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Family Characteristics and Mate Selection: Evidence from Computer-Assisted Dating in Japan

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Abstract

Research on mate selection rarely considers singles' preferences for their future partners' family configurations and experiences. Using online dating records from a major matchmaking agency in Japan, a society with a strong emphasis on family and kinship, we examine how singles' responses to date requests correspond to potential mates' family circumstances. Results from fixed-effects logit models are consistent with the argument that singles' preferences for potential partners' family characteristics stem from both a concern about future obligations toward the partner's family and stereotypes associated with certain family traits. Singles, for example, are less likely to accept requests from those from large families, which are seen as traditional. Being from a large family nevertheless hampers individuals' dating chances considerably more if they are firstborn and have no brothers, two conditions that make them the designated child to care for elderly parents. We also find that Japanese singles largely seek partners with more of the universally valued family traits, rather than traits similar to their own.

Keywords

Asian/Pacific Islander; dating; elder care; family structure; mate selection; siblings

Research shows that with whom individuals form families has important consequences for their and their children's long-term wellbeing (Schwartz, 2013). The question of how individuals select mates is therefore critical to our understanding of social inequality. Most studies of mate selection patterns focus on singles' preferences related to race/ethnicity, religion, and socioeconomic status (Blossfeld, 2009; Kalmijn, 1994, 1998; Rosenfeld, 2005). Individuals, however, also likely have other preferences when selecting mates. In particular, because marriage requires people to establish ties with and develop obligations toward their partner's family members, they likely take the potential partner's family attributes into account in mate selection. Singles, for example, tend to find those with a child from a prior union less desirable (Goldscheider & Kaufman, 2006; Goldscheider & Sassler, 2006; South, 1991). Singles may similarly have preferences for their mates' natal family compositions

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(Kojima, 1994; Yu, Su, & Chiu, 2012). Because certain family traits, such as having no siblings, signal a greater future care obligation toward elderly parents, they may make one less attractive to potential mates, especially in societies where married children are strongly expected to support their aging parents.

Although understanding how singles' family characteristics create advantages or disadvantages in mating can shed light on the process through which people with different family configurations and experiences diverge in their long-term wellbeing, very few studies directly address preferences for the partner's family characteristics. The closest is research on how sibship traits affect individuals' paces of transitions to marriage (Michael & Tuma, 1985; Yu et al., 2012). Such research, however, cannot differentiate consequences of these traits on singles' eagerness to marry from their effects on attractiveness in the marriage market. Being the eldest son in Japan, for example, is thought to decrease a man's appeal because of the cultural expectation for this son to coreside with his parents after marriage (Kojima, 1993, 1994; Yasuda et al., 2011). Nevertheless, men with this sibship position may also feel more parental pressure to continue the family line and hence put more effort into finding mates (Yu et al., 2012). Separating these two processes is not feasible in an analysis of marriage transitions.

The recent proliferation of computer-based matchmaking services, fortunately, provides new avenues to study singles' mating preferences (Curington, Lin, & Lundquist, 2015; Hitsch, Hortaçsu, & Ariely, 2010a, 2010b; Lin & Lundquist, 2013; Skopek, Schulz, & Blossfeld, 2011). Based on records of requests for dates and responses to such requests, researchers can isolate what makes a person attractive. Compared to the small number of studies using self-reported preferences to investigate characteristics contributing to one's desirability to potential partners (e.g. Goldscheider & Kaufman, 2006; South, 1991), studies examining dating records have the advantage of analyzing real-world choices, which are not confounded by respondents' tendency to offer socially desirable answers when facing hypothetical scenarios (Hitsch et al., 2010b). Although research using data from internet dating services is inevitably limited to the behaviors and preferences of those who use such services, understanding dating preferences in cyberspace is argued to be important to our knowledge of mate selection, as internet dating has become an increasingly popular channel for singles to meet romantic partners across industrialized countries (Hitsch et al., 2010b; Lin & Lundquist, 2013).

In this study, we take advantage of unique records from a computer-based matchmaking agency in Japan to examine the rates at which individuals with different family sizes, sibship attributes, marital and childbearing histories, and other family circumstances receive favorable responses to their online date requests. Unlike most dating services in the West, the agency that offered data for this study requires its members to provide detailed information on their family history and composition when contacting others for dates. We can therefore directly assess Japanese singles' preferences by analyzing their responses to people with different family traits. Because prior research indicates that individuals' mating preferences may depend on their own characteristics (Hitsch et al., 2010b; Schwartz, 2013; Skopek et al., 2011), we also investigate how singles' own family conditions are associated with their preferences for their potential partner's family attributes. Specifically, we ask

whether individuals with family traits generally deemed undesirable in the marriage market are less likely to avoid dating those with similar traits.

This study focuses on Japan not only because of its unusual data; understanding mating preferences among users of internet dating services in Japan is important in its own right. Like in other industrial countries, using computer-based matchmaking services to meet romantic partners is increasingly popular in Japan (Farrer & Gavin, 2009). During the 2000s, businesses providing dating or matchmaking services, most of which involve users exchanging profiles and date requests through computers, more than tripled (Castro-Vázquez, 2017). Japan is also well known for its trend of later and less marriage, with much research devoted to explaining this trend (Raymo et al., 2015). As recent research and popular discourse both identify relationship formation (or the lack thereof) as key to understanding marriage transitions in Japan (Yamada & Shirakawa, 2008; Yu & Kuo, 2016), studying which attributes enhance singles' likelihood of forming relationships helps enrich the literature on marriage formation. Finally, Japan exemplifies societies that feature frequent intergenerational exchanges and a deep-rooted cultural emphasis on family and kinship (Raymo et al., 2015). Singles in such contexts are highly likely to be concerned about potential obligations toward their future spouse's family members, thus exhibiting preferences for the potential mate's family traits. An analysis of the roles that family traits play in mate selection in Japan therefore has implications for societies with similar or stronger emphases on intergenerational exchanges and kinship, such as other Asian societies and countries elsewhere known for strong familism.

Family Attributes and Mate Selection

Research on mating patterns often compares the search for a romantic partner with the search for a job (Schwartz, 2013). In the "marriage market," singles are thought to seek the mate whose qualifications will maximize their wellbeing, and they hold views on the minimum mate qualities below which they will not form a match (Becker, 1973, 1974). Assuming that the dating market functions in a similar way as the marriage market, prior research on internet dating has shown that age, education, income, and race/ethnicity all shape singles' desirability and prospect of finding a match (Curington et al., 2015; Hitsch et al., 2010a, 2010b; Lin & Lundquist, 2013; Skopek et al., 2011). Although singles also likely pay attention to potential mates' family circumstances, as certain circumstances may better assure their long-term wellbeing, virtually no research addresses which family attributes make one a more desirable dating partner.

