Explaining Public Support for Gender Quotas:

Sexism, Representational Quality, and State Intervention in Japan

Supplementary Information

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APPENDIX A: Research Ethics and Survey Implementation

The survey experiment was conducted between February 27 and March 11, 2020. Respondents were recruited from the national panel of Rakuten Insight, a major survey vendor in Japan with 2.2 million registrants. Quota sampling was used to match census distributions on gender, age, and region of residence. The full survey instrument, including items not related to this paper, consisted of 30 questions, and the median response time was 566 seconds.

When using Internet survey samples, we need to be aware of biases in respondent demographics. Nagayoshi et al. (2020) compare an online survey using monitors from Rakuten Insight with a mail survey using random sampling, and note no significant differences in the distribution of demographic variables or social awareness. In addition, many prior studies in political science have used quota sampling from Rakuten Insight (e.g. Igarashi et al. 2022). While we cannot fully discount other underlying biases inherent to internet survey populations, such as propensies towards satisficing, we do not believe that Rakuten Insight's respondent pool deviates greatly from other survey providers.

This survey experiment was approved by the Research Ethics Review Board of the Institute of Social Science, University of Tokyo (Approval number: 62). The survey was funded by MEXT/JSPS KAKENHI 18H00817. A pre-analysis plan was not registered, although information about the purpose and design of the study was provided to the IRB. Personal information that could identify respondents, beyond basic demographic characteristics, was not collected in the survey or shared by Rakuten Insight. Consent was obtained before starting the survey, and the debriefing page explained the purpose and structure of the survey. Respondents were not presented with any false or deceptive information.

All participants who completed the survey received 30 Rakuten points that could be used on *Rakuten Ichiba,* a major online shopping portal. The financial value of these points is JPY 30, or USD 0.27 in February 2020 JPY-USD exchange rates of approximately JPY110 = USD 1.00. The remuneration amount was set by Rakuten Insight, the survey vendor. Extrapolating from the median response time, the hourly compensation was JPY 210 = USD 1.91.

Igarashi, Akira, Hirofumi Miwa, and Yoshikuni Ono. 2022. "Why Do Citizens Prefer High-Skilled Immigrants to Low-Skilled Immigrants? Identifying Causal Mechanisms of Immigration Preferences with a Survey Experiment." *Research & Politics* 9(2). https://doi.org/10.1177/20531680221091439

Nagayoshi, Kikuko, Mitsuru Matsutani, and Naoto Higuchi. 2020. "An Online Survey with a Large Sample-Size: A Case of the Survey for Demonstrators after the Great East Japan Earthquake," *Sociological Theory and Methods* 35(1): 145-158.

APPENDIX B: DESCRIPTIVE STATISTICS

TABLE B.1 RESPONDENT CHARACTERISTICS BY GENDER

	Men [51.0%]	Women [49.0%]
Full Time Employment	77.5%	42.9%
University Graduate	63.3%	37.8%
Age	55.0	45.0
Party Affinity		
Government		
Liberal Democratic Party	40.3%	26.1%
Komeito	1.9%	2.8%
Opposition: Left		
Constitutional Democratic Party	9.0%	6.0%
Democratic Party for the People	1.6%	1.5%
Japan Communist Party	3.0%	3.4%
Social Democratic Party	0.3%	0.5%
Reiwa Shinsengumi	2.4%	2.0%
Opposition: Right		
Ishin (Japan Innovation Party)	6.2%	4.1%
Party to Protect the People from NHK	2.0%	1.0%
Independents		
Other Political Organizations	0.4%	0.3%
No Party	27.4%	36.4%
Support for Gender Quotas (*Diet Quota, 6-point scale*))	3.51	4.10

Benevolent Sexism (6-point scale)	3.50	3.39
Women Kinder to Weak	3.38	3.59
Working Moms Bad for Children	3.55	3.26
Housework is Fulfilling	3.49	3.22
Hostile Sexism (6-point scale)	3.10	2.58
Prioritize Men's Education	2.83	2.37
Prioritize Men's Employment	3.12	2.57
Men Make for Better Politicians	3.37	2.94
Causes of Women's Under-Representation (Binary)		
Women Uninterested	73.6%	65.4%
Parties Unserious	73.3%	84.9%
More Unqualified Women (6-point scale)	4.13	3.68
Interventionism (IRT Graded-Response Model)	0.00	0.82

