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Data Availability Statement

Due to the sensitive nature of the questions asked in this study, the raw survey data cannot be made publicly available, as respondents were assured that their individual-level responses would remain confidential. An anonymized and processed dataset sufficient to reproduce all results reported in the paper, together with the replication code, is publicly available at Figshare: https://doi.org/10.6084/m9.figshare.31076188

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Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation of this work, the authors used ChatGPT to improve the clarity and readability of the manuscript. After using this tool, the authors reviewed and edited the content as required and took full responsibility for the content of the published article.

Abstract

This study examines how gender quotas influence job application decisions and occupational choices in Japan, and how these effects vary across individual characteristics. Using a choice-based conjoint experiment with 1,167 participants, we analyze preferences for positions with and without gender quotas across different job types. We find that gender quotas significantly increase women's application likelihood by approximately 10 percentage points, with the strongest effects among high-performing employed women, while not discouraging applications from comparably qualified men. Beyond increasing female representation, quotas enable women to make occupational choices that better align with their preferences and are associated with higher expected productivity and workplace well-being. Further analysis reveals that support for gender quotas relates systematically to personality traits, gender role beliefs, and prior experiences—notably, men who recognize past gender advantages show greater support for quotas. These findings provide actionable insights for designing inclusive recruitment strategies and diversity policies in non-Western contexts, demonstrating that well-designed quotas can promote both equity and efficiency in labor markets.

Keywords: gender quotas, affirmative action, gender gap, hiring discrimination, occupational segregation, labor market

1. Introduction

Over the last few decades, gender quotas have become a prominent policy tool to address the chronic underrepresentation of women in leadership. According to a 2024 MSCI survey [1], the share of women on corporate boards in publicly listed large- and mid-cap companies worldwide has risen to 27.3%, but representation remains limited. The slow progress in women's representation suggests that understanding gender quotas requires attention to individual-level responses and not only firm-level achievements.

While most research on gender quotas (for a meta-analysis, see De Acutis et al., 2024 [2]) has concentrated on how they affect outcomes at the organizational level, such as market-based performance (e.g., Adams & Ferreira, 2009 [3]; Campbell & Mínguez-Vera, 2008 [4]; Ahern & Dittmar, 2012 [5]; Yang et al., 2019 [6]), corporate strategy and performance (e.g., Matsa & Miller, 2013 [7]; Maghin, 2022 [8]), firm risk (Yang et al., 2019 [6]), vertical spillovers in female representation within firms (Bertrand et al., 2019 [9]; Maida & Weber, 2022 [10]), and policy type (hard vs. soft quota; De Cabo et al., 2019 [11]), few studies have explored how such policies impact individual preferences, motivations, and behaviors.

For example, gender quotas have been shown to empower women by raising aspirations through the presence of role models (Beaman et al., 2009 [12]; Allen & Cutts, 2018 [13]), and by encouraging high-performing women to enter competitions without reducing efficiency (Balafoutas & Sutter, 2012 [14]; Niederle et al., 2013 [15]). At the same time, the literature documents unintended consequences of quota policies, including sabotage and interpersonal aggression arising from perceived injustice (Ambrose et al., 2002 [16]; Neuman & Baron, 1997 [17]), the persistence of negative stereotypes toward female leaders (Beaman et al., 2009 [12]), and concerns about the diminished legitimacy of quota-based hires (Whelan & Wood, 2012 [18]; Barnett et al., 2025 [19]). Moreover, differential treatment can foster intragender tension and peer sabotage, particularly among women (Williams, 2014 [20]; Leibbrandt et al., 2018 [21]). These studies reveal that the implications of gender quotas for women's career choices are not straightforward. For women with a high career potential, quotas may signal institutional support and opportunities for advancement; however, they may also raise concerns about legitimacy, fairness, or backlash. Bijkerk et al. (2021) [22] theoretical model showed that, while increasing female representation, gender quotas may reduce the informativeness of promotions as signals of ability, thereby depressing outside wage offers and ultimately lowering the promoted women's averages wages under quotas. These mixed implications highlight the importance of examining how quotas are perceived and acted upon at different career stages. Compared to promotions, hiring quotas operate at an earlier career stage, before organizational sorting and evaluative hierarchies are established. This allows gender quotas to function primarily as signals of institutional support that shape individuals' application decisions. Because hiring plays a pivotal role in shaping first-career trajectories, understanding how quotas influence job application decisions at

this stage is essential. However, we lack a comprehensive understanding of how these quotas operate in the hiring context.

To address this question, we conducted an online survey that combined a choice-based conjoint experiment with additional measures of personality traits and life experiences. Paired conjoint designs permit credible causal inference even in hypothetical settings and closely approximate real-world decision-making, yielding high external validity (Hainmueller et al., 2014 [23]). This approach allows us to elicit responses that reflect participants' underlying values and beliefs, thereby enhancing the realism and generalizability of our findings on gender quota hiring preferences. Participants were asked to imagine that they were actively seeking employment and to choose between two hypothetical job offers that varied along two attributes: the presence or absence of a gender quota and the job type (clerical or sales/engineering). The inclusion of job type served two purposes: it reflects realistic decision-making criteria and allows us to investigate whether quotas may reduce occupational segregation bias (e.g., Mandel, 2016 [24]; Blau & Kahn, 2017 [25]), a known contributor to the gender wage gap, by encouraging women to apply for male-stereotypical jobs.

Japan offers a particularly informative setting to address this gap, as persistent gender inequality (Miyoshi, 2008 [26]) coexists with the absence of mandatory gender quota policies, allowing us to observe relatively direct individual responses to gender quotas. Despite being the world's third-largest economy, Japan ranks 118th out of 148 in the 2025 Global Gender Gap Index, with women holding only 12.5% of corporate board positions (Gender Equality Bureau Cabinet Office, 2024 [27]). Consistent with this broader pattern, female directors are disproportionately observed in younger and owner-managed firms. They are less common among listed and long-established companies, suggesting persistent structural barriers within mainstream corporate governance (Morikawa, 2016 [28]).

Our study pursued three interrelated objectives by employing gender quota and job type as key attributes in a conjoint experiment. First, we examined whether gender quotas increase women's willingness to apply to quota-adopting firms, particularly among high-potential women, while potentially discouraging men from doing so. Second, we assessed whether gender quotas enhance expected productivity and workplace well-being. Third, we investigated whether gender quotas can mitigate occupational segregation bias, a major contributor to the gender wage gap, by encouraging women to enter male-stereotyped jobs.

Overall, our findings indicate that gender quotas substantially increase women's job application intentions, particularly among high-potential working women, without crowding out equally qualified male applicants. They also improve women's expected productivity and workplace satisfaction. Regarding occupational segregation, quotas appear to reduce structural bias by encouraging applications for male-stereotyped jobs and simultaneously empowering women to make self-determined career choices aligned with their authentic preferences. These findings suggest that quotas

can serve as motivation-enhancing institutional mechanisms for women without incurring efficiency costs.