At the same time, research on transitions to marriage links singles' family traits, including their number of siblings and birth-order ranks, as well as the existence of a prior marriage or a child, to the pace of such transitions (Ivanova, Kalmijn, & Uunk, 2013; Michael & Tuma, 1985; Poortman, 2007; Yu et al., 2012), but it focuses mostly on how these traits affect singles' marital aspirations or chances of meeting partners (e.g. Ivanova et al., 2013; Michael & Tuma, 1985). Only a small number of studies raise the possibility that singles with different family characteristics may have different chances of succeeding in the marriage market (Goldscheider & Kaufman, 2006; Kojima, 1994; Yu et al., 2012). One proposed mechanism for this possibility is that individuals' existing family compositions

and arrangements suggest to prospective partners their and their future spouse's potential obligations toward other family members, thus shaping the partners' interest. In addition, some family traits may be associated with negative social stereotypes; for example, those who are the only child in the family are often thought to be spoiled and self-centered (Blake, 1981; Poston & Falbo, 1990). Because internet daters have no direct contact with their potential partners, they are especially likely to rely on stereotypes to judge the latter (Pettigrew & Tropp, 2006), making them likely to avoid those with family traits that trigger negative stereotypes. In the following, we discuss which specific family traits should lead to more future responsibilities or to elicit prejudice in the context of Japan.

Sibship Characteristics

Most researchers proposing that singles may prefer romantic partners with certain sibship characteristics link these characteristics with care obligations, including the obligation to live with aging parents, after marriage. Unsurprisingly, this hypothesis is most often considered in research on East Asia (Kojima, 1994, 1995; Yu et al., 2012), where expected responsibilities towards one's elderly parents are relatively great (Raymo et al., 2015) and traditional norms that prescribe which child should live with and care for parents continue to affect intergenerational exchanges (Lee, 2010; Lin et al., 2003). In Japan, although the tradition of children financially supporting their aging parents has been declining (Ogawa & Retherford, 1997), most parents still expect their children to care for them in old age (Takagi & Silverstein, 2006). In practice, relatively high proportions of Japan's elderly indeed coreside with and receive care from their married children (MHLW, 2013; Takagi & Silverstein, 2011).

Despite the social norm for children to live with and care for elderly parents, the younger generation in Japan often takes on the caretaker role with ambivalence, especially when it comes to caring for parents-in-law (Lee, 2010; Traphagan, 2003). This ambivalence, along with the fact that not all children must bear the same amount of care burden or coreside with their parents after marriage, makes singles likely to prefer partners whose sibship configuration signals less need for elder care and postnuptial coresidence. To begin, because the cultural tradition in East Asia expects sons and their wives, rather than married daughters, to be responsible for the care of elderly parents (Lee, 2010; Lin et al., 2003; Takagi & Silverstein, 2011), sibship sex composition is directly related to the amount of care burden to be placed on a given child. Specifically, having a brother allows a man to share, and a woman to step aside from, the care responsibility for aging parents. Singles with a brother should therefore be more appealing to potential partners.

By contrast, singles who are the only child in the family may be less desirable, because they have no siblings to share the elder-care burden. Men without siblings face an additional pressure to live with their aging parents. Under Japan's patrilineal family norm, married women rarely coreside with their own parents (Yasuda et al., 2011), whereas married men are expected to do so if their parents are in need. Against the backdrop of Japanese women's increasing reluctance to live with parents-in-law (Takagi & Silverstein, 2011; Traphagan, 2003), being the only child may hurt men's attractiveness more than women's.

Japanese singles' potential distaste for partners who are only children may stem not just from their concern about care responsibilities, however. Although scant research supports it, there is a widespread belief across societies that being the only child shapes one's character in an unfavorable way (Blake, 1981; Poston & Falbo, 1990). Those who are only children are presumed to be more spoiled and egoistic. Such personality traits are especially undesirable in a collectivist society like Japan. The fact that internet daters have limited information about their potential partners may also strengthen their tendency to make selections based on negative stereotypes of only children.

Although the perspectives about future care obligations and negative stereotypes both lead us to expect fewer positive responses to date requests from only children, they produce competing hypotheses regarding the preference for individuals from larger families. On the one hand, even though caring for elderly parents is typically sons' and their wives' responsibility in Japan (Takagi & Silverstein, 2011), daughters' involvement in elder care has increased over time (Lee, 2010). To the extent that daughters contribute to their parents' old-age care, having any additional sibling could help reduce a given child's share of the care burden. This consideration leads to the hypothesis that singles will prefer partners with more siblings. On the other hand, both ideal and intended family sizes have been declining in Japan, with the average preferred number of children being around 2.5 in recent years (Kaneko et al., 2008). Extending the preference for smaller families to mate selection, singles today may view those from larger families as having a less-than-ideal upbringing. In particular, because more recent families tend to be smaller (Kaneko et al., 2008), having more siblings could be seen as an indicator of traditionalism, with people from larger families being stereotyped as holding values less appreciated by current-day standards (e.g., beliefs in traditional gender relations or parenting styles). From the viewpoint that family attributes triggering negative stereotypes hamper singles' desirability, we derive an alternative hypothesis: Once taking into account the special bias against those from one-child families, singles will give more positive responses to those who grew up in smaller families.

Beyond suggesting an individual's upbringing, a larger natal family could also imply that the individual's parents are relatively traditional. More traditional parents tend to impose more traditional expectations on their children. That is to say, such parents could more strongly expect financial support and old-age care from their sons and the sons' wives. A combination of this stereotype against larger families and the concern about the care burden leads us to develop an additional hypothesis: The tendency to reject potential partners from larger families will be more pronounced when the partners do not have any brothers with whom care obligations can be shared.

In addition to sibship size and sex composition, one's birth-order rank may also affect one's attractiveness to potential mates in Japan, because being the oldest son in the family is traditionally associated with a greater expectation for coresidence with parents (Kojima, 1993; Matsukura, Retherford, & Ogawa, 2011). Being both the oldest son and the most senior in the sibship, which is argued to be associated with a larger share of responsibility for the natal family's wellbeing in East Asian culture (Yu & Su, 2006), men who are firstborn may be under especially great pressure to form multigenerational households with

their parents. Therefore, more than women who are firstborn, we would expect men of this birth-order rank to receive fewer positive responses when requesting dates.