TABLE B2: SEXISM

Benevolent Sexism

1. Women are better at caring for vulnerable people than men.

Strong No	No	Weak No	Weak Yes	Yes	Strong Yes
6.9%	13.7%	25.2%	35.5%	13.6%	5.1%

2. When mothers have full-time jobs, I feel sorry for their small children.

Strong No	No	Weak No	Weak Yes	Yes	Strong Yes
10.1%	15.8%	21.6%	30.1%	11.4%	6.0%

3. Being a housewife can be as fulfilling as a job that earns an income.

Str No	No	Weak No	Weak Yes	Yes	Strong Yes
8.1%	18.0%	29.3%	26.4%	13.0%	5.2%

Hostile Sexism

1. University education is more important for boys than girls.

Strong No	No	Weak No	Weak Yes	Yes	Strong Yes
23.4%	28.6%	24.4%	15.9%	4.8%	2.8%

2. When employment opportunities are limited, men should be given preference for jobs over women.

Strong No	No	Weak No	Weak Yes	Yes	Strong Yes
17.3%	24.7%	27.3%	20.9%	6.7%	3.3%

3. In general, men are better suited as political leaders than women.

Strong No	No	Weak No	Weak Yes	Yes	Strong Yes
12.9%	19.3%	24.9%	29.1%	9.7%	4.1%

TABLE B3: ATTITUDES TOWARDS GOVERNMENT INTERVENTION

1. Make parental leave mandatory for men.

Strong No	No	Weak No	Weak Yes	Yes	Strong Yes
3.8%	8.4%	17.2%	34.0%	22.1%	14.6%

2. Allow for same-sex marriage.

Strong No	No	Weak No	Weak Yes	Yes	Strong Yes
7.5%	7.2%	11.0%	28.1%	29.4%	16.8%

3. Allow married couples to keep separate surnames.

Strong No	No	Weak No	Weak Yes	Yes	Strong Yes
5.6%	5.7%	11.4%	27.5%	30.8%	19.0%

4. Ban sexual harassment by law.

Strong No	No	Weak No	Weak Yes	Yes	Strong Yes
1.7%	3.0%	6.6%	23.9%	33.2%	31.8%

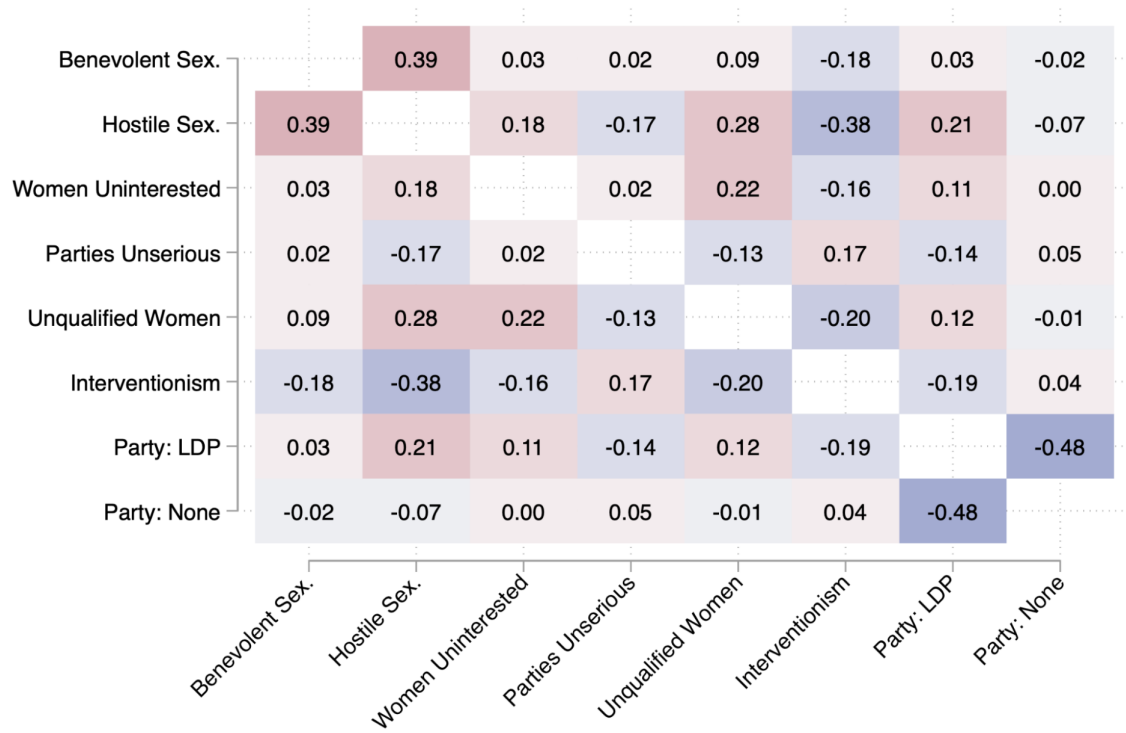|	Benevolent Sex.	Hostile Sex.	Women Uninterested	Parties Unserious	Unqualified Women	Interventionism