Our study contributes to several streams of literature and extends previous studies in this field. First, it complements existing work by showing how gender quotas systematically shape the application decisions of both men and women and, in turn, influence employee composition, offering practical guidance for inclusive recruitment strategies. Second, by integrating the Big Five personality traits, egalitarian gender role beliefs, and experiences of gender discrimination, it identifies psychological predictors of both support for and resistance to quotas, advancing the understanding of the cognitive basis of inclusion-oriented policy attitudes. Third, it extends diversity policy research to the non-Western context of Japan, where female leadership participation remains low and occupational gender segregation is pronounced (World Economic Forum, 2025, Global Gender Gap Index: 118th out of 148). These findings offer insights for policymakers in Japan and other countries that have persistent gender gaps and no quota systems.

The remainder of this paper is organized as follows: Section 2 describes the survey design, conjoint experiment, and data. Section 3 presents the empirical results. Section 4 discusses the broader implications of our findings for inclusive recruitment, labor market efficiency, and diversity policies.

2. Materials, Methods, and Hypothesis

2.1. Participants

Our online survey experiment was conducted between December 26, 2024, and April 24, 2025. Participants were recruited from the registrants of an Internet research service company (iBRIDGE Corporation). This study was registered in AsPredicted (https://aspredicted.org/) on June 26, 2024 (#180807). Based on the initial recruitment criteria, 2,000 participants qualified for the online survey. However, using a manipulation check, complete data were only available from 1,167 participants (students: 265 males and 280 females; working adults: 327 males and 295 females; see also Table A.1 in the Appendix). All experimental procedures were approved by the Ethics Committee of Doshisha University (#2024-2). Informed consent was obtained from all participants before they completed the survey. The participants received monetary compensation based on the number of questions answered (undergraduate student; 300 JPY, working adult; 350 JPY).

2.2. Conjoint experimental design

We conducted a choice-based conjoint (CBC) experiment to measure gender quotas' effects on job application decisions. In this experiment, participants were presented with a pair of profiles, each defined by a combination of two attributes: gender quota (level: present or absent) and job type (level: clerical or sales/engineering), and were asked to choose the one they preferred. We created six CBC treatments covering all possible combinations of these attributes and levels (Table 1). In Japan, clerical

and sales/engineering jobs are widely perceived as gender-typed occupations — "feminine" and "masculine" roles respectively, shaped by societal expectations and stereotypes. Our participants indeed perceived them in this way (a seven-point scale, with 7 indicating "very masculine" and 1 indicating "very feminine"; clerical: 3.01 (SD = 1.18), sales/engineering: 4.99 (SD = 1.15); paired *t*-test: t (1166) = 36.13, P < 0.001). In line with Schaerer et al.'s (2023) [29] criterion that an occupation qualifies as gender-stereotyped when one gender accounts for more than 60% of workers, clerical jobs in Japan are classified as female-stereotype jobs (70.6%; Basic Survey on Wage Structure, 2022 [30]), whereas sales positions and engineering are classified as male-stereotype jobs (sales: 69.0%; engineering: 84.2%; Basic Survey on Wage Structure, 2022 [30]).

Table 1. Experimental CBC treatments

Treatment	Two options (profile)	Number of Undergraduates		Number of Working Adults	
		Men	Women	Men	Women
A	GQ–C / GQ–S	45	52	55	49
B	GQ–C / NoGQ–C	47	46	56	48
C	GQ–C / NoGQ–S	38	41	50	49
D	GQ–S / NoGQ–C	43	51	59	54
E	GQ–S / NoGQ–S	43	51	54	49
F	NoGQ–C / NoGQ–S	49	39	53	46

Note: GQ = with gender quota; NoGQ = without gender quota; C = clerical job; S = sales/engineering job.

2.3. Gender quota manipulation

In our experiment, the gender quota was described as a policy requiring at least 30% of corporate directors to be women. This specification aligns with Japan's current policy goal for publicly listed firms to achieve 30% female board representation by 2030. Participants were informed that the executive board is involved not only in establishing business strategies but also in organizational management and personnel evaluations, including promotion decisions, thereby playing an important role in shaping employees' career progression and performance evaluations (see Appendix for details).

2.4. Hypothesis

As indicated above, our three objectives, alongside existing evidence about gendered responses to quotas, inform this study's hypotheses regarding application preferences, expected productivity and well-being, and occupational segregation bias:

Given the empirical evidence that women tend to favor gender quotas more than men (e.g., Barnes & Córdova, 2016 [31]; Coffé et al., 2024 [32]), we hypothesized a gender gap not only in application preferences, but also in expected productivity and workplace well-being under quota-based hiring. Prior research indicates that high-performing women are more likely to enter competitive settings when gender quotas position them to outperform other women (Niederle et al., 2013 [15]). Accordingly, we propose the following hypotheses:

Hypothesis 1a: Gender quotas increase women's application intentions, with particularly strong effects on women with high career potential.

Hypothesis 1b: Gender quotas enhance women's expected productivity and workplace well-being**.**

By contrast, we anticipated that men would oppose quotas. Studies have documented that gender-based preferential policies can provoke negative emotional and behavioral reactions, such as resentment, perceptions of injustice, and even sabotage (Ambrose et al., 2002 [16]; Neuman & Baron, 1997 [17]; Leibbrandt et al., 2018 [21]). Examining men's responses to gender quotas in hiring is particularly relevant to assess the potential risk that such policies will crowd out applications from highly qualified candidates.

Hypothesis 2: Gender quotas reduce men's intentions to apply, particularly among high-potential men.

Furthermore, since gender quotas encourage high-performing women to compete in male-dominated tasks (Balafoutas & Sutter, 2012 [14]; Niederle et al., 2013 [15]), we hypothesize that quotas may similarly encourage high-performing women to pursue male-stereotyped jobs. However, quotas may also operate through an alternative empowerment mechanism. Rather than actively pushing women toward male-stereotyped occupations, quotas may primarily lower structural barriers to entry across job types, thereby allowing women to apply to positions that better align with their underlying preferences. Under this mechanism, the effect of gender quotas on application intentions should not depend on job type. Empirically, this implies a null interaction effect between the gender quota and job type, indicating that quotas increase women's application intentions similarly for both male- and female-stereotyped jobs. We examine these competing predictions by testing whether the effect of gender quotas on application decisions varies across job types and across individual characteristics such as performance potential.

Hypothesis 3: Gender quotas reduce occupational segregation by encouraging women to adopt male-stereotyped positions.

