The Negative Effect of Ambiguous First Names in Online Mate Selection: Evidence from a Survey Experiment in Japan

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Abstract

Research has shown that some first names can be disadvantageous on the marriage market. However, the precise mechanisms whereby names influence mate selection behaviour remain unknown. This study attempted to address this gap. More specifically, this investigation examined Japanese women's preferences for male partners with common male names with clear readings as compared to male partners with names with unclear or "ambiguous" readings. This investigation had two guiding hypotheses: (1) Japanese women have a lower preference for ambiguous male names; (2) the lower degree of preference for ambiguous male names was attributable to Japanese women assuming that the names were indicative of a low social class. To test these hypotheses, we conducted a conjoint experiment of 1,261 single Japanese women aged 25 to 34 years in a fictitious online mate selection setting. Participants were provided with fourteen randomly generated profiles of potential marital partners and were asked to decide whether to prefer them or not. It was found that the female participants preferred profiles with common male names over profiles with ambiguous male names in an online mate selection setting, with a significant effect size of 7 percentage points. This finding supported hypothesis 1. However, no evidence was found for hypothesis 2.

Introduction

Names and Social Disparity

Research in psychology and economics shows that naming practices are associated with social disparity. For example, names that are infrequent (Pascual et al. 2015) and perceived as unattractive (Guéguen & Pascual 2011) are associated with low employability in France. Similarly, names signaling certain racial and ethnic groups have been shown to bring disadvantages in employment opportunities in the US (Bertrand & Mullainathan 2004), Sweden (Carlsson & Rooth 2007), the UK (Wood et al. 2009), and Australia (Booth, Leigh, & Varganova 2012).

The search for potential matches on the marriage markets is another arena where name biases can be associated with certain social disparities (Arum, Roksa, & Budig 2008). A study by Gebauer, Leary, & Neberich (2012) in Germany, for example, reported that men with names that are uncommon or perceived as unattractive had lower chances of receiving profile visits on an online dating site. Specifically, *Kevin* received fewer first visits on his profile than did *Alexander* (Gebauer, Leary, & Neberich 2012). Differential preferences in names are not only a function of perceived attractiveness. As much research has shown, the names people carry can indicate much about their familial backgrounds; and this information may influence mate-selection.

Previous sociological studies have shown that parents select names based on sociodemographic subgroups. In the US, it has been shown that children's first names may reflect the name-bearer's race and mother's educational attainment (Lieberson & Bell 1992). In the Netherlands, income and parents' educational attainment (Bloothooft & Onland 2011) have been shown to be related to first name selection; and in Belgium, parents' cultural capital has been found to play a role (Elchardus & Siongers 2011).

First names have also been reported to generate certain social stereotypes. Yoganarasimhan (2017) suggests, for example, that in the US first names become popular after parents with high cultural capital adopt them for their children. This group's name preference leads certain names to become associated with high cultural capital which in turn induces other parents to imitate the name preferences of the early adopters. Moreover, Skipper, Leslie, and Wilson (1990) report that people in the US often judge the social class based of others based on the names they carry. Similar findings have been reported elsewhere. Studies have found that names that are hard to read, have unusual spellings, or uncommon sounds may be perceived as indicative of a lower social class and can be stigmatizing and burdensome for the name-bearers (Lindsay & Dempsey 2017; Tsukatsune 2015).

However, we know little about why these names are not preferred. Preventing or mitigating this disadvantage is difficult if the reason remains unknown. For this reason, it is essential to understand this mechanism to avoid the continuation of social disparities brought by first names. To fill this gap, this study

aims to determine to what extent and why naming practices influence selection behavior in a fictitious online marriage market in Japan. The focus of this research is on male names which are considered "ambiguous".

