.

Funding

This research was funded by the Dean's Research Grant awarded by Yenching Academy, Peking University. The funders had no role in the research design, analysis or production of the article.

Availability of data and materials

The dataset and code supporting the conclusions of this article are available in the GitHub repository https://github.com/HannahKirk/Mediation_of_Matchmaking.

Declarations**Ethics approval and consent to participate**

Not applicable.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

Author details

¹Oxford Internet Institute, University of Oxford, 1 St Giles', Oxford OX1 3JS, UK. ²Busara Center for Behavioral Economics, c/o Innov8 Saket District Centre, New Delhi 110017, India. ³Yenching Academy, Peking University (2018–20), 5 Yiheyuan Rd, Haidian District, Beijing 100871, China.

Received: 20 October 2020 Accepted: 14 December 2021

Published online: 15 January 2022

References

- Angelucci, Manuela, and Rachel Heath. 2020. Women empowerment programs and intimate partner violence. *AEA Papers and Proceedings* 110: 610–614. <https://doi.org/10.1257/pandp.20201047>.
- Attané, Isabelle. 2012. Being a woman in China Today: A demography of gender. *China Perspectives* 2012: 5–15. <https://doi.org/10.4000/chin perspectives.6013>.
- Baker, H.D.R. 1979. *Chinese family and kinship*. London: MacMillan.
- Becker, Gary S. 1973. A theory of marriage: Part I. *Journal of Political Economy* 81: 813–846.
- Blair, Sampson Lee, and Timothy J. Madigan. 2016. Dating attitudes and expectations among young Chinese adults: An examination of gender differences. *The Journal of Chinese Sociology* 3: 12. <https://doi.org/10.1186/s40711-016-0034-1>.
- Blair, Sampson Lee, and Timothy J. Madigan. 2018. Marriage and parenthood preferences among college students in China. *The Journal of Chinese Sociology* 5: 16. <https://doi.org/10.1186/s40711-018-0087-4>.
- Blossfeld, Hans-Peter. 2009. Educational assortative marriage in comparative perspective. *Annual Review of Sociology* 35: 513–530. <https://doi.org/10.1146/annurev-soc-070308-115913>.
- Bose, Sunita, Katherine Trent, and Scott J. South. 2013. The effect of a male surplus on intimate partner violence in India. *Economic and political weekly* 48. <http://www.epw.in/consequences-gender-imbalance/ef>.
- Chang, Lei, Yan Wang, Todd K. Shackelford, and David M. Buss. 2011. Chinese mate preferences: Cultural evolution and continuity across a quarter of a century. *Personality and Individual Differences* 50: 678–683. <https://doi.org/10.1016/j.paid.2010.12.016>.
- Cheng and Tsui. 2019. *China's Marriage Market*. <https://www.cheng-tsui.com/blog/chinas-marriage-markets>. Accessed 10 Aug 2020.
- Choo, Eugene, and Aloysius Siow. 2006. Who marries whom and why. *Journal of Political Economy* 114: 175–201. <https://doi.org/10.1086/498585>.
- Croll, Elisabeth J. 1995. *Changing identities of Chinese women: Rhetoric, experience, and self-perception in twentieth-century China*. London: Zed Books.
- Croll, E. 2012. *From heaven to earth: Images and experiences of development in China*. London, England: Routledge.
- Davis, D. 2005. Urban consumer culture. *China Quarterly*. 183: 677–694.
- Deutsch, Francine M. 2006. Filial piety, patrilineality, and China's one-child policy. *Journal of Family Issues* 27: 366–389. <https://doi.org/10.1177/0192513X05283097>.
- Dion, Kenneth L., and Karen K. Dion. 1988. *Romantic love: Individual and cultural perspectives. The psychology of love*. New Haven, CT: Yale University Press.
- Dunn, Michael J., Stacey Brinton, and Lara Clark. 2010. Universal sex differences in online advertisers age preferences: Comparing data from 14 cultures and 2 religious groups. *Evolution and Human Behavior* 31: 383–393. <https://doi.org/10.1016/j.evolhumbehav.2010.05.001>.
- Dwyer, Zack, Nicholas Hookway, and Brady Robards. 2020. Navigating 'thin' dating markets: Mid-life repartnering in the era of dating apps and websites. *Journal of Sociology*. <https://doi.org/10.1177/1440783320948958>.
- Ebrey, Patricia. *Women in traditional China*. Asia Society Center for Global Education. <https://asiasociety.org/education/women-traditional-china>. Accessed 12 Aug 2020.
- Evans, Harriet. 2008. *The subject of gender: Daughters and mothers in urban China (Asian Voices)*. Lanham: Rowman & Littlefield.
- Farmer, Weiyang. 2020. Attitudes towards marriage and divorce among women in modern China. In *Between generations*, ed. Daniel Bertaux and Paul Thompson, 81–97. London: Routledge.