Beyond these hypothesis-driven predictions, support for gender quotas may be shaped not only by gender, but also by a range of individual-level factors, including personality traits, beliefs, and lived experiences. To this end, using exploratory surveys, we examined three individual-level predictors: the Big Five personality traits (Costa and McCrae, 1992 [33]), egalitarian beliefs about gender roles (Suzuki, 1994 [34]), and past exposure to gender discrimination. In particular, an underexplored question remains regarding how egalitarians view gender quotas: Do they oppose them as unfair favoritism or support them as a remedy for historical inequality? We thus analyzed fourteen explanatory variables using LASSO regression (Tibshirani, 1996 [35]) to explore the factors that most strongly predicted support for gender quotas. LASSO can manage the large dimensionality of explanatory variables, which are highly correlated, by shrinking non-effective coefficients to zero and retaining only those with meaningful contributions. This property makes it particularly well suited for exploratory analyses, where the goal is to identify a sparse set of potentially important predictors.

2.5. Procedure

At the beginning of the online survey experiment, participants were randomly assigned to one of six treatments (A–F). To ensure that participants understood the gender quota system, an explanation derived from government-published materials was provided, and participants were instructed to review it carefully. The quota was described as requiring that at least 30% of corporate directors be women, consistent with current policy discussions in Japan (for more details, see Appendix). Subsequently, participants read a scenario in which they imagined themselves as university students (working adults were applying as mid-career hires) currently engaged in job hunting, choosing between two companies that differed only in job type and presence or absence of a gender quota, with all other working conditions held constant (more details of the scenario are in the Appendix). Both the scenario and the gender quota were designed to reflect a realistic job search setting for Japanese respondents, with a brief explanation that corporate directors influence personnel decisions. For example, in Treatment C, participants were asked to choose which company they would apply to: a clerical position at a company with a gender quota, or a sales/engineering position at a company without a gender quota. Job categories were selected to reflect the existing gender segregation in the labor market, allowing examination of whether gender quotas mitigate occupational choice biases. Subsequently, the participants were asked two additional questions: (1) “At which company do you think you would perform better?” and (2) “At which company do you think you would feel more comfortable and satisfied?” These items were designed to capture the relationships among gender quotas, expected productivity, and well-being.

Although expected productivity and well-being are subjective, this approach is appropriate in the context of job-search decisions. These are inherently forward-looking, and application and

occupational choices are based on individuals' beliefs about how well they would perform and how satisfied they would feel in a given work environment, rather than on realized outcomes. Recent studies have similarly relied on elicited beliefs about productivity to examine hiring and occupational decisions (e.g., Coffman et al., 2021 [36]; Fischbacher et al., 2024 [37]).

After completing the scenario-based questions, participants answered additional items assessing individual characteristics (e.g., Big Five personality traits (Oshio et al., 2013 [38]) and egalitarian gender role attitudes (Suzuki, 1994 [34]), life experiences (e.g., experiences of gender-based advantages or disadvantages), and demographic attributes (e.g., gender and academic background).

3. Results

We began by analyzing application preferences, expected productivity, and workplace well-being across genders. We then assessed the effects of gender quotas on reducing occupational segregation among women. Finally, we investigated how attitudes toward gender quotas relate to personality traits and life experiences. All statistical analyses followed the pre-registration.

3.1. The effect of gender quota on job-entry decisions for men and women

In this subsection, we investigate how gender quotas and job types influence application choices. To obtain an overview of the two attributes, we first grouped treatments that manipulated each attribute: Treatments B + C + D + E for gender quota (one company with a gender quota, one without), and treatments A + C + D + F for job type (clerical vs. sales). Fig. 1 shows the proportion of participants choosing each option within these groupings by gender and group type (undergraduate and working adults). We find that, regarding gender quotas, women tend to favor companies with quotas, whereas working adult men show no notable difference, and undergraduate men show some hesitation to work with gender quotas. Regarding job type, both women and men clearly preferred clerical positions, except working adult men. There was a significant gender difference in response to the gender quota (proportion test, $P = 0.005$ for students and $P = 0.026$ for workers), while no significant difference was observed for job type for students (proportion test, $P = 0.580$), and a clear difference was observed for working adults (proportion test, $P < 0.001$).

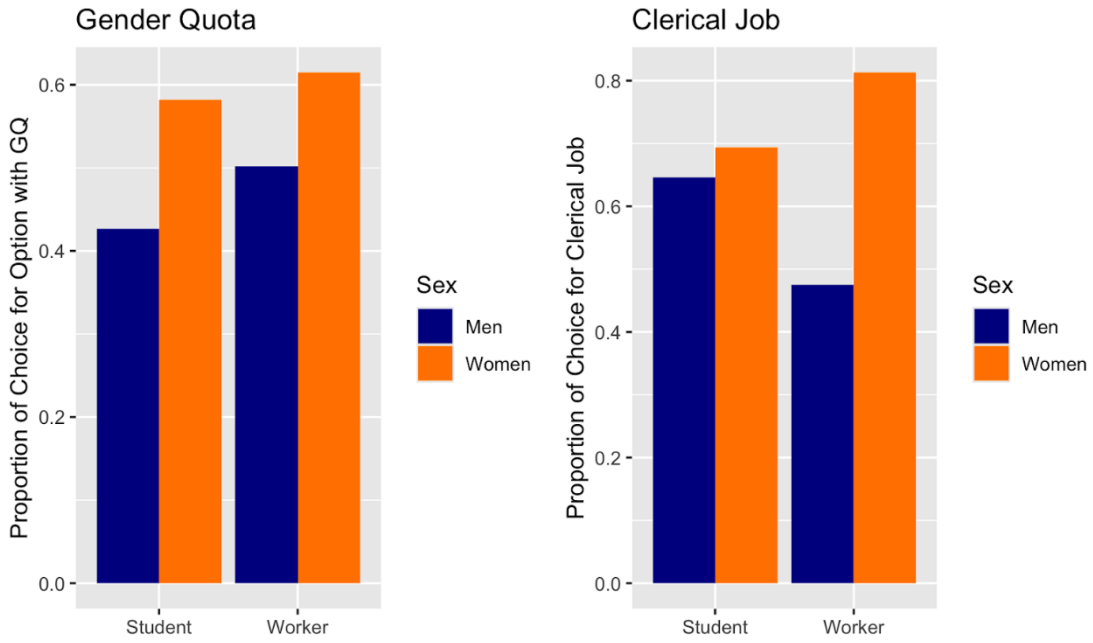

Fig. 1. Proportion of participants choosing each option

To identify this pattern more precisely, we estimate a choice-set-specific conditional logit model, including two job attributes (gender quota and job type).