Ambiguous Names in Japan

In Japan, parents typically use Chinese characters (ideograms), hiragana, and katakana (phonograms) for baby names (Ogihara 2021a). A name using hiragana and katakana cannot be misread, as these symbols represent speech sounds (Ogihara 2021a). Conversely, Chinese characters often have multiple readings, as they are symbols that express concepts and meanings (Ogihara 2021a). Although Chinese characters have an official reading, parents and guardians can give any reading to the Chinese characters of their baby's name (Ogihara 2021b). There are also no legal restrictions in place regarding pronunciation (Ogihara 2021a). Consequently, even native Japanese speakers may have difficulty reading names with Chinese characters. Ogihara (2015) classified uncommon names into two major categories: (1) Japanese names written in common Chinese characters with uncommon readings; and (2) Japanese names written in uncommon Chinese characters. All ambiguous names in this study correspond to (1); and this study defines these hard-to-read names as ambiguous. For example, the most likely reading of 勇斗 is *Yuto* which can be interpreted to mean 'brave person' in English. However, on the basis of the Chinese character 勇 which means 'brave', parents could also interpret this name as meaning *faito* 'fight'. According to Unser-Schutz (2015), some ambiguous names are subject negatively depicted in Japanese media. Nevertheless, few quantitative studies exist that examine these negative assessments. Consequently, to ascertain the extent to which ambiguous male names are not preferred, this study tested the following hypothesis: H1: Women participants will prefer common male names over ambiguous male names in an online mate selection setting.

Online Mate Selection in Japan

Online mate selection is becoming more common in Japan. The percentage of marriages in Japan resulting from online mate selection has increased in recent years. According to a survey conducted by the Japanese government, the percentage of marriages in Japan resulting from online mate selection has increased in recent years (National Institute of Population and Social Security Research 2022). For example, the percentage of married couples who met their partner through online services rose from 6.0% between July 2015 and June 2018 to 13.6% among those married between July 2018 and June 2021. Conversely, the percentage of couples who met each other through their workplace decreased from 28.2% to 21.4% over the same period (National Institute of Population and Social Security Research 2022).

Previous studies of online mate selection in Japan have shown that women, the subjects of this study, have lower preferences for men whose age, educational attainment, and income are lower than their own (Brinton, Mun, & Hertog 2021; Yu & Hertog 2018). Furthermore, Japanese women may also consider the family background of their potential marital partner. For example, they have been found to avoid men who are the eldest sons who will be responsible for caring for their elderly parents after marriage (Brinton, Mun, & Hertog 2021). Given these findings, it is logical to hypothesize that such concerns could be the mechanism behind Japanese women's low preference for ambiguous male names in an online marriage fora. Using this reasoning, this study tested a second hypothesis: H2: Women participants will have a lower preference for ambiguous names because they interpret them as being a signal of the male name-bearer having a low level of educational attainment.

Methods

Survey Samples

Data were collected from 1,261 participants between 15 and 24 January 2022. The conditions of participation were that the respondents were female, single, and between 25 and 34 years old. The female participants' willingness to marry was not a requirement for their inclusion in the study, as the crowd-sourcing platform did not provide a means to verify people's true dating intention. There are several reasons for believing, however, that a good proportion of the participants were seriously looking for a marital partner. In Japan, for example,

it was found that 85.7% of never-married women aged 18 to 34 years expressed their desire to marry (National Institute of Population and Social Security Research 2022). Additionally, given that the recruitment page was titled "Survey on the important elements when choosing a partner in online mate selection", it is improbable that the majority of participants were uninterested in marriage.

The participants were recruited from the crowd-sourcing platform, CrowdWorks, Inc. which is one of the largest crowd-sourcing services in Japan. Like Amazon Mechanical Turk, the service rewards participants for completing tasks. Evidence suggests that this service provides a valid participant pool for behavioral study (Majima et al. 2017; Majima 2017). However, it is important to stress that the results of this study are only applicable to our specific participant group— a majority of whom possess a higher education, despite the fact that most reported a lower annual income. Further details about the characteristics of the female participants are provided in the results section. Although the findings cannot be unconditionally generalized, the subject-pool of participants were determined to be appropriate for the purpose of this study, which is to provide early evidence of the possible cause and effect of naming practices on female participants' preferences in the marriage market.

Participants were incentivized to carefully answer the questionnaire. Participants were told that following the results of our preliminary survey, a payment of 110 Japanese Yen (JPY) would be provided for completing the survey, which required about five minutes. Therfore, the participants knew that their hourly rate would be about 1,320 JPY or 9.4 USD. This amount was above the hourly minimum wage in Tokyo which was 1,041 JPY and the highest in Japan. To prevent participants from rushing through the questions and giving inaccurate answers, both the recruitment screen and the questionnaire clearly indicated that participants who answered unusually quickly would not be compensated.