- Feldshuh, Hannah. 2017. Gender, media, and myth-making: Constructing China's leftover women. *Asian Journal of Communication* 28: 38–54. <https://doi.org/10.1080/01292986.2017.1339721>.
- Fincher, Leta Hong. 2016. *Leftover women: The resurgence of gender inequality in China*. London: Zed Books Ltd.
- Finkel, Eli J., Paul W. Eastwick, Benjamin R. Karney, Harry T. Reis, and Susan Sprecher. 2012. Online dating: A critical analysis from the perspective of psychological science. *Psychological Science in the Public Interest* 13: 3–66.
- Gao, Xiangdong, and Xinxian Wang. 2020. The trends of migration in China, 1949–2019. *China Population and Development Studies* 3: 154–159. <https://doi.org/10.1007/s42379-019-00035-4>.
- Gittings, J. 2006. *The changing face of China: From Mao to market*. Oxford: Oxford University Press.
- Goode, William. 1963. *World revolution and family patterns*. New York: The Free Press.
- Guan, Xingliang, Houkai Wei, Lu. Shasha, Qi. Dai, and Su. Hongjian. 2018. Assessment on the urbanization strategy in China: Achievements, challenges and reflections. *Habitat International* 71: 97–109. <https://doi.org/10.1016/j.habitatint.2017.11.009>.
- Guthrie, D. 2008. *China and globalization: The social, economic and political transformation of Chinese society*. New York: Routledge.
- Hall, David L., and Roger T. Ames. 1998. *Thinking from the Han: Self, truth, and transcendence in Chinese and Western culture*. Albany: SUNY Press.
- Hall, Jeffrey A., Namkee Park, Hayeon Song, and Michael J. Cody. 2010. Strategic misrepresentation in online dating: The effects of gender, self-monitoring, and personality traits. *Journal of Social and Personal Relationships* 27: 117–135. <https://doi.org/10.1177/0265407509349633>.
- Hu, Tracy. 2017. Think Beijing marriage market is bad? In Chengdu, even doctors don't make the cut. *South China Morning Post*. <https://www.scmp.com/news/china/society/article/2103448/chengdu-parents-just-want-good-match-their-kids>. Accessed 1 Aug 2020.
- Hu, X., X. Zeng, L. Zheng, and C. Flatt. 2010. How does wives' unemployment affect marriage in reforming urban China? *Journal of Comparative Family Studies* 41(5): 717–734. <https://doi.org/10.3138/jcfs.41.5.717>.
- Hu, Yang, and Jacqueline Scott. 2016. Family and gender values in China: Generational, geographic, and gender differences. *Journal of Family Issues* 37: 1267–1293. <https://doi.org/10.1177/0192513X14528710>.
- Huang, Fali, Ginger Zhe Jin, and Xu. Lixin Colin. 2016. Love, money, and parental goods: Does parental matchmaking matter? *Journal of Comparative Economics* 45: 224–245. <https://doi.org/10.1016/j.jce.2016.09.005>.
- Indexmundi. 2019. Labor force participation rate, female (% of female population ages 15+). <https://www.indexmundi.com/facts/indicators/SL.TL.F.CACT.FE.ZS/rankings>. Accessed 10 Sept 2020.
- Internet Encyclopedia of Philosophy. 2020. *Gender in Chinese philosophy*. <https://iep.utm.edu/gender-c/>. Accessed 10 Aug 2020.
- Jackson, Stevi, and Jieyu Liu. 2017. The social context of ageing and intergenerational relationships in Chinese families. *The Journal of Chinese Sociology* 4: 2. <https://doi.org/10.1186/s40711-016-0050-1>.