Each participant made a single binary choice between two hypothetical job offers, which constituted a choice set. The conditional logit framework exploits the within-choice set variation across the two alternatives, differentiating all individual-specific factors common to both offers. As a result, preferences are identified solely from differences in job attributes across the two profiles without requiring repeated decisions by the same individual or temporal panel variation.

To examine heterogeneity, the sample was divided into four groups based on gender and group type (undergraduate students and working adults), and the following models were estimated for each group. In Model 1, we regressed binary choices (1 = chosen) on two explanatory variables, JobType (1 = clerical job) and GQ (1 = present). Model 2 included the same variables as Model 1 but added an interaction term between gender quota and university rank (GQ × UnivRank). While individual-level characteristics were absorbed by conditional logit fixed effects, their interactions with job attributes remained identifiable, allowing us to examine the heterogeneous responses. UnivRank is a binary variable indicating whether the respondent currently attends or previously attended a high-ranking university based on the Japanese standardized academic score (*Hensachi*, mean = 50, SD = 10), with 60 or higher coded as 1. Because academic background scores are correlated with job performance (see meta-analysis, Ng and Feldman, 2009 [39]), we used them here as a proxy for latent work ability.

The purpose of Model 2 was to investigate how individuals with higher potential job performance respond to the presence of a gender quota.

3.1.1. Results for women

Table 2 presents the regression results for women. A larger positive coefficient indicates that a specific element has a greater positive impact on preferences. In Model 1, the GQ variables' coefficients were positive and significant for both groups (student, $P = 0.009$; worker, $P < 0.001$), suggesting that the presence of a gender quota increased the perceived attractiveness of the job (option) among female participants. Model 2 examined whether responses to gender quotas varied according to potential job performance. It revealed non-significant interaction effects between GQ and UnivRank for students ($P = 0.278$), whereas a positive significance existed for working women ($P = 0.043$). This implies that gender quotas increase the overall female application rates, particularly by encouraging applications from highly educated women with strong job performance potential.

The additional analysis offers further insight into the mechanisms through which gender quotas enhance women's engagement at work. As specified in the experimental design, the hypothetical scenario task asked female participants to indicate which firm they expected to perform better and where they anticipated feeling more comfortable and satisfied. To examine how gender quotas shape these perceptions, we conducted supplementary analyses that shifted the dependent variable from application choice to anticipated workplace outcomes. Using the same attribute levels as in the prior analysis (i.e., GQ and Job Type), the results (see also Table A.2 in the Appendix) suggest that gender quotas improve women's expectations regarding both productivity (student, $P < 0.001$; worker, $P < 0.001$) and workplace well-being (student, $P < 0.001$; worker, $P < 0.001$).

Together, these findings highlight the dual role of gender quotas: they are perceived by women as an important factor, alongside job type, when choosing employment opportunities, and operate as an organizational design that enhances motivation. Quotas thus not only attract more female applicants, particularly highly educated women with strong potential, but also play a crucial role in advancing women's careers and promoting broader gender inclusion in the workforce. This analysis reveals that our data are in line with Hypotheses 1a and 1b. In particular, we found the following:

Result 1a: Gender quotas significantly increased women's application intentions, with particularly strong effects on women with high career potential.

Result 1b: Gender quotas enhance women's expected productivity and workplace well-being, indicating that quotas function as motivation-enhancing organizational designs.

Table 2. Conditional logistic regressions for gender quota and job type effect for women

	Target variable: Chosen			
	Women Student		Women Worker	
Explanatory variable	model 1	model 2	model 1	model 2
GQ	0.41**	0.49**	0.64***	0.47*
	(0.15)	(0.18)	(0.17)	(0.18)
JobType	0.86***	0.86***	1.55***	1.56***
	(0.16)	(0.16)	(0.19)	(0.19)
GQ × UnivRank		-0.40		0.89*
		(0.37)		(0.44)
Observations	560	560	590	590
Nagelkerke R-squared	0.122	0.126	0.309	0.322

Notes: Standard errors in parentheses. Significance level: *** 0.001, ** 0.01, * 0.05. GQ: gender quota (1 = present); JobType: job type (1 = clerical job); UnivRank: university rank (1 = higher)

3.1.2. Results for men

Table 3 presents the regression results for men. In contrast to the women, there was no evidence that the gender quota was preferred by either undergraduate students or working adults (student: P = 0.067, worker: P = 0.971 in model 1). Furthermore, academic performance did not significantly differ between higher and lower scores (student: P = 0.741, worker: P = 0.631 in model 2). When combined, given that male participants responded similarly to gender quotas regardless of their academic background or work experience, our findings suggest that resistance to such policies is not widespread among men. Thus, the concern that gender quotas may deter high-performing men because of the fear of reverse discrimination is not supported by our data. Moreover, when we applied the same additional analysis previously conducted with women to examine anticipated productivity and workplace well-being, the effects of gender quotas were not statistically significant (see also Table A.3 in the Appendix; productivity, student: P = 0.716, worker: P = 0.720; well-being, student: P = 0.224, worker: P = 0.266). This indicates that while quotas do not enhance men's expectations, they also do not diminish them. This indicates that gender quotas support women's engagement without imposing costs on men. Our results are thus inconsistent with Hypothesis 2. In particular, we found the following:

Result 2: Gender quotas did not reduce men's application intentions, including those of high-potential men. Moreover, quotas had no significant effect on men's expected productivity or workplace well-being.

Table 3. Conditional logistic regressions for gender quota and job type effect for men

	Target variable: Chosen			
	Men Student		Men Worker	
Explanatory variable	model 1	model 2	model 1	model 2
GQ	-0.29	-0.32	0.00	-0.03
	(0.16)	(0.18)	(0.14)	(0.16)
JobType	0.60***	0.60***	-0.10	-0.09
	(0.16)	(0.16)	(0.14)	(0.14)
GQ × UnivRank		0.12		0.15
		(0.37)		(0.31)
Observations	530	530	654	654
Nagelkerke R-squared	0.069	0.069	0.002	0.002

Notes: Standard errors in parentheses. Significance level: *** 0.001, ** 0.01, * 0.05. GQ: gender quota (1 = present); JobType: job type (1 = clerical job); UnivRank: university rank (1 = higher)

3.2. Gender quota's effect on occupational segregation bias

We investigate whether gender quotas reduce occupational segregation bias for women by conducting a conditional logistic regression. We regress binary choices (1 = chosen) on the following explanatory variables: JobType, GQ, and the interaction terms between gender quota and job type (GQ × JobType). Table 4 presents the regression results. The coefficient of the interaction term was positive and not statistically significant in either group (students, P = 0.743; workers, P = 0.101), suggesting that the gender quota's impact does not depend on job type. This finding implies that gender quotas alone may be powerful enough to encourage women to enter male-dominated fields and are thus likely to structurally reduce occupational segregation bias. However, because both student and working women exhibit a strong preference for clerical jobs (JobType is positive and significant in Table 4), gender quotas seem to empower women to make self-determined career choices that align with their authentic preferences. Taken together, these results are partially consistent with Hypothesis 3. In particular, we found the following:

Result 3: Gender quotas showed no job-type-specific effects on women's application decisions, indicating that quotas have lower structural barriers to male-stereotyped jobs without overriding women's intrinsic occupational preferences.