Experimental Design

To test the hypotheses, we conducted a conjoint experiment following Hainmueller, Hopkins, and Yamamoto (2014). In this study, participants were asked to select the profiles of presidential candidates with eight attributes, such as gender, religion, and educational attainment. However, in the current study, participants were provided with two randomly generated fictitious profiles of potential male marital partners. They were then asked to decide whether to send a "Like". Each profile had ten attributes (see table 1).

Table 1: Example of the Profiles (English Version)

	Potential Marital Partner 1	**Potential Marital Partner 2**
Last Name	Suzuki	Ito
First Name	清 (Kiyoshi)	騎士 (Naito)
Age	35	30
Highest Educational Attainment	University/Graduate School Degree	University/Graduate School Degree
Marital Status	Unmarried	Unmarried
Occupation	Office Worker	Office Worker
Annual Income	6.0–7.9 million JPY	2.0–3.9 million JPY
Height	160–169 cm	180 cm or more
Appearance	Slightly Unattractive For You	Unattractive for You
Educational Attainment of Men's Parents	Junior College/Technical College/Vocational School Degree	High School Degree

Each participant was presented with two fictitious profiles of potential male marital partners, arranged side by side, featuring ten attributes with randomly assigned attribute levels (see Table 2).

Table 2: Attributes and Attribute Levels Presented as Profiles of Potential Marital Partners

Attributes	Attribute Types and Levels
First name	健太 (Kenta) 清 (Kiyoshi) 大翔 (Hiroto) 楽 (Waku) 勇斗 (Faito) 騎士 (Naito)
Last name	Sato Suzuki Takahashi Tanaka Watanabe Ito
Age (years)	25 30 35
Level of Educational attainment	High School Degree Junior College/Technical College/Vocational School Degree University/Graduate School Degree
Marital status	Unmarried
Occupation	Office Worker
Annual income	2.0–3.9 million JPY 4.0–5.9 million JPY 6.0–7.9 million JPY 8.0–9.9 million JPY 10.0 million JPY or more
Height	Less than 160 cm 160–169 cm 170–179 cm 180 cm or more
Appearance	Unattractive to You Slightly Unattractive to You Slightly Attractive to You Attractive to You
Educational Attainment of Men's Parents	No Information High School Degree Junior College/Technical College/Vocational School Degree University/Graduate School Degree

Participants were presented with the two profiles seven times in total. Previous study have confirmed that participants were able to maintain the quality of their responses for up to 30 presentations (Bansak et al. 2018). The seven task presentations in this study fall well within the range that has been shown to maintain response quality in previous study.

This experimental design had several advantages for testing our hypotheses. First, by presenting participants with various information other than first names, it provided results similar to participants' real-world behavior. In comparison to investigations that elicit participants' preferences on a single dimension (i.e., only first names), this design had increased external validity (Hainmueller, Hopkins, & Yamamoto 2014). Second, the design helped to reduce the social desirability bias by providing participants with multiple variables to justify their selection (Horiuchi, Markovich, & Yamamoto 2021). Third, each effect size estimated on the same scale for each attribute level could be compared across different attribute levels. This facilitated the production of inferences about the relative weights of the attribute levels (Horiuchi, Smith, & Yamamoto 2018; Hainmueller & Hopkins 2015; Hainmueller, Hopkins, & Yamamoto 2014).

These were not the only advantages of this design. According to Suzuki et al. (2018), women prioritize income, height, and education when selecting a marital partner. Furthermore, previous studies have

demonstrated that first names can convey information about one's age (Johfre 2020), education, and income (Crabtree et al. 2022), thereby providing the participants with dual-stimulus signals. By incorporating these attributes into the male profiles, these issues were mitigated.

Along with the conjoint experiment, the survey questionnaire also collected background information about the participants, such as age, marital status, educational attainment, annual pretax income, and use of online mate selection apps or websites. Participants completed this questionnaire via their mobile phone or PC.