Although those who have no brothers, are firstborn, or are the only child are expected to provide more elder care than other individuals, we should note that the same sibship characteristics also enhance individuals' share of inheritance from their parents. If the incentive of inheritance outweighs the concern of care responsibilities, then we should find these sibship characteristics to increase, rather than decrease, individuals' odds of receiving favorable responses from potential mates. In Japan, however, increasing life expectancy has made the elderly less willing and able to save for bequests (Horioka et al., 2000; Horioka & Watanabe, 1997), and it has made the timing of inheritance fairly late for their children (Izuhara, 2002). Both conditions weaken the possibility that singles will take potential partners' future inheritance into account.

Other Natal Family Conditions Signaling Care Burden

Following the logic that family characteristics that imply more obligations are undesirable, an existing need to financially support a family member likely makes one less attractive to potential mates. By the same token, singles may prefer partners whose parents are both living. Because spouses of the elderly in need of care constitute the largest group of caregivers in Japan (MHLW, 2013), those without one must rely more on their children and the children's spouses. Despite the possible preference for potential partners whose parents are both living, single women, in particular, may not appreciate the partners' parents being in the same household. In Japan, adult children generally do not leave their parental home before marriage, unless their schools or jobs require them to live far away (Yu & Kuo, 2016). Thus, an independent living arrangement signals that there are practical reasons that one cannot live with parents, making postnuptial coresidence unlikely. Of course, singles may prefer partners who live away from the parents for other reasons, as young adults living alone are found to be more capable in various aspects of life than those remaining in the parental home (Kins & Beyers, 2010). Nevertheless, given that married women rarely live with their parents, if the likelihood of postnuptial coresidence indeed drives singles' preference for their potential partner's living arrangement, independent living will increase men's desirability more than women's.

Family Histories

In addition to natal family characteristics, individuals' past family experiences may also trigger negative stereotypes and concern about care obligations, thereby affecting their desirability. Specifically, those with a history of divorce may be stereotyped as being less committed to the institution of marriage, making them riskier partners. Such bias is especially likely in Japan, where divorce became common only recently (Raymo et al., 2015). Prior studies of self-reported mating preferences also show that singles prefer those without children from previous unions (Goldscheider & Kaufman, 2006; South, 1991), as the presence of a child brings additional care obligations. We therefore expect that singles with a prior marriage or a child will face greater difficulty securing a date. As Japanese women receive full custody of children after divorce in 83% of cases (Shirahase & Raymo, 2014), women with children from prior unions likely impose a greater child-rearing burden

on their future partners than do their male counterparts. Thus, having a child should hurt women's chance of having their date requests accepted more than men's.

Do One's Own Family Traits Affect Family-Related Preferences?

Beyond examining how the concern about future care burden and bias derived from stereotypes drive singles' preferences for certain family attributes of their dating partners, a second objective of this study is to examine whether the preferences for given family traits are universal or instead depend on the family circumstances of the individuals evaluating these traits. Despite our argument that family attributes linked to more care obligations or negative stereotypes are unfavorable, the theory of homophily, positing that individuals prefer to establish ties with people similar to themselves (McPherson, Smith-Lovin, & Cook, 2001), suggests that singles with undesirable family attributes would actually prefer, or would be less likely to avoid, mates that share their family compositions and experiences. This tendency may be especially pronounced for family attributes that are shunned because of their associations with negative stereotypes, such as a history of divorce or being an only child.

Although the evidence that people with similar social characteristics tend to marry each other is often cited to support the homophily-based argument about mate preferences—or the matching model (Kalmijn, 1994; Schwartz, 2013)—an alternative mechanism could also lead to the same positive assortative-mating pattern. This alternative, the competition model, contends that all individuals in the marriage market prefer partners who have more of the generally favorable characteristics, such as a high income potential and physical attractiveness (Schwartz, 2013). Because those with desirable traits are more likely to win the competition for partners with more of the same traits, singles end up pairing with partners whose possession of desirable traits is similar to theirs. In the case of responses to online date requests, the competition model, however, would lead to a different prediction from that of the matching model. If irrespective of their own family circumstances, singles would always prefer dating those whose family attributes suggest lower care obligations or no negative stereotypes, then having undesirable family traits themselves would not reduce their tendency to favor, from available options, date requests from individuals with more favorable traits. Because of the matching and competition models' different predictions, our analysis of records of online date requests and their responses can further reveal which model more accurately describes how singles consider their potential partners' family traits.

Method

Data

The data for our analysis come from a log of date requests exchanged between customers of the largest Japanese matchmaking agency from 2006 to 2008. With Japan's steady declines in marriage rates, relying on dating or matchmaking services to find marriage partners has become increasingly common. A survey conducted in 2005 reported that one in five singles had used some type of dating or matchmaking service (METI, 2005), and the number is likely greater today. Being largest in the industry, the agency from which our data come is known for targeting a broad audience; its customer base is not limited to a particular region

or social group. Its customers, however, are restricted to those seeking marital, rather than any romantic, partners. In Japan, matchmaking agencies that aim to facilitate marriages, like this one, have a legal obligation to ensure that their participants seek dates for the purpose of marriage. The specific agency ensures this intention during its initial interviews with customers, a process we detail below. Our data therefore better reflect how singles select marriage partners than most studies using online dating records, as the latter inevitably include the behaviors of individuals with no intention to marry. Given that they are from a single agency and a particular time period, we consider our data as a sample of dating exchanges among Japanese adults seeking marriage partners with the aid of dating services. Although this sample is not randomly selected, it allows us to provide insights about mate selection in ways similar to how case studies of a firm contribute to our knowledge.