Table 4. Conditional logit regressions on the effect of gender quota for occupational segregation bias

	Target variable: Chosen	
Explanatory variable	Women Student	Women Worker

GQ	1.58*	2.52***
	(0.34)	(0.62)
JobType	2.49***	6.34***
	(0.58)	(1.70)
GQ ×JobType	0.90	0.57
	(0.28)	(0.19)
Observations	560	590
Nagelkerke R-squared	0.123	0.317

Notes: Standard errors in parentheses. Significance level: *** 0.001, ** 0.01, * 0.05. GQ: gender quota (1 = present); JobType: job type (1 = clerical job)

3.3. Determinants of support for gender quotas

While gender plays a crucial role in shaping support for gender quotas, considerable unexplained individual variations remain. It would be informative and practically important to determine whether other individual-level characteristics account for this variation. We therefore examined three types of empirically grounded predictors. First, the Big Five personality traits—extraversion, agreeableness, conscientiousness, neuroticism, and openness— have been shown to influence individual economic and political behaviors (e.g., Borghans et al., 2008 [40]; Gerber et al., 2011 [41]). Therefore, it is plausible that they also play a role in shaping attitudes toward gender quotas. Second, egalitarian gender role attitudes (SESRA-S; Suzuki, 1994 [34]) capture individuals' endorsement of traditional or egalitarian views, linking them closely to support for gender equity policies and particularly relevant to quota policies. For example, questionnaire items included statements such as, *"A woman belongs in the home, and a man belongs in the workplace."* Third, previous studies have indicated that individuals who have experienced gender-based discrimination, particularly in professional settings, are more likely to actively engage in efforts to promote gender balance (e.g., Iyer and Ryan, 2009 [42]; Mazzuca et al., 2022 [43]). Hence, this is likely to affect individuals' views on gender quotas.

To shed light on the personality and experiential foundations of quota support, we included these variables in our analytical model and conducted a LASSO regression analysis. As our supplemental analysis (Table A.4 in the Appendix) showed no systematic differences between students and working adults, we pooled them and ran gender-specific LASSO regressions with support for gender quota as the dependent variable and 14 explanatory variables (see also Fig. 2 and Table A.5 in the Appendix). The Big Five Inventory-10 (Oshio et al., 2013 [38]). Each of the Big Five categories was scored on a scale ranging from 2 to 14 points. Egalitarian gender role attitudes, in which higher scores indicated stronger support for gender egalitarianism (range: 15-75). Discriminatory experiences based on gender, advantageous or disadvantageous, were assessed across four contexts: school, workplace, public space, and household. Participants responded on a 7-point scale, with 7 indicating "very frequent." LASSO

regression models were created using the glmnet function in the R software. The optimal value of the penalty parameter was determined by a ten-fold cross validation using the cv.glmnet function of R (glmnet and cv.glmnet are included in the glmnet package; Friedman et al., 2021 [44]).

The results are presented in Fig. 2 and Table A.6 (Appendix). Regarding personality traits, Big Five agreeableness emerged as the most influential predictor of quota support among all variables included in the LASSO analysis for both genders. For men, support for gender quotas declined as neuroticism scores increased. Given that agreeableness is positively associated with job performance, whereas neuroticism is negatively related (e.g., see meta-analysis, Tett et al. 1991 [45], 1999 [46]), our findings imply that gender quotas may enhance workforce quality by discouraging applications from less productive men, while encouraging more competent candidates of either gender. Moreover, the fact that egalitarians—both men and women—oppose gender quotas indicates that they saw quotas as unfair favoritism rather than corrective tools for historical gender imbalances.

Regarding past experiences, women who faced gender-based "disadvantages" in the workplace and public spaces tended to support gender quotas, whereas men who experienced gender-based "advantages" in the same contexts also showed greater support. In contrast, men who experienced gender-based "disadvantages" in education opposed quotas, consistent with the asymmetrical nature of gender quota policies that benefit women but may disadvantage men. Our findings suggest that workplace experiences shape the support for gender quotas for both men and women. The success of such policies, therefore, depends on parallel efforts to reduce gender discrimination in the workplace. Otherwise, quotas themselves may be met with envy and resistance in countries such as Japan, where gender inequality remains, requiring reform.

Taken together, these results indicate that support for gender quotas is not driven by gender alone but is systematically associated with individual beliefs, personality traits, and prior experiences, complementing existing studies.

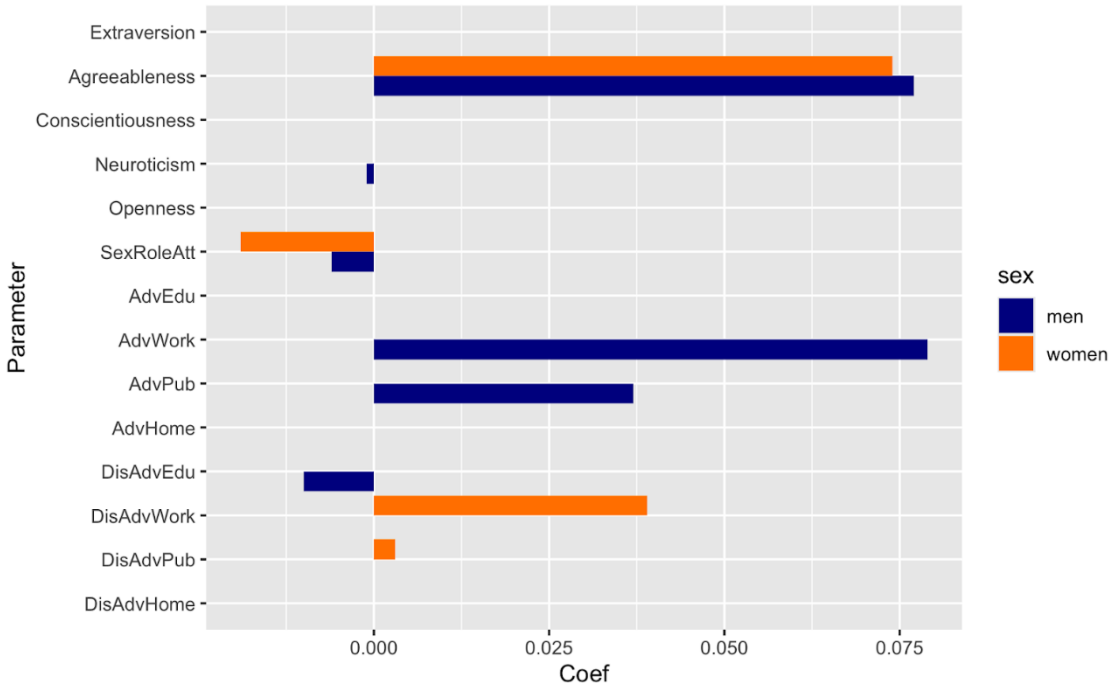

Fig. 2. The results of the Lasso regression of personality and experience for gender quota attitude