To test H1, we employed common and ambiguous male names from previous studies (Shukuri 2017; Yamanishi et al. 2016). The common first male names were 健太（*Kenta*), 清（*Kiyoshi*), and 大翔（*Hiroto*). The ambiguous male names were 楽 (*Waku*), typically read as *Raku*, which can be interpreted to mean 'fun'or 'exciting'; 勇斗 (*Faito*), commonly read as *Yuto,* which can be interpreted to mean 'brave'or 'courageous'; and 騎士（*Naito*), typically read as *Kishi*, which can be interpreted to mean 'knight'or 'warrior'.To test H2, the parental educational attainment for the fictious males were described as being at one of the following levels: (1) no information; (2) high school degree; (3) junior college/technical college/vocational school degree; or (4)university/graduate school degree.

The remaining attributes in the profile were chosen based on previous studies (Crabtree et al. 2022; Johfre 2020; Yu & Hertog 2018; Suzuki et al. 2018) and the characteristics commonly featured on Japanese online mate selection platforms (e.g., age, educational background, occupation, income, marital status, and a photograph). The age displayed in the male profiles was matched with that of the female participants. As shown in Table 2, annual incomes of less than 2 million JPY were not included among the attributes. This decision was made to prevent participants from making their decisions based solely on this factor, without considering other significant attributes. This precaution imposed on a trade-off between the other attributes. We employed only "unmarried" as marital status because the participants were looking for potential marital partners, and married men are at a disadvantage in this regard (Yu & Hertog 2018). Since the attribute levels were presented randomly to the participants, we only used "office worker" as an occupation to eliminate some impossible combinations, such as a medical doctor with only a high school degree.

The height variables were based on the average height of Japanese men aged 26 to 29 years (171.7 SD = 5.5) (Ministry of Health, Labour and Welfare, Japan 2018). For the appearance attribute photos were not employed as visual images could have exerted a biased influence and failed to impose a trade-off among the other attributes. Instead, this attribute was presented to the female participants in the form of descriptions (e.g. "attractive to you").

Three attribute levels for each of the four attributes would generate a total of 81 possible profiles ($3 \times 3 \times 3 \times 3$). However, this study had 10 attributes which produced 103,680 possible profiles ($6 \times 6 \times 3 \times 3 \times 1 \times 1 \times 5 \times 4 \times 4 \times 4$), which exceeds the number of evaluated men (i.e., 1,261 participants $\times$ 14 potential marital partners = 17,654). The randomization of the attribute levels enabled us to estimate the relative treatment effects without observing all possible combinations (Hainmueller, Hopkins, & Yamamoto 2014).

Statistical Analyses

Analysis 1: Estimate Choice Probabilities

We followed the statistical approach developed by Hainmueller, Hopkins, and Yamamoto (2014) to estimate the impact of first names on a female participant's decision to choose one profile of a potential marital partner over another. We used ordinary least squares regression (OLS) with clustered standard errors by participant. The coefficients were interpreted as average marginal component effects (AMCE) and expressed how much the probability of choosing a profile changed on average when an attribute level changed from the reference category to the particular attribute level.[2]

The independent randomization of the attribute levels enabled us to estimate the AMCE using a regression of the dichotomous outcome variable on sets of variables measuring the attribute levels without participants' control variables. Thus, we employed a dichotomous variable—whether a participant sends a Like (i.e., "Sent a Like" and "Did not send a Like")—as the dependent variable. The attributes of potential marital partners were employed as independent variables. Specifically, first names were coded to a dichotomous variable (i.e., common names and ambiguous names). We used the cregg package (Leeper 2020) in R for the analysis.[3]

Analysis 2: Estimate Interacting Effects

Following Hainmueller, Hopkins, and Yamamoto (2014), we included an interaction term between first names and educational attainment of men's parents to examine whether the effects of first names depended on the educational attainment of men's parents (Figure 1).
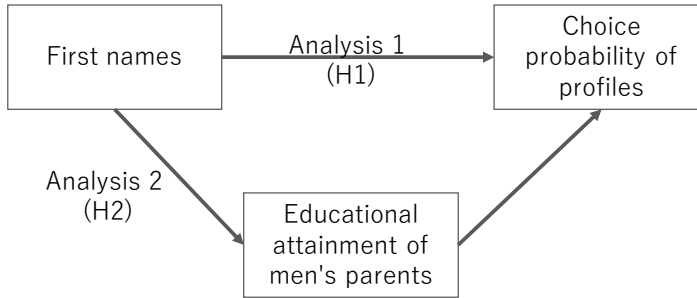
Figure 1: Conceptual Model of Analysis 1 and 2