Rather than individuals, the unit of our analysis is date requests that occurred between any given male and female customers of the agency (which permits only heterosexual exchanges). Customers can send date requests, accompanied by detailed profiles of themselves, to any other customers of the other sex. Upon reviewing the profiles, receivers of such requests can accept or reject the requests online. The log of date requests we obtained includes information about the sender and receiver, as well as the receiver's response for each request. Because we are interested in how receivers of date requests respond according to senders' family traits, and because older people seeking marriage may be much less concerned about whether the partner has living parents or children (as the children tend to have grown up), we exclude date requests of which the receiver was older than age 50 (2.1%). We further exclude requests involving those who began using the agency before 2000 (5.0%), as those unable to find matches after many years are likely to rely more on alternative means to meet marriage partners, making them less serious about their exchanges with other agency customers. A separate analysis, however, showed similar results had we not applied either of these exclusions or limited the requests to those involving individuals who became agency customers after a more recent time than 2000. As elaborated in a later section, we use fixed-effects logit models to account for unobserved heterogeneity among receivers of date requests (Allison, 2009), and such models require multiple observations for each receiver. Hence, we exclude all requests sent to individuals who were approached only once during the observation period (.9%). We also exclude requests received by those who always accepted or always rejected the requests sent to them (16.0%), as the estimation of fixed-effects logit models requires within-person variation in the outcome examined. In an exploratory analysis, we instead used fixed-effects linear regression models, which did not require us to exclude all these observations, and the results were similar. After all these selections, our sample contains 135,837 requests received by 9,279 men and 406,486 requests received by 11,954 women.

Unlike data from most online dating services, which are subject to participants' lies or exaggerations about themselves (Schmitz, Zillmann, & Blossfeld, 2013), information on senders and receivers of the date requests used in our analysis are highly reliable. Customers of the specific matchmaking service are required to first undergo a lengthy (about two hours) face-to-face interview with an agency employee, who collects information about their demographic characteristics, family composition, sibship configuration, living arrangements, and family history. The interviewer also records customers' preferences (including no

preference) for their potential partner's occupation, income, geographic location, physical features (i.e., height, weight, health, and eyesight), and marital and childbearing histories. All customers must provide documentation of their identity, single status, level of education, income, and address. Because individuals are required to produce their family registry (*koseki*) when joining the agency as proof of identity, the data on their own family history and composition are especially accurate.

To provide the context in which the date requests were made, users of the matchmaking service receive between 6 and 12 recommended partner profiles monthly (based on computer matching of both parties' stated dating preferences at the initial interviews), as well as a monthly agency magazine with brief descriptions of all those who became agency members during the past two months. From these recommendations and magazine publications, individuals may decide to whom to send date requests. Although the recommendations generated from computer matching would have taken into account individuals' preferences for the potential partner's marital and childbearing histories (but not other family characteristics), one who has stated a preference for a never-married person may still receive a date request from a person with a previous marriage, because the latter could have chosen the former from an agency magazine, the channel most commonly used in our sample. The agency also organizes speed-dating sessions and themed parties to provide additional channels for customers to identify potential mates, but such channels facilitated relatively few of the date requests in our data.

Throughout the paper, we refer to the matchmaking process of the agency that provided us data as computer-based matchmaking and draw parallels between it and online dating, because at their core the processes are very similar. Superficially, one difference is the reliance on printed materials (agency magazines), rather than online search when requesting dates. Crucially, however, whether the individuals select potential dating partners from agency magazines or the agency-generated recommendations, they can request dates or reject date requests without any personal contact, a key difference from traditional dating processes. Because agency customers always initiate dates and respond to proposed dates online, the practice is essentially identical to those of typical Western online dating agencies.

Measures

Dependent variable.—Our analysis focuses on the decision to accept a date request, with a binary indicator ("accept" coded as 1) as the dependent variable. Although the individuals in our sample also made date selections when first deciding whom to approach, we have no way of telling whose profiles they had reviewed at the time of selection and how much they knew about the people they chose—for example, they would have little information on potential dates' family traits if selecting from the agency magazine. The decision to accept or reject a date request, by contrast, is universally made upon an evaluation of the sender's comprehensive profile, including detailed information on his or her family. In addition, the decision to accept a date request is more consequential according to the agency rules. Specifically, the agency allows customers to send date requests to several people simultaneously. Once a receiver accepts a date request, it is up to the original sender to confirm his or her willingness to proceed with the date (in case the sender faces multiple

acceptances). Upon confirmation, the two parties are expected to be in a monogamous dating relationship; neither is allowed to send or receive other date requests until he or she informs the agency that the relationship is terminated. Because accepting a request is highly likely to result in losing opportunities to send or receive other date requests, individuals are likely to think carefully about this decision, making it especially worthy of our attention.

Key independent variables.—For the independent variables of interest, we create a series of indicators for the family traits of the senders of data requests (“senders” hereafter), including their family history, sibship attributes, living arrangement, and need to support family members. To test whether the preferences of the receivers of date requests (“receivers” hereafter) correspond to their own family traits, we also create the same variables for the receiver of each request. Specifically, for family history, we use a dummy variable to indicate that the sender or receiver has been married before (i.e., coded as 1, otherwise 0, if having had such experience). We include another dummy variable to indicate that the sender or receiver has a child from a previous union. For sibship attributes, we measure whether one is the firstborn in the family and whether one has no brothers (yes = 1; no = 0). We also include sibship size, which is a continuous variable capturing the total number of children in the natal family. To test the existence of a special bias against someone who is an only child, on top of a general preference for mates from a larger or smaller family, we introduce an additional indicator for being the only child. We code this variable as 1, and otherwise as 0, if the sender or receiver is the only child in the family.

To investigate the relevance of the potential need to support other family members, we create a binary indicator for existing support obligations for relatives other than children. The matchmaking agency recorded for each member the specific close relatives that were financially dependent on the member. We can therefore tell whether individuals provide financial support for any family members other than their children. Related to support obligations, we further introduce a dummy variable to indicate having only one living parent. In addition, we include a variable for living apart from the family. We code the variable as 1, and otherwise as 0, if the sender or receiver reported living with no family member.

Control variables.—In all models, we control for education, age, and annual income, as they tend to affect individuals’ marriageability (Kalmijn, 2011, 2013). Because previous research on online dating suggests that one’s age, educational, and income preferences for potential dates may be relative to one’s own conditions (Hitsch et al., 2010b; Skopek et al., 2011), we include both absolute and relative measures for these three characteristics. To be specific, we divide education into four levels: (a) high school and less, (b) tertiary-level vocational school, (c) junior college, and (d) university and above. We measure age at the time the date request was made, in three categories: (a) age 29 and younger, (b) 30–39 years of age, and (c) age 40 and older. We use a continuous measure of the individual’s annual earnings (in one million yen). For the relative measures, we create a series of dummy variables for whether the man in the dating transaction has less, the same, or more education than the woman. We construct the relative measures by comparing the man and the woman, rather than the sender and the receiver, in each observation, to make the results more

intuitively interpretable. We similarly measure whether the man is younger, the same age to up to two years older, or more than two years older than the woman. Our exploratory analysis indicated this categorization captured the data the best, perhaps because men up to two years older than women are generally considered as being a similar age (but being just one year younger is not) as the latter. We include indicators for whether the man's annual income is lower than, similar to, or significantly more than the woman's. Because of the large gender gap in pay in Japan (Yu, 2009), we consider the cases in which the man earns the same or no more than one million yen more than the woman annually as the two having a similar income, whereas those in which the man's income exceeds the woman's by one million yen or more as the man earning significantly more.