4. Discussion

This study examined gender quotas' impact on job application behavior through an online survey and a conjoint experiment. Our findings partially confirmed our initial hypotheses. First, consistent with our predictions, gender quotas significantly increased women's willingness to apply to quota-adopting firms, particularly among high-potential working women. For men, contrary to our expectation, we found no evidence that quotas discouraged equally qualified applicants: an encouraging result suggesting that the fear of crowding-out effects may be overstated. Second, quotas enhanced women's expected productivity and workplace well-being, which is consistent with our hypothesis that institutional support fosters both performance and satisfaction. Third, while quotas did not completely eliminate occupational segregation, they encouraged women to pursue male-stereotyped jobs, thereby reducing structural bias. Fourth, supplementary exploratory analyses showed that support for gender quotas varies systematically with individual personality traits, gender role beliefs, and prior experiences. Taken together, these results indicate that gender quotas expand women's opportunities while maintaining male participation; they can serve as motivation-enhancing environments without imposing efficiency costs.

Stronger support for gender quotas among working women with higher job potential in our experiment likely reflects their perception that such policies help mitigate structural barriers to leadership positions, a view that may be reinforced by the persistently low share of women on corporate boards in Japan

(only 12.5% as of 2024; Gender Equality Bureau Cabinet Office in Japan [27]). Our analyses further showed that quotas increased women's likelihood of applying, and enhanced their expectations regarding productivity and workplace satisfaction. This is particularly important given prior evidence that women, even when holding performance constant, tend to be less confident in their abilities than men, contributing to persistent gender gaps in education and careers (e.g., Bordalo et al., 2019 [47]; Napp & Breda, 2022 [48]; Bian et al., 2017 [49]; Leslie et al., 2015 [50]). If quotas help improve not only women's opportunities but also their self-assessments, they thus have a dual impact: mitigating structural barriers and correcting self-confidence gaps. Taken together, these findings suggest that gender quotas can foster motivation-enhancing environments for women and thus constitute an important organizational design for promoting women's career advancement and broader workforce inclusion.

Previous studies identified several psychological and social factors that may explain men's reluctance to support gender equality. Men tend to perceive inequality less readily than women (Blodorn et al., 2012 [51]) and may fear being stigmatized as "feminist men" when expressing support for it (Anderson, 2009 [52]; Breen & Kapinski, 2008 [53]). Furthermore, traditional masculinity norms conflict with egalitarian values (Brescoll et al., 2012 [54]; Krook & Zetterberg, 2014 [55]). Even in countries with progressive gender policies such as gender quotas, men's support often remains symbolic rather than behavioral (Fernández & Valiente, 2021 [56]). Overall, these findings suggest that men's responses to gender quotas are complex phenomena reflecting multiple determinants contingent on social and cultural contexts.

Consistent with our findings, resistance to gender quotas may be less pronounced in Japan than is commonly assumed. For instance, when both male undergraduate students and working adults were asked about their support for women-only cars—a form of gender-based preferential treatment that is already implemented in Japanese public transportation—the mean scores were 4.23 for students and 4.10 for working adults on a 7-point scale (7 = strongly agree), with one-sample t-tests showing a significant deviation from the neutral midpoint toward more support for the women-only cars for students ($t(235) = 2.12$, $P = 0.035$) and no significant deviation from the neutral midpoint for workers ($t(327) = 1.14$, $P = 0.254$). Strong opposition was not observed in either group. Furthermore, this tendency was not age-dependent (Fig. A.1). Similarly, when male high school students ($n = 188$) were asked about introducing gender quotas for women in university engineering departments—a policy already implemented in Japan (see Appendix for details)—the mean response on a 7-point scale (7 = strongly agree) was 3.87 (SD = 1.49). A one-sample t-test again indicated no strong opposition ($t(116) = -1.22$, $P = 0.223$). Although gender quotas have not yet been implemented in Japan, particularly in leadership positions such as corporate boards or political offices, the lack of strong opposition to existing gender-based measures suggests that Japanese men are not inherently resistant to such interventions.

More generally, this study contributes to understanding the factors that may lead men to act as women's allies. Prior research indicates that identity-related factors, ideological commitments, and social norms can foster men's allyship with women (Iyer and Ryan, 2009 [42]; Wiley et al., 2012 [57]; Stewart, 2017 [58]). Recent studies (Mazzuca et al., 2022 [43]; Moscatelli et al., 2025 [59]) suggest that moral conviction mediates men's willingness to address and overcome disadvantages faced by women in the workplace. Our finding that men who recognized their own gender-based advantages were more supportive of quotas aligned well with this framework and may reflect similar moral motivations. Rather than viewing policies as threats, these individuals may view quotas as a way to restore fairness. In Japan, this moral motivation may partially explain the relatively low resistance to quotas observed here.

However, out study had some limitations that warrant future research. First, although the participants were individuals for whom job selection was a relevant and realistic concern—university students and working adults—the study used a survey, which inevitably introduces some degree of artificiality. As Hainmueller et al. (2014) [23] argue, paired conjoint designs offer a theoretically and empirically grounded approach that allows valid causal inference, even in hypothetical scenarios. They showed that such designs can closely replicate real-world decision making, reinforcing their external validity. However, a recent meta-analysis (Schramm, 2025 [60]) indicates that even incentive-aligned conjoint designs vary in predictive validity depending on the product category and payout probability. This suggests that external generalizability cannot be assumed uniformly. Second, our stylized experimental scenario differed from the actual hiring in firms and labor markets in several ways. In particular, we equalized wages across jobs to isolate quota effects. However, future work could explore how varying pay influences responses to quotas. The gender quota was salient for the evaluators in the experiment because we explicitly mentioned it. Therefore, we might have overstated the role of the gender quota in the performance estimates. Third, it remains unclear whether introducing a gender quota has measurable long-term effects. However, given our finding that quotas promote the hiring of highly capable individuals and foster a cooperative atmosphere, they may have positive effects on firm performance over time; but it remains uncertain whether these changes in applicant composition will produce long-term outcomes such as improved gender diversity or reduced gender pay gaps. Moreover, it remains unclear whether gender quotas can help reduce persistent forms of employer bias, such as taste-based (Becker, 1971 [61]) or statistical discrimination (Phelps, 1972 [62]), which have historically hindered women's career advancement. Longitudinal, firm-level research is required to fully assess gender quotas' broader effects.