- Jankowiak, William, and Xuan Li. 2014. The decline of the chauvinistic model of Chinese masculinity: A research report. *Chinese Sociological Review* 46: 3–18. <https://doi.org/10.2753/CSA2162-0555460401>.
- Ji, Yingchun, and Wei-Jun Jean. Yeung. 2014. Heterogeneity in contemporary Chinese marriage. *Journal of Family Issues* 35: 1662–1682. <https://doi.org/10.1177/0192513X14538030>.
- Jialin, Zhang. 2017. "Chain of Disdain" at Chengdu's marriage markets in local parks. *China Plus*. <http://chinaplus.cri.cn/news/china/9/20170720/10565.html>. Accessed 7 Aug 2020.
- Kalmijn, Matthijs. 1991. Status homogamy in the United States. *American Journal of Sociology* 97: 496–523. <https://doi.org/10.1086/229786>.
- Kalmijn, Matthijs. 1998. Inter-marriage and homogamy: Causes, patterns, trends. *Annual Review of Sociology* 24: 395–421. <https://doi.org/10.1146/annurev.soc.24.1.395>.
- Kirk, Hannah Rose, Kangkyu Lee, and Carlisle Micallef. 2020. The nuances of Confucianism in technology policy: An inquiry into the interaction between cultural and political systems in Chinese digital ethics. *International Journal of Politics, Culture, and Society*. <https://doi.org/10.1007/s10767-020-09370-8>.
- Lai, Qing, and Arland Thornton. 2015. The making of family values: Developmental idealism in Gansu, China. *Social Science Research* 51: 174–188.
- Lake, Roseann. 2018. *Leftover in China: The women shaping the World's next superpower*. New York: WW Norton & Company.
- Liu, Fengshu. 2008. Negotiating the filial self: Young-adult only-children and intergenerational relationships in China. *Young* 16: 409–430. <https://doi.org/10.1177/110330880801600404>.
- Liu, L.H., R.E. Karl, and D. Ko, eds. 2013. *The birth of Chinese feminism: Essential texts in transnational theory*. New York: Columbia University Press.
- Lui, Lake. 2019. Filial considerations in mate selection: Urban and rural Guangdong in the post-Mao era. *Modern China* 47: 383–411. <https://doi.org/10.1177/0097700419888693>.
- Ma, C.H., J.Q. Shi, Y.H. Li, Z.Y. Wang, and C. Tang. 2011. The new trends of changing family forms in urban China. *Sociology Studies* 2: 182–216.
- Mu, Zheng, and Yu. Xie. 2014. Marital age homogamy in China: A reversal of trend in the reform era? *Social Science Research* 44: 141–157. <https://doi.org/10.1016/j.ssresearch.2013.11.005>.
- Nan, L.J., and J.J. Xue. 2002. Estimation of population and labor force in China: 1949–1999. *China Demography* 3: 1–16.
- Ong, David. 2016. Education and income attraction: An online dating field experiment. *Applied Economics* 48: 1816–1830. <https://doi.org/10.1080/00036846.2015.1109039>.
- Ong, David, and Jue Wang. 2015. Income attraction: An online dating field experiment. *Journal of Economic Behavior & Organization* 111: 13–22. <https://doi.org/10.1016/j.jebo.2014.12.011>.
- Pawlowski, B. 2000. The biological meaning of preferences on the human mate market. *Przegląd Antropologiczny* 71: 39–72.
- Peng, Kun. 2020. To be attractive or to be authentic? How two competing motivations influence self-presentation in online dating. *Internet Research* 30: 1143–1165. <https://doi.org/10.1108/INTR-03-2019-0095>.
- Pimentel, Ellen Efron. 2000. Just how do I love thee?: Marital relations in urban China. *Journal of Marriage and Family* 62: 32–47. <https://doi.org/10.1111/j.1741-3737.2000.00032.x>.