In addition, we also consider the channel through which the sender of a request identified the receiver. As mentioned, senders of date requests could have found receivers through the agency's computer matching, print materials, or parties and social events. Given that the computer matching conducted by the agency takes into account both parties' stated preferences, date requests that are made to the agency's recommended partners are likely to have a better chance of being accepted. Using senders' reports on the primary way through which they identified receivers, we divide the date requests into three channels: (a) computer matching, (b) agency print materials, and (c) other. We further control for the number of days the receiver has been with the agency at the time of being approached, as time spent on partner search may affect individuals' willingness to accept offers.

Analytic Strategy

Given that our outcome of interest, the acceptance of a date request, is dichotomous, we use logistic regressions with fixed effects for the receiver in the analysis. Unlike regular logistic regressions, the estimation of fixed-effects logit models relies exclusively on within-person variation, rather than between-person differences (Allison, 2009). In this case, the fixed-effects modeling approach utilizes multiple date requests received by the same people over time and estimates how changes in sender characteristics between the requests correspond to responses from the same receiver, conditional on the receiver making different decisions among those in the choice set. By relying on within-person variation, fixed-effects models are able to net out all unobserved time-invariant characteristics of receivers that may bias the results. To give an example of such bias, people who are more eager to marry may be more likely to receive date requests from singles with children, if their eagerness leads them to not specify a preference for childless partners in their profiles, and they may have higher likelihoods of accepting requests. Without accounting for this eagerness, the estimated effect of the sender's parental status on request acceptance would be biased. Although fixed-effects models cannot control for unobserved changes in receivers' circumstances from one request to the next, the two-year span we observe is short enough for most personality traits and beliefs to be unchanged. We do not include sender fixed effects in the models because the outcome for our analysis is the receiver's, not the sender's, decision. Moreover, the sender characteristics of our interest, such as marital history, number of children, and sibship attributes, are all constant across requests from the same senders; these characteristics would be dropped from the models if sender fixed effects are included.

Another benefit of fitting fixed-effects logit models is that they enhance our ability to compare how men and women respond to the same sender characteristics differently. Group comparisons with logistic regressions are potentially problematic when unobserved heterogeneity between groups is considerable (Mood, 2010). Because our fixed-effects models greatly reduce unobserved heterogeneity among receivers, however, we are far less likely to suffer from this problem. Despite the merits of the fixed-effects technique, in an exploratory analysis, we fitted models with population-averaged estimators, which estimated the average odds for date requests with a given sender characteristic to be accepted, and the overall patterns were similar.

Because men and women may have different mate preferences, we estimate models separately for requests from men to women and requests from women to men. The former type of requests informs about how women select dates facing available choices, whereas the latter type demonstrates men's dating preferences when being approached.

Results

Table 1 presents descriptive statistics for the analytical sample by the type of requests—woman-to-man or man-to-woman requests—with information for senders and receivers within each type. Because singles receiving date requests are presumably more desirable than those sending requests, comparing senders and receivers by gender provides some insights into what characteristics are relatively desirable within each gender group. As the table shows, female receivers were younger, less likely to have a prior marriage or a child, less likely to be firstborn, less likely to be the only child, less likely to have no brothers, and less likely to have only one living parent than female senders. Similarly, male receivers were less likely to have a child or a prior marriage, less likely to be the only child, and less likely to be firstborn than male senders. These results suggest that regardless of gender, those having a child or a prior marriage, being firstborn, and being the only child are less desirable to potential mates. Male receivers were also much better educated, had higher incomes, and were more likely to live apart from their natal family than male senders. It appears that along with high education and income, living by oneself enhances a man's appeal to women in online dating in Japan.

Turning to the multivariate analysis, Table 2 shows fixed-effects logit models predicting the acceptance of date requests. We present the models by the type of requests and indicate whether the coefficients in the full model (Model 2s) for the two groups differ using Ward tests. In light of the potential bias in comparing logit regression coefficients between groups (Mood, 2010), we also tried Long's (2009) method of group comparisons using predicted probabilities. We found the pattern consistent with the Ward-test results. Starting with woman-to-man requests, Model 1 shows that a man's odds of accepting a request from a divorced woman were 22% ($\exp(-.25) = .78$) lower than the odds of accepting a never-married woman's. Similarly, a man's odds of accepting a request from a woman with a child were 66% ($\exp(-1.07) = .34$) lower than his odds of accepting one from a childless woman. Changes in marital status and child presence altered a woman's odds of accepting a request in similar directions, as the models for man-to-woman requests indicate. The sender's parental status was nevertheless less influential on women's decisions: A woman's odds of

accepting a date request from a sender with a child were just 21% ($\exp(-.24) = .79$; Model 1) lower than the odds of accepting a childless sender's request. This gender difference is consistent with the argument that having a child is seen as affecting divorced men's future partners less than it does divorced women's in Japan.

The sender's sibship characteristics also shaped the odds of request acceptance. Based on Model 1s for both types of requests, the sender being firstborn, the only child, and among a larger sibship all reduced a request's odds of being accepted. Consistent with the expectation that being firstborn disadvantages men more than it does women, because of its connection to postnuptial coresidence for men, having a sender who is firstborn decreased women's odds of acceptance more than men's ($\exp(-.12) = .89$ vs. $\exp(-.06) = .94$). Although whether the sender has no brothers barely affects request acceptance in the first model for either group, we add an interaction between this variable and the sender's sibship size to test the hypothesis that the lack of brothers is only detrimental if the sibship size is relatively large (Model 2s). The results show that having no brothers indeed has a more negative effect when the sender has more siblings.