To the best of our knowledge, few studies have directly examined the effects of gender quotas at the hiring stage. Despite some inherent limitations, our study not only sheds light on their impact on job application decisions but also advances the literature by providing rare empirical evidence from a non-Western context. It thus contributes new practical insights into the design of gender diversity policies

aimed at fostering more inclusive and efficient labor markets.

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Appendix File

Experimental materials

The experiment materials were originally written in Japanese.

1. Gender Quota Explanation

Note: Before starting the task, participants were required to read the following explanation of gender quotas. They were then asked whether they had prior knowledge of this content, in order to ensure that all participants read the explanation before proceeding.

Gender quotas refer to policies designed to address gender imbalances within organizations by setting target proportions based on gender. In corporate contexts, such quotas are often applied to decision-making positions such as boards of directors or executive roles, requiring that women and men each constitute at least a specified share.

In Japan, particularly for publicly listed firms, a policy goal has been articulated to increase the proportion of female directors to at least 30% by 2030. Given the currently low level of female representation in these positions, the introduction of such policies may lead to changes in board composition.

〈Reference〉 NHK News, "Prime Market: Policy proposal to require 30% or more female directors as part of gender equality initiatives" https://www.nhk.or.jp/politics/articles/lastweek/99830.html

2. Instructions of the Experiment

Note: The instruction shown here is an example from treatment C. Bracketed text indicates differences between student and working-adult respondents.

In this section, you are asked to imagine yourself as the main character in a hypothetical scenario. Please read the scenario carefully as you will later be asked comprehension questions to confirm your understanding.

Please read the following scenario, assuming that the gender of the main character is the same as your own:

You are [a fourth-year university student who is currently searching for a job]. After consulting with your university's career services office] / [Working adults currently seeking a new job. After consulting a public employment service (Hello Work)], you are introduced to two companies.

- The first company (Company A) is located in an urban area and offers clerical work, such as general administration and accounting. This company has introduced a gender quota system, under which the gender composition of its executive board is determined based on gender.
- The other company (Company B) is located in an urban area and offers jobs involving sales and technical work, such as systems or engineering tasks. This company does not determine the gender composition of its executive board based on gender.

Both the companies offer similar salaries, parental leave policies, employee benefits, and working conditions. Note that the executive board is involved not only in setting the firm's business strategy but also in organizational management and personnel evaluations, including promotion decisions. Therefore, the executive board plays an important role in shaping your future work, career progression, and performance evaluations after joining the company.

Control questions

1. What is the gender of the main character in the scenario?
   - The gender is not specified.
   - The same gender as you.
   - A different gender from you.

2. Please select the statement that is *incorrect* regarding the characteristics of the first company (Company A).
   - It has introduced a gender quota system.
   - It offers sales and technical (e.g., systems/engineering) jobs.
   - Its wages and working conditions are comparable to those of Company B.

3. Please select the statement that is *incorrect* regarding the characteristics of the second company

(Company B).

- It has introduced a gender quota system.
- It offers sales and technical (e.g., systems/engineering) jobs.
- Its wages and working conditions are comparable to those of Company A.

Decisions

1. Owing to scheduling constraints, only one of the two companies could be applied. Which company would you choose to apply to?
   - The first company (Company A)
   - The second company (Company B)
2. Suppose you have started working for one of these companies. Which company do you think your job performance will be better (i.e., where do you think you would be able to perform better)?
   - The first company (Company A)
   - The second company (Company B)
3. Suppose you have started working for one of these companies. Which company do you think you would feel more comfortable with and satisfied with in your work environment?
   - The first company (Company A)
   - The second company (Company B)

Table A.1. Descriptive statistics for the online sample

	Undergraduates			Working Adults		
	All (n = 545)	Men (n = 265)	Women (n = 280)	All (n = 622)	Men (n = 327)	Women (n = 295)
Age	20.5 (1.66)	20.4 (1.70)	20.6 (1.62)	45.3 (10.37)	48.0 (10.53)	42.3 (9.34)
Academic score (*Hensachi*) for Univ.						
70 ~	27	14	13	18	11	7
60 ~ 70	103	54	49	133	79	54
50 ~ 60	211	99	112	213	120	93
40 ~ 50	138	68	70	61	28	33
~ 40	53	23	30	61	28	33
Unknown	13	7	6	13	2	11
Did not go to Univ.				172	79	93
Employment duration (years)						

0 ~ 5	6	1	5
5 ~ 10	133	57	76
10 ~ 15	99	39	60
15 ~ 20	88	40	48
20 ~ 25	86	47	39
25 ~ 30	83	53	30
30 ~ 35	51	30	21
30 ~ 40	6	5	1
40 ~	29	23	6

Notes: Age are mean scores. Standard deviations are in parentheses. *Hensachi*: the Japanese standardized academic score (mean = 50, SD = 10). Hensachi and Employment duration are reported as counts of individuals in each category.

Table A.2. Conditional logistic regressions for gender quota and job type effects on women's expected productivity and workplace well-being

	Target variable: Chosen (Productivity)		Target variable: Chosen (Well-being)	
Explanatory variable	Student	Worker	Student	Worker
GQ	0.76***	0.98***	0.94***	1.22***
	(0.19)	(0.20)	(0.19)	(0.21)
JobType	0.72***	1.27***	0.80***	1.26***
	(0.19)	(0.20)	(0.20)	(0.21)
Observations	560	590	560	590
Nagelkerke R-squared	0.130	0.276	0.171	0.305

Notes: Standard errors in parentheses. Significance level: *** 0.001, ** 0.01, * 0.05. GQ: gender quota (1 = present); JobType: job type (1 = clerical job).

Table A.3. Conditional logistic regressions for gender quota and job type effects on men's expected productivity and workplace well-being

	Target variable: Chosen (Productivity)		Target variable: Chosen (Well-being)	
Explanatory variable	Student	Worker	Student	Worker
GQ	0.07	0.06	-0.23	0.18
	(0.19)	(0.17)	(0.19)	(0.16)
JobType	-0.03	-0.17	0.03	0.11
	(0.19)	(0.16)	(0.19)	(0.17)

Observations	530	654	530	654
Nagelkerke R-squared	0.001	0.005	0.008	0.007

Notes: Standard errors in parentheses. Significance level: *** 0.001, ** 0.01, * 0.05. GQ: gender quota (1 = present); JobType: job type (1 = clerical job).