Similar to Analysis 1, we used OLS with clustered standard errors by participant in accordance with Hainmueller, Hopkins, & Yamamoto (2014). The female participants were randomly assigned to one of four groups. These comprised three treatment groups, each of which received information about one of three levels of educational attainment of fictitious men's parents (i.e., high school degree, junior college/technical college/vocational school degree, university/graduate school degree); and one control group, which received no information. This randomization occurred simultaneously with the randomization of each attribute level in Analysis 1. In this experiment, for example, we expected the female participants to increase choice probability of ambiguous names, given that the profile displays information that the fictitious men's parents are highly educated, compared to no information about the educational attainment of men's parents. Such information was expected to alleviate women's concerns about the men's low social background that might be signaled by ambiguous names. We used the estimatr package (Blair et al. 2022) in R for this analysis.[1]

Results

Participants' Response Time and Verification of the Equal Appearance of Attribute Levels

The participants' median time to evaluate two profiles was 16.3 seconds (1st quartile: 11.4 seconds; 3rd quartile: 24.7 seconds). No participants sent Likes within one or two seconds of viewing the profile throughout the questionnaire process, as the recruiting screen and questionnaire indicated that participants who answered in an extremely short time would not be compensated. Thus, the analysis did not have to exclude any participants.

In the conjoint experiment, all attribute levels of the profiles (e.g., each first name, last name, age) were randomly displayed within each attribute using Qualtrics. Thus, the frequency of each attribute level should have been balanced within the attributes when the randomization was successfully implemented. In this study, each attribute level had a generally similar frequency in the profiles: 50.52% (8,918 of 17,654) for common male names, and 49.48% (8,736 of 17,654) for ambiguous male names.

## *Characteristics of Participants and Descriptive Statistics for First Names*

The study included 1,261 female participants. Their mean age was 29.2 years (SD = 2.9) and more than half (732, 58.04%) had a university or postgraduate degree. Most (950, 75.33%) had an annual income of less than 4 million JPY (about 28,500 USD). More than half (683, 54.16%) had used an online dating app or website before this study.

As all of the participants evaluated the profiles of two potential marital partners seven times, a total of 17,654 data points were collected. Participants sent a Like to slightly less than half of the male profiles (8,110, 45.94%). The percentage of Likes according to first names was 49.11% (4,380 of 8,918) for common names, and 42.70% (3,730 of 8,736) for ambiguous names.

Analysis 1: Participants' Preference for First Names

Figure 1 describes the estimates of the AMCE, which shows how much the probability of choosing a profile change on average when an attribute is switched from the reference category to the particular attribute level. The AMCE for the reference category is by definition fixed to zero and presented in bold (e.g., common names). No control variables needed to be included in this analysis because the randomization of the attribute levels across the 14 choice tasks per participant ensured that the participants' confounding variables were approximately equally distributed (Hainmueller, Hopkins, & Yamamoto 2014).