To illustrate how changes in the sender's sibship configuration affect a request's likelihood of being accepted, we estimate the predicted conditional probabilities for a woman and a man to accept requests from senders who differ in sibship characteristics based on the full models, holding all other attributes of the requests at the sample median or mean. Because those who are only children are bound to be firstborn and without brothers, we alter the sender's sibship sex composition and birth-order rank to calculate the conditional probabilities only when his or her sibship size is more than one. Figure 1 presents the results. It is important to note that because our models are conditional fixed-effects logit models, the predicted probability is not the probability that a request in our sample would be accepted. Rather, it is the probability for a person facing multiple requests to accept a given one, conditional on only one of the choices being selected. Given that the estimated probabilities are conditional probabilities, we focus on how they change with different sender sibship characteristics, rather than their absolute values.

The patterns shown in Figure 1 for male and female senders are generally similar, except the disadvantage of being firstborn is greater for male than female senders. All else being equal, requests whose senders are from two-child families are more likely to be accepted than those with senders from larger or smaller families. This nonlinear effect of sibship size, along with the similar patterns for both gender groups, suggests that rather than concern about care and coresidence obligations, stereotypes against only children and larger families drive singles' preferences for their partner's family size. Other patterns, however, indicate that consideration of the elder-care burden is still relevant. Declines in the conditional probabilities of acceptance with sibship size are much greater when the sender has no brothers, a condition directly related to the sender's share of care responsibilities. Interestingly, despite the sizable harm of having no brothers for men from large families, those from two-child families and without a brother—that is, families with one boy and one girl, the ideal family type for today's Japanese (Fuse, 2013)—actually have the highest predicted conditional probability of having their requests accepted. Taken together, these results are most consistent with the argument that singles' preferences for potential mates'

sibship characteristics derive from a combination of bias against atypical family types and concerns about the elder-care burden. A potential partner's having no brothers to share care responsibilities becomes a concern only when his or her sibship size is large enough to suggest traditionalism; to put it another way, the bias against exceptionally large families affects singles' acceptance of date requests much more if the sender's sibship sex composition implies extra care responsibilities.

Table 2 also indicates that men's odds of accepting requests increased by 4% ($\exp(.04)=1.04$), whereas women's odds increased by 43% ($\exp(.36)=1.43$), when facing senders who did not coreside with any family members. These results are consistent with the expectation that women have an especially strong preference for partners who live apart from the family, as it suggests less pressure for postnuptial coresidence. Moreover, corroborating the argument that additional family obligations decrease individuals' attractiveness, both men and women had lower odds of accepting requests from senders who must financially support family members. Men's odds of accepting requests from women with a widowed parent, as opposed to having two living parents, were also lower. Surprisingly, however, women were rather indifferent about whether their potential dates have two living parents. Perhaps daughters' increasing involvement in their aging parents' care has made Japanese men more concerned about their widowed parents-in-law's potential dependence on their wives than women are about the impact of their husband's surviving parent.

Beyond family characteristics, the control variables in the models also provide insights into mating preferences in Japan. Both men and women prefer better-educated partners, as requests whose senders had higher educational levels had higher odds of being accepted. Relative educational status is important as well. Both men and women had higher odds of accepting date requests in which the man's educational level was the same or higher than the woman's, although the coefficients are larger when women are the decision-makers. Moreover, women had higher odds of accepting requests in which the man had more education, compared to those in which the two parties' educational levels were the same, whereas men's odds of accepting women with lower and the same levels of education were similar. Taken together, these results suggest that women have stronger preferences for educational hypergamy than men in Japan.

Women similarly demonstrate a preference for hypergamy regarding income. Although both men and women had absolute preferences for those with higher incomes, women's odds of accepting a request increased by 75% if the sender earned slightly more, as opposed to less, than they did ($\exp(.56) = 1.75$), and their odds were more than three times as great when the sender's income was significantly higher ($\exp(1.17) = 3.22$). The scenario in which the man earned considerably more than the woman, by contrast, was not the most preferred among male receivers. Men's odds of accepting a request were lower if the woman had a much lower income, as opposed to a slightly lower or higher income, than their own. Men's and women's age preferences also did not coincide. Whereas men had greater odds of accepting requests from women more than two years younger than from those of a similar age or older than themselves, women's odds of acceptance were lower when the sender was more than two years their senior, rather than similar or younger than themselves.

To address the question whether Japanese singles' preferences for family characteristics are absolute or dependent on their own family conditions, we further fit models that include interaction terms between the sender's and the receiver's family characteristics. Table 3, which includes partial results from these models, indicates that preferences about family history depend somewhat on the receiver's own family history, especially when the receiver is female. Specifically, both men and women with prior marriage were more likely to accept requests from those with a similar experience; in fact, Wald-test results reveal that the sums of the main and interaction effects are greater than zero for both men and women, indicating that a date request between two ever-married people had higher odds of being accepted than one between two never-married people. Regarding the disadvantage for senders with a child, when the receiver also has a child and is female, the odds of acceptance increased considerably, but the receiver's own parental status was only marginally relevant for male receivers.

In contrast to family history, the effects of natal family characteristics on the acceptance of date requests rarely depend on the receiver's own traits. Singles facing a set of partner choices simply preferred those with more family traits that are universally desirable, such as not being the only child, not being the firstborn son, and living apart from family members. Thus, results for Japanese singles' preferences for natal family characteristics are generally consistent with the competition model.

Discussion

In spite of a growing literature using online dating records to investigate mate preferences, few existing studies look beyond preferences concerning basic sociodemographic attributes of potential mates, such as their age, race, income, and education (Curington et al., 2015; Hitsch et al., 2010b; Lin & Lundquist, 2013; Skopek et al., 2011), and even fewer address online dating patterns outside of Western contexts. To our knowledge, this study is the first to demonstrate singles' preferences for potential mates' family circumstances in a society featuring strong familism.

We have proposed that Japanese singles' preferences for partners with certain family characteristics could result from these characteristics' implications for unwanted future obligations, or from social stereotypes against individuals with atypical family experiences. Results from our analysis indicate that the preferences derive from a combination of both mechanisms. On the one hand, traits that clearly indicate greater obligations, such as having a child from a prior union and existing support for a family member, make one less desirable to both men and women. Many gender differences in our findings similarly support the argument about future family obligations. For example, Japanese women are more reluctant than men to accept potential partners who are firstborn or do not live independently, because women may face pressure to live with their spouse's parents, while men do not. On the other hand, a history of prior marriage, which generally triggers bias and unfavorable inferences about an individual's character, also disadvantages singles seeking romantic partners. Our results of how sibship configuration affects individuals' likelihood of receiving positive responses to their date requests, however, best demonstrate a combination of the two mechanisms. Although singles tend to find those from one-child or relatively large families

undesirable, which is consistent with the argument about social biases against both types of upbringings, being from a large family hampers individuals', especially males', mating chances much more if they are firstborn and have no brothers, two conditions that make them the designated child to care for elderly parents. At the same time, even though having no brothers typically implies greater future care responsibilities, this implication tends to be overlooked when the potential partner's family size is considered as ideal—two children—by current standards.