Supplemental analysis: Comparing gender quota effects between students and workers

To examine how work experience shapes gender quota preferences, we compared undergraduates and working adults. To address this issue, we included an interaction term between the GQ and workers (1 = working adult) in the conditional logistic regression model and estimated the model separately for men and women. Specifically, we regressed the binary choices (1 = chosen) on JobType, GQ, and GQ × Worker (see Table S4). This analysis showed that the interaction effects were not significant for either gender (men: P = 0.135; women: P = 0.561), suggesting that prior work experience itself did not influence the perceived attractiveness of the gender quota.

Table A.4. Conditional logit regressions on work experience comparing students and workers

	Target variable: Chosen	
Explanatory variable	Men	Women
GQ	-0.29	0.45*
	(0.15)	(0.16)
JobType	0.20	1.18***
	(0.10)	(0.12)
GQ ×Worker	0.31	0.13
	(0.21)	(0.22)
Observations	1184	1150
Nagelkerke R-squared	0.013	0.208

Notes: Standard errors in parentheses. Significance level: *** 0.001, ** 0.01, * 0.05. GQ: gender quota (1 = present); JobType: job type (1 = clerical job); Worker: work experience (1 = working adult)

Table A.5. Descriptive statistics for personality trait and life experience

	All	Men	Women
	(*n* = 1167)	(*n* = 592)	(*n* = 575)
GQ Agreement	4.56 (1.59)	4.30 (1.65)	4.83 (1.48)

Extraversion	7.03 (2.73)	7.02 (2.62)	7.05 (2.85)
Agreeableness	9.77 (2.22)	9.70 (2.20)	9.85 (2.23)
Conscientiousness	7.98 (2.61)	8.07 (2.53)	7.89 (2.68)
Neuroticism	8.19 (2.60)	7.87 (2.51)	8.51 (2.65)
Openness	7.45 (2.49)	7.73 (2.41)	7.17 (2.54)
SexRoleAtt	38.97 (7.73)	40.09 (8.03)	37.75 (7.20)
AdvEdu	2.89 (1.59)	2.67 (1.50)	3.11 (1.64)
AdvWork	3.05 (1.71)	2.87 (1.66)	3.23 (1.75)
AdvPub	2.99 (1.60)	2.73 (1.55)	3.25 (1.61)
AdvHome	2.70 (1.58)	2.61 (1.51)	2.79 (1.64)
DisAdvEdu	2.73 (1.62)	2.78 (1.65)	2.67 (1.59)
DisAdvWork	2.95 (1.76)	2.86 (1.72)	3.05 (1.80)
DisAdvPub	3.04 (1.67)	2.91 (1.66)	3.17 (1.67)
DisAdvHome	2.69 (1.72)	2.60 (1.61)	2.79 (1.82)

Notes: All scores are mean scores. Standard deviations are in parentheses. GQ Agreement: score of support for gender quotas (7-point scale). The Big Five Inventory: a 7-point scale. SexRoleAtt: range 15-75. Experiences of gender-based advantage (Adv) and disadvantage (DisAdv) are self-reported frequencies across different contexts (Edu: school; Work: workplace; Pub: public space; Home: household), measured on a 7-point scale.

Table A,6. Lasso regression: Personality and experience predicting gender quota agreement

	Target variable: GQ Agreement

Explanatory variable	Women	Men
Extraversion	.	.
Agreeableness	0.074	0.077
Conscientiousness	.	.
Neuroticism	.	-0.001
Openness	.	.
SexRoleAtt	-0.019	-0.006
AdvEdu	.	.
AdvWork	.	0.079
AdvPub	.	0.037
AdvHome	.	.
DisAdvEdu	.	-0.010
DisAdvWork	0.039	.
DisAdPub	0.003	.
DisAdvHome	.	.
Intercept	4.707	3.496

Notes: All scores are Lasso regression coefficients. GQ Agreement: score of support for gender quotas (7-point scale). The Big Five Inventory: a 7-point scale. SexRoleAtt: range 15-75. Experiences of gender-based advantage (Adv) and disadvantage (DisAdv) are self-reported frequencies across different contexts (Edu: school; Work: workplace; Pub: public space; Home: household), measured on a 7-point scale.

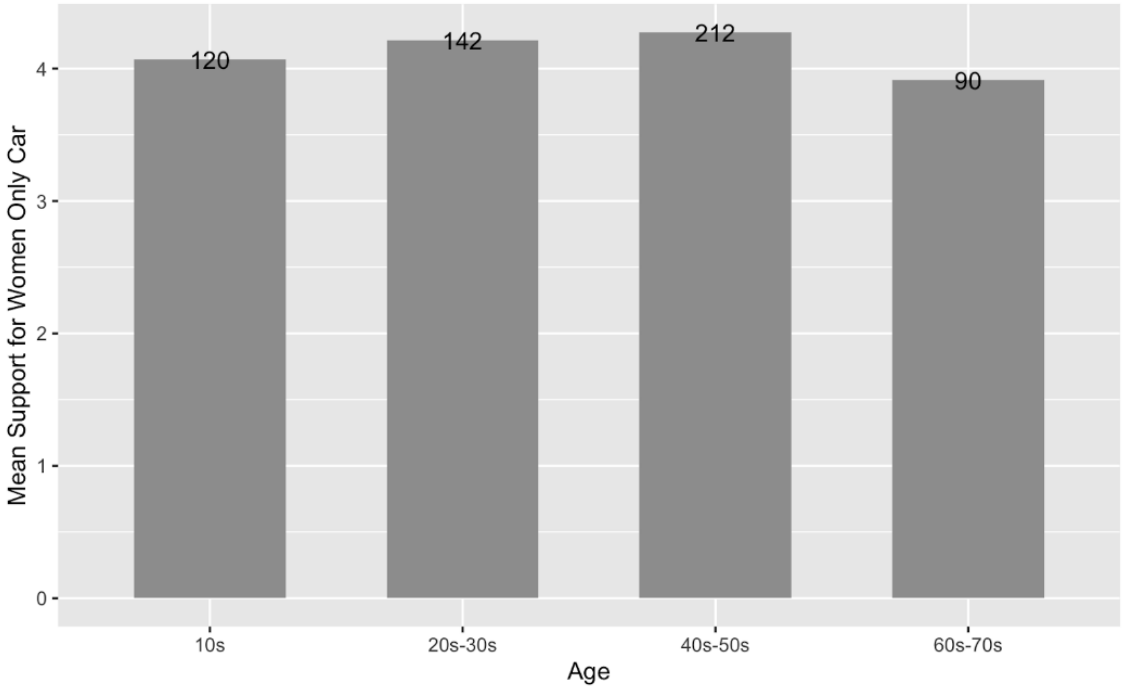

Fig. A.1. Mean support for women-only cars among men by age group

Note: The numbers appearing at the top of the bars represent the number of observations. Support for women-only cars (7-point scale; 7 = “strongly agree”).