Overall, the figure shows that attributes other than the last name and the educational attainment of fictitious men's parents had statistical differences when compared to the reference attribute levels. In particular, the attributes that increased the female participants' choice probability of a male profile compared to the reference category were as follows: annual income, height, and appearance. The ambiguous names were estimated to decrease the choice probability of a profile by about seven percentage points ($\beta = -.07$, SE = .01, $p < .001$), compared to the common names. The absolute value of this effect size was similar to that of men's educational attainment between high school degree and junior college/technical college/vocational school degree ($\beta = .05$, SE = .01, $p < .001$).
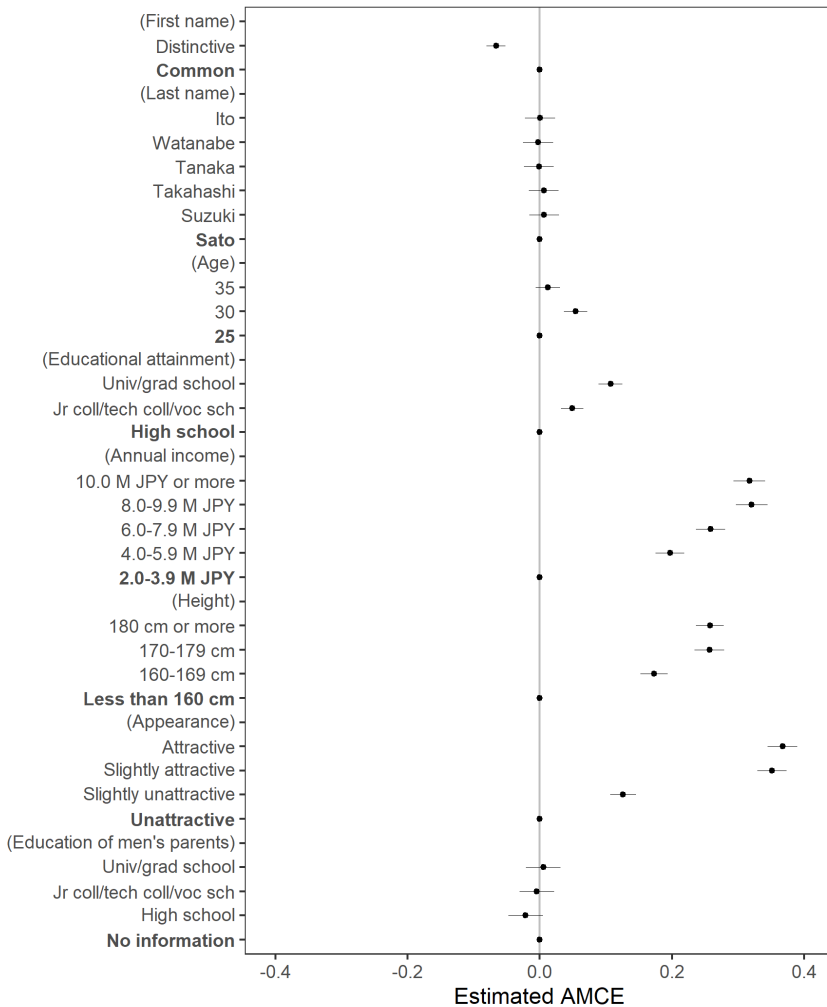
Figure 2: Estimated Average Marginal Component Effects by Attribute Levels

The figure reports average marginal component effects obtained from ordinary least squares regression of participants' choice on randomly assigned attribute levels of potential marital partners. Dots with horizontal lines indicate point estimates of average marginal component effects with 95% confidence interval. Dots on the zero line without confidence intervals describe the reference category. These average marginal component effects illustrate the average change in the probability of selecting a profile when an attribute level changes from the reference category to a specific attribute level.

Analysis 2: Interaction of Educational Attainment of Men's Parents

The right column of Table 3 (Analysis 2) shows the results of adding an interaction term between first names and educational attainment of men's parents to the model of Analysis 1. The interaction term was not statistically significant. This finding indicated that the effects of first names did not depend on the educational attainment of the men's parents. For example, providing explicit information about men's parents having high school degrees mitigated the negative impact of ambiguous names by 0.02, compared to when no information was provided regarding the educational attainment of the men's parents. However, this result was not statistically significant (see first names × high school in Table 3). Similarly, providing information about men's parents having university degrees or higher had no effect on the negative impact on ambiguous male names, compared to when no information was provided about the parental level of educational attainment for the fictitious men (see first names × university/graduate school in Table 3). Thus, the participants' preference for first names was not impacted by concerns about the educational attainment of men's parents.

The remaining results of Analysis 2 were largely consistent with those of Analysis 1, with the exception of the educational attainment of men's parents. Specifically, when the educational attainment of the men's parents was displayed as high school, female participants were less likely to select a male profile, as compared to when no information was provided about the parental level of educational attainment (β = -.03, SE = .02, p < .05). However, as previously mentioned, this attribute did not have a statistically significant impact on the negative influence of ambiguous names.