Beyond showing how family characteristics affect singles' desirability to potential mates, this study provides a direct test of mate-selection theories that respectively expect singles to seek partners whose traits are similar to their own or the best possible by universal standards. Similar to prior research in Western contexts (Hitsch et al., 2010a), we find that different perspectives apply to different characteristics under consideration. For individuals' family histories, the matching model, which highlights the homophily tendency, receives some support. Compared to the never-married and childless, those with a previous marriage and a child are more likely to select partners who have been married and have a child, respectively. We should nevertheless note that those with prior marriage or a child are still more likely to accept requests from those who are never-married and childless than those with a similar condition. Thus, for singles with prior marriage or a child, the desire for partners without prior marriage or children still outweighs their affinity toward those with an experience similar to their own.

For natal family characteristics, we find little support that internet daters in Japan seek partners with family circumstances similar to their own. Rather, the results are generally consistent with the competition model. When given a choice set, Japanese singles tend to select partners with natal family characteristics that indicate the least care obligations or negative stereotypes, regardless of their own family conditions.

Like all research using internet dating records (e.g., Curington et al., 2015; Hitsch et al., 2010a, 2010b; Lin & Lundquist, 2013), this study faces the limitation that the sample is restricted to users of a specific matchmaking service. The fact that the agency from which our data come is the largest in Japan, however, makes users in our sample likely to resemble the population using assistance to find marriage partners in that country. Moreover, even though internet daters do not represent all singles, prior research shows that online dating preferences are similar to those outside cyberspace (Hitsch et al., 2010a). With caution, we think that our findings can still inform about the preferences of singles seeking marriage partners in Japan.

If the preferences for family circumstances shown in this study indeed exist outside cyberspace, and these preferences partly stem from singles' aversion to care obligations, then our findings also have important policy implications for Japan. As singles shouldering larger elder-care burdens are less desirable to potential mates, they may have to choose between marrying those who also have a larger care burden and remaining single. Either way, it is likely to heighten the level of inequality in the care burden among households, resulting in a greater disparity in citizens' wellbeing. Policies that help shift the responsibility of elder care from the family to the society are needed to address this

disparity. The fact that the concern about care responsibilities plays a role in mate-selection processes also means that taking away some of the elder-care burden from the family would remove some hurdles that make it difficult for singles to find marriage partners, thereby raising Japan's very low fertility rate.

Because Japan is not unique in the expectation that the younger generation will shoulder elder-care responsibilities, and many of Japan's patrilineal norms, including the pressure for a married son to coreside with elderly parents, are shared by other Asian countries (Yasuda et al., 2011), we think that some of the results from our analysis are generally applicable to other contexts. In other Asian societies, for example, women may also prefer partners whose current living arrangements and sibship compositions imply a lower need for postnuptial coresidence. Even for countries lacking similar patrilineal norms, our overall argument, that singles use potential partners' family characteristics to gauge the latter's share of care burden and take this share into account in mate selection, may still be relevant.

Although we focus primarily on preferences for family characteristics, other findings from the analysis also provide insights into mate selection in Japan. Particularly notable are the discrepancies between men's and women's preferences for their mates' age, income, and education relative to their own. Whereas women prefer men of a similar age, men are much more inclined to date women who are considerably younger. Likewise, women are more interested in men with more education and significantly higher incomes than themselves than men are in women with less education and much lower incomes. To the extent that cyberspace mate preferences are similar to preferences elsewhere, discrepancies uncovered in this study are likely to play a role in explaining the difficulty of union formation among Japanese singles. At the very least, our findings suggest that the effect of the rapid rise in matchmaking services on marriage formation in Japan may be dampened by the fact that men and women using such services have different views on what an ideal couple's relative statuses should be. Future research, however, is needed to further illuminate how the gap between men's and women's preferred scenarios of matches is linked to the continuous increase of marriage postponement in Japan.

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A. Male senders

B. Female senders

Figure 1:

Predicted Changes in Conditional Probabilities According to Sender Sibship Attributes

Note: The conditional probabilities are calculated using coefficients from the two Model 2's in Table 2, with all other variables held at the sample mean or median.

Table 1:
Descriptive Statistics of Senders and Receivers of Date Requests

	Woman-to-man requests		Man-to-woman requests	
	Senders (woman)	Receivers (men)	Senders (men)	Receivers (women)
Acceptance rate	--	30.9	--	11.6
Educational level:				
High school and less	15.0	6.9	26.3 ^a	16.3 ^b
Vocational school	16.1	5.0	13.3 ^a	19.7 ^b
Junior college	25.0	1.9	3.2 ^a	24.3 ^b
University and more	43.8	86.2	57.3 ^a	39.6 ^b
Age group:				
29	27.5	10.0	17.5 ^a	41.1 ^b
30–39	62.9	69.7	60.6 ^a	53.7 ^b
40~	9.6	20.3	21.9 ^a	5.2 ^b
Annual income (in 1 million yen)	3.2 (1.5)	7.3 (4.3)	5.5 (2.8) ^a	3.0 (1.4) ^b
Ever married	12.7	10.1	15.2 ^a	7.9 ^b
Have a child	4.9	1.0	2.6 ^a	5.2 ^b
Firstborn	54.2	55.3	55.9 ^a	50.4 ^b
Only child	12.2	8.8	12.1 ^a	9.7 ^b
Sibship size	2.2 (.7)	2.3 (.7)	2.3 (.8)	2.3 (.7) ^b
No brothers	48.5	49.2	49.0	44.7 ^b
No coresiding family members	37.4	73.6	56.9 ^a	36.5 ^b
Support family members (other than child)	0.5	2.6	3.5 ^a	0.7 ^b
One living parent	21.4	20.0	24.1 ^a	16.3 ^b
Channel to identify receiver:				
Computer matching	37.4	--	34.4	--
Agency print materials	50.0	--	53.5	--
Other	12.7	--	12.1	--
Time with agency (month)	7.1 (5.2)	12.0 (15.5)	7.6 (5.3) ^a	13.3 (17.3) ^b
N of individuals	4,057	9,279	7,737	11,954
N of requests	135,837			406,489

Note: Except for income, sibship size, and receiver's time with agency, for which the average and standard deviation (in the parentheses) are presented, all numbers are in percent. The percentages and averages are calculated among all date requests used in the study, not individuals sending or receiving requests.