- Potter, S.H. 1988. The cultural construction of emotion in rural Chinese social life. *Ethos* 16(2): 181–208.
- Pursey, Kirrilly, Tracy L. Burrows, Peter Stanwell, and Clare E. Collins. 2014. How accurate is web-based self-reported height, weight, and body mass index in young adults? *Journal of Medical Internet Research* 16: e4. <https://doi.org/10.2196/jmir.2909>.
- Qin, Bo. 2015. City profile: Chengdu. *Cities* 43: 18–27. <https://doi.org/10.1016/j.cities.2014.11.006>.
- Riley, Nancy E. 1994. Interwoven lives: Parents, marriage, and Guanxi in China. *Journal of Marriage and the Family* 56: 791. <https://doi.org/10.2307/353592>.
- Rosenlee, Li-Hsiang. 2006. *Confucianism and women*. Albany, NY: State University of New York Press.
- Schwartz, Christine R. 2013. Trends and variation in assortative mating: Causes and consequences. *Annual Review of Sociology* 39: 451–470. <https://doi.org/10.1146/annurev-soc-071312-145544>.
- Schwarz, Sascha, and Manfred Hassebrauck. 2012. Sex and age differences in mate-selection preferences. *Human Nature* 23: 447–466. <https://doi.org/10.1007/s12110-012-9152-x>.
- Skopek, J., F. Schulz, and H.-P. Blossfeld. 2011. Who contacts whom? Educational homophily in online mate selection. *European Sociological Review* 27: 180–195. <https://doi.org/10.1093/esr/jcp068>.
- Statistic Bureau of Chengdu and NBS Survey Office in Chengdu. 2019. *Chengdu Statistical Yearbook 2019*. http://www.cdstats.chengdu.gov.cn/html/detail_179930.html. Accessed 19 Oct 2020.
- Su, Xixian, and Haibo Hu. 2019. Gender-specific preference in online dating. *EPJ Data Science* 8: 12. <https://doi.org/10.1140/epjds/s13688-019-0192-x>.
- Sun, Jiahong, and Andrew G. Ryder. 2016. The Chinese experience of rapid modernization: Sociocultural changes, psychological consequences? *Frontiers in Psychology*. <https://doi.org/10.3389/fpsyg.2016.00477>.
- Ting-Toomey, Stella, Ge. Gao, Paula Trubisky, Zhizhong Yang, Hak Soo Kim, Sung-Ling. Lin, and Tsukasa Nishida. 1991. Culture, face maintenance, and styles of handling interpersonal conflict: A study in five cultures. *International Journal of Conflict Management* 2: 275–296. <https://doi.org/10.1108/eb022702>.
- Toma, Catalina L., Jeffrey T. Hancock, and Nicole B. Ellison. 2008. Separating fact from fiction: An examination of deceptive self-presentation in online dating profiles. *Personality and Social Psychology Bulletin* 34: 1023–1036. <https://doi.org/10.1177/0146167208318067>.
- Vandenberg, Layne. 2018. Finding Love in China's Marriage Markets: One man's experience explaining the search for love in China. *The Diplomat*. <https://thediplomat.com/2018/11/finding-love-in-chinas-marriage-markets/>. Accessed 2 Aug 2020.
- Wang, Robin. 2003. *Images of women in Chinese thought and culture: Writings from the Pre-Qin period through the song dynasty*. Indianapolis: Hackett Publishing.
- Wang, Robin. 2012. *Yinyang*, vol. 11. Cambridge: Cambridge University Press.
- Wei, W., and C. Siqing. 2012. Tansuo Xin di Guanxi he Shenghuo Moshi: Guanyu Chengdu Nan Tongxinglian Banlu Guanxi he Shenghuo Shijian di Yanjiu [Exploring a new relationship model and life style: A study of the partnership and family practice among gay couples in Chengdu]. *Shehui [Chinese Journal of Sociology]* 6(32): 57–84.
- Whyte, M.K. 1990. Changes in mate choice in Chengdu. In *Chinese society on the eve of Tiananme*, ed. D. Davis, and E. Voge. Harvard University Asia Center. https://doi.org/10.1163/9781684171132_010.
- Winter, Catherine. 2014. Does the west have a monopoly on romantic love?. *PRI*. <https://www.pri.org/stories/2014-02-12/does-west-have-monopoly-romantic-love>. Accessed 12 Aug 2020.