Analysis 2 utilized a random assignment technique where the female participants were assigned to either the treatment or control group while simultaneously randomizing each attribute level as done in Analysis 1. However, the random assignment was not successful. Some of the men's characteristics (e.g., the percentage of high school) were not balanced between the control (i.e., no information) and treatment groups (i.e., each level of educational attainments of men's parents). Caution should, therefore, be exercised when interpreting the results. Nevertheless, as the interaction terms did not show any statistical significance, the potential impact may not be great.

Table 3: Estimated average marginal component effects for Analysis 1 and 2

Independent variables	Analysis 1	Analysis 2
	Coefficients (SE)	Coefficients (SE)
First Name		
Common Male Names	Ref.	Ref.
Ambiguous Male Names	-.07 (.01) ***	-.08 (.02) ***
Last Name		
Sato	Ref.	Ref.
Suzuki	.01 (.01)	.01 (.01)
Takahashi	.01 (.01)	.01 (.01)
Tanaka	-.00 (.01)	-.00 (.01)
Watanabe	-.00 (.01)	-.00 (.01)
Ito	.00 (.01)	.00 (.01)
Age (Years)		
25	Ref.	Ref.
30	.05 (.01) ***	.05 (.01) ***
35	.01 (.01)	.01 (.01)
Educational Attainment		
High School	Ref.	Ref.
Junior College/Technical College/Vocational School	.05 (.01) ***	.05 (.01) ***
University/Graduate School	.11 (.01) ***	.11 (.01) ***

Table 3 Continued: Estimated average marginal component effects for Analysis 1 and 2

Independent variables	Analysis 1	Analysis 2
Annual Income		
2.0–3.9 million JPY	Ref.	Ref.
4.0–5.9 million JPY	.20 (.01) ***	.20 (.01) ***
6.0–7.9 million JPY	.26 (.01) ***	.26 (.01) ***
8.0–9.9 million JPY	.32 (.01) ***	.32 (.01) ***
10.0 million JPY or more	.32 (.01) ***	.32 (.01) ***
Height		
Less than 160 cm	Ref.	Ref.
160–169 cm	.17 (.01) ***	.17 (.01) ***
170–179 cm	.26 (.01) ***	.26 (.01) ***
180 cm or more	.26 (.01) ***	.26 (.01) ***
Appearance		
Unattractive	Ref.	Ref.
Slightly Unattractive	.13 (.01) ***	.13 (.01) ***
Slightly Attractive	.35 (.01) ***	.35 (.01) ***
Attractive	.37 (.01) ***	.37 (.01) ***
Educational Attainment of Men' Parents		
No Information	Ref.	Ref.
High School	-.02 (.01)	-.03 (.02) *
Junior College/Technical College/Vocational School	-.00 (.01)	-.02 (.02)
University/Graduate School	.01 (.01)	.00 (.02)
First Names $\times$ Men' s Parental Educational Attainment		
First Names $\times$ No Information		Ref.
First Names $\times$ High School		.02 (.02)
First Names $\times$ Junior College/Technical College/Vocational School		.03 (.02)
First Names $\times$ University/Graduate School		.00 (.02)
Intercept	-.18 (.02) ***	-.17 (.02) ***
N	17,654	17,654
R2	0.21	0.21

Note: *** p < .001, ** p < .01, * p < .05. Models are ordinary least squares regressions. Data presented as the coefficients with clustered standard errors by participant are in parentheses. The coefficients are interpreted as average marginal component effects, expressing how much the probability of choosing a profile change on average when an attribute level changes from the reference category to the particular attribute level.

Summary and Discussion

Our study has several limitations, one of which relates to the external validity of its findings. We recruited participants from a crowd-sourcing platform, which was confirmed as a valid participant pool by previous studies (Majima et al. 2017; Majima 2017). However, this pool may not represent the general population of Japanese single women aged 25 to 34 years. The results may be particularly applicable to our participant group, which is largely made up of individuals with a higher education, while most reported a lower annual income.

The first names we used were taken from previous studies (Shukuri 2017; Yamanishi et al. 2016) and may not be representative. Therefore, the effect of ambiguous names could be overestimated. However, the results of this study using an experimental design are consistent with a previous study using observational data in Germany (Gebauer, Leary, & Neberich 2012), which increases the plausibility of the result. Despite these limitations, this research did yield many important findings.