^a indicates a significant difference between male senders and receivers based on *t*- or χ^2 -test results ($p < .05$).

^b indicates a significant difference between female senders and receivers based on *t*- or χ^2 -test results ($p < .05$).

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Table 2:
Fixed-Effects Logistic Regressions of Acceptance of Date Requests

	Woman-to-man requests (male decision-makers)				Man-to-woman requests (female decision-makers)				
	Model 1		Model 2		Model 1		Model 2		
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>Diff^a</i>
<i>Sender characteristics:</i>									
Ever married	-.25**	.03	-.25**	.03	-.34**	.02	-.34**	.02	
Have a child	-1.07**	.05	-1.08**	.05	-.24**	.04	-.23**	.04	**
Firstborn	-.06**	.02	-.06**	.02	-.12**	.01	-.12**	.01	**
Only child	-.09**	.03	-.25**	.04	-.14**	.02	-.25**	.03	
Sibship size	-.09**	.01	-.05*	.01	-.08**	.01	-.05**	.01	
No brothers	-.02	.02	.36**	.07	.01	.01	.28**	.05	
Sibship size × no brothers			-.17**	.03			-.12**	.02	
Not coresiding with family	.04**	.02	.04**	.02	.36**	.01	.36**	.01	**
Support family members (other than child)	-.69**	.11	-.71**	.11	-.29**	.03	-.29**	.03	**
One living parent	-.11**	.02	-.11**	.02	-.01	.01	-.01	.01	**
Education (<i>ref.</i> high school and less):									
Vocational school	.12**	.03	.12**	.03	.18**	.02	.18**	.02	**
Junior college	.43**	.03	.43**	.03	.13**	.04	.12**	.04	**
University and more	.52**	.03	.53**	.03	.39**	.03	.39**	.03	**
<i>Age group (ref. 29):</i>									
30–39	-.19**	.02	-.19**	.02	-.15**	.02	-.16**	.02	
40~	-1.05**	.05	-1.05**	.05	-.75**	.03	-.75**	.03	**
Annual income (in 1 million yen)	.07**	.01	.07**	.01	.10**	.00	.10**	.00	**
<i>Relative characteristics</i>									
Relative educational status (<i>ref.</i> man's < woman's):									
Same education	.15**	.03	.15**	.03	.39**	.03	.39**	.03	**
Man's > woman's	.16**	.05	.16**	.05	.57**	.03	.57**	.03	**
Relative age status (<i>ref.</i> man younger)									
Man 0–2 years older	.42**	.02	.42**	.02	.00	.03	.00	.02	**
Man more than 2 years older	.74**	.03	.74**	.03	-.30**	.02	-.30**	.02	**
Relative income status (<i>ref.</i> man's < woman's):									
Man with 0–999,999 more income	.02	.05	.02	.05	.56**	.04	.56**	.04	**
Man with 1 million or more income	-.14**	.05	-.14**	.05	1.17**	.03	1.17**	.03	**
<i>Other features:</i>									
Channel to find receiver (<i>ref.</i> computer match):									

	Woman-to-man requests (male decision-makers)				Man-to-woman requests (female decision-makers)				
	Model 1		Model 2		Model 1		Model 2		
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>Diff^a</i>
Agency print materials	−.62**	.02	−.62**	.02	−.87**	.02	−.87**	.02	**
Other	.06*	.02	.06*	.02	.21**	.02	.21**	.02	**
Receiver's time with the agency (month)	−.01**	.00	−.01**	.00	−.03**	.00	−.03**	.00	**
N of decision-makers	9,279		9,279		11,954		11,954		
N of requests	135,837		135,837		406,489		406,489		
Log Likelihood	−53,263.93		−53,247.65		−99,121.65		−99,107.64		

Note: The model includes fixed effects for receivers of date requests.

^a The column contains test results for the differences between the coefficients in the two Model 2s.

[†] $p < .10$;

* $p < .05$;

** $p < .01$.

Table 3:

Partial Fixed-Effects Logistic Results of Acceptance of Date Requests

	<u>Woman-to-man requests (male decision-makers)</u>		<u>Man-to-woman requests (female decision-makers)</u>	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
<i>Sender characteristics^a</i>				
Ever married	-.37**	.03	-.50**	.02
× receiver ever married	.42**	.06	.75**	.04
With a child	-1.12**	.05	-.47**	.05
× receiver with a child	.28 [†]	.16	.53**	.09
Firstborn	-.04	.02	-.12**	.02
× receiver firstborn	-.03	.03	.01	.02
Only child	-.24**	.04	-.24**	.03
× receiver only child	-.07	.08	-.06	.06
Sibship size	-.10**	.04	-.08**	.03
× receiver sibship size	.02	.01	.02	.01
No brothers	.38**	.07	.28**	.06
× receiver no brothers	-.04	.05	-.02	.04
Sibship size x no brothers	-.19**	.03	-.12**	.02
× receiver sibship size x no brothers	.02	.01	.00	.01
Not coresiding with family	.06*	.03	.37**	.01
x receiver not coresiding with family	-.02	.03	-.03	.02
Support family members (other than child)	-.70**	.11	-.29**	.03
× receiver support family member	-.05	.55	.33	.31
One living parent	-.11**	.02	-.01	.02
× receiver one living parent	-.01	.04	.04	.03
N of decision-makers	9,279		11,954	
N of requests	135,837		406,489	
Log Likelihood	-53,212.49		-98,923.39	

Note: The models include fixed effects for receivers and control for the same variables as in the models in Table 2, including education, age, and income of the senders; relative education, age, and income statuses of the dyads; and the channels through which the senders first became aware of the receivers of their date request.

^aAll the characteristics that are not specified as receiver characteristics are those of the senders. In other words, the non-interaction variables are all sender characteristics, whereas the interaction terms are between sender characteristics and receiver characteristics.

[†] $p < .10$;

* $p < .05$;

** $p < .01$