- Wong, W.M. 2014. Finding love in China: An overview of Chinese Marriage Markets (BaiFaXiangQin). *Inquiries Journal* 6 (12): 1–3.
- Wu, Jing, Joseph Gyourko, and Yongheng Deng. 2012. Evaluating conditions in major Chinese housing markets. *Regional Science and Urban Economics* 42: 531–543. <https://doi.org/10.1016/j.regsciurbeco.2011.03.003>.
- Wu, Xiaogang, and Zhuoni Zhang. 2010. Changes in educational inequality in China, 1990–2005: Evidence from the population census data. In *Research in the sociology of education*, vol. 17, ed. Emily Hannum, Hyunjoon Park, and Yuko Goto Butler, 123–152. Emerald: Bingley. [https://doi.org/10.1108/S1479-3539\(2010\)0000017007](https://doi.org/10.1108/S1479-3539(2010)0000017007).
- Xia, Peng, Kun Tu, Bruno Ribeiro, Hua Jiang, Xiaodong Wang, Cindy Chen, Benyuan Liu, and Don Towsley. 2014. Characterization of user online dating behavior and preference on a large online dating site. In *Social network analysis--Community detection and evolution. Lecture notes in social networks*, ed. Rokia Missaoui and Idrissa Sarr, 193–217. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-12188-8_9.
- Xinhua.net. 2019. *Most young Chinese oppose arranged marriage: survey*. http://www.xinhuanet.com/english/2019-06/22/c_138164221.htm. Accessed 15 June 2021.
- Xu, Xiaohe and Martin King Whyte. 1990. Love matches and arranged marriages: A Chinese replication. *Journal of Marriage and the Family* 52: 709. <https://doi.org/10.2307/352936>.
- Xu, X. 1994. *The determinants and consequences of the transformation from arranged marriages to free choice marriages in Chengdu, China*. Doctoral dissertation, University of Michigan.
- Xu, X. 1998. Convergence or divergence: The transformation of marriage relationships in urban America and urban China. *Journal of Asian and African Studies* 33(2): 181.
- Yancey, George, and Michael O. Emerson. 2014. Does height matter? An examination of height preferences in romantic coupling. *Journal of Family Issues* 37: 53–73. <https://doi.org/10.1177/0192513X13519256>.
- Yang, M.C. 1968. *A Chinese village: Taitou, Shantung province*. New York: Columbia University Press.
- Yang, Renxin. 2011. Between traditionalism and modernity: Changing values on dating behavior and mate selection criteria. *International Review of Modern Sociology* 37: 265–287.
- Yeung, Wei-Jun Jean. 2013. Higher education expansion and social stratification in China. *Chinese Sociological Review* 45: 54–80. <https://doi.org/10.2753/CSA2162-0555450403>.
- Yu, Jia, and Yu. Xie. 2015. Changes in the determinants of marriage entry in post-reform urban China. *Demography* 52: 1869–1892. <https://doi.org/10.1007/s13524-015-0432-z>.
- Zhang, Shuangyue, and Susan L. Kline. 2009. Can I make my own decision? A cross-cultural study of perceived social network influence in mate selection. *Journal of Cross-Cultural Psychology* 40: 3–23. <https://doi.org/10.1177/0022022108326192>.

- Zhang, Yi. 2016. Practising and displaying xiao—young mothers' negotiations of obligations to elders. *The Journal of Chinese Sociology* 3: 27. <https://doi.org/10.1186/s40711-016-0047-9>.
- Zurndorfer, Harriet. 2018. Escape from the country: The gender politics of Chinese women in pursuit of transnational romance. *Gender, Place & Culture* 25: 489–506. <https://doi.org/10.1080/0966369X.2018.1453488>.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Submit your manuscript to a SpringerOpen[®] journal and benefit from:

- Convenient online submission
- Rigorous peer review
- Open access: articles freely available online
- High visibility within the field
- Retaining the copyright to your article

Submit your next manuscript at ► [springeropen.com](https://www.springeropen.com)