Our study shows that female participants prefer profiles with common names over those with ambiguous names, showing a significant effect size of seven percentage points. Our findings imply that naming practices can contribute to social disparity in marriage opportunities. However, this effect is small and the factors such as university/graduate school education (11%), income (up to 32%), height (up to 26%), and appearance (up to 37%) had a much bigger impact. We found no evidence to suggest that ambiguous names are less preferred due to associations with a lower social class of the men's parents. Taken together, these findings relate directly to past research conducted in the field.

Gebauer, Leary, and Neberich (2012) reported for example, that first names that were perceived as unattractive or uncommon could bring disadvantages on an online dating site to the name-bearers on the marriage market. However, the mechanism of this effect was not elucidated. This study attempted to determine the extent to which ambiguous male names are negatively evaluated and why. In doing so, this study extends the limited understanding of how much naming practices could influence online mate selection. To the best of our knowledge, this study is the first to demonstrate this effect using an experimental design. The results showed that ambiguous names were less preferred than common ones in an online mate selection setting, as expected according to H1. This finding was consistent with a previous study using observational data in Germany (Gebauer, Leary, & Neberich 2012).

The conjoint experiment utilized in our research enabled us to compare the effect size across different attribute levels and make inferences about the relative weights of the attribute levels because the AMCE was estimated on the same scale for each attribute level (Horiuchi, Smith, & Yamamoto 2018; Hainmueller & Hopkins 2015; Hainmueller, Hopkins, & Yamamoto 2014). We found that the female participants were about seven percentage points less likely to send a Like to fictitious men with ambiguous male names as compared to those with common male names. While this effect size was not as substantial as the men's annual income, height, or physical appearance, it was comparable to the effect of men's educational attainment between a high school degree and a junior college/technical college/vocational school degree (i.e., five percentage points). These results may mean that naming practices for men, particularly the selection of some ambiguous male names, could create disadvantages in online mate selection to almost the same extent as relatively low levels of educational attainment. Nevertheless, generalizations should be made with caution considering the limited representativeness of the first names and study sample.

This study also explored why ambiguous male first names might be negatively evaluated in the marriage market. The results showed that the female participants were not concerned about the educational attainment of the fictitious men's parents when selecting profiles with ambiguous names. This finding was completely contrary to our expectations (H2). This result has two implications that require future study. First, it may be the case that the female participants were concerned about features other than the parental level of educational attainment of potential male partners. Potential support for this alternative explanation might be found in the previous investigation of Lindsay & Dempsey (2017) who determined that Australian names associated with a low social class were considered to be less aesthetically pleasing. In the same way, ambiguous male names in Japan may also be judged as lacking aesthetic appeal. Lebuda & Karwowski (2013) reported that poems, paintings, and music signed with unique names are regarded as particularly creative. If the same were true for perceptions of potential partner names, participants may be more likely to send a Like, when there is additional information related to aesthetics in the profile. It might be the case, however, that the study participants' reluctance to select men with ambiguous male names could be attributed to some other variable unrelated to social class. There is also past research that supports this alternative explanation. Johfre (2020) reported, for example, that participants did not make strong assumptions about parental education by evaluating first names. Aldrin (2017) found that teachers neutrally assessed pupils' texts that included first names signaling high or low socioeconomic status. Following these findings, mechanisms other than social class may have to be considered. For example, women may be concerned about how others will perceive them if they marry a man with an ambiguous male first name. Clearly more research is needed.

Notes

[1] Ethical approval was obtained from the Ethics Committee of Tohoku University, Graduate School of Arts and Letters (Approval No. 20211210).

2 An increasing number of studies are applying this approach to estimate AMCE in various settings: the causal effects of individual attitudes towards vaccine acceptance (Kreps et al. 2021), trade agreement (DiGiuseppe & Kleinberg 2019), and immigrants (Hainmueller & Hopkins 2015).

3 For supplementary material, interested readers are invited to visit the following link: https://osf.io/kjnrd/

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Disclosure Statement

The authors declare no competing interests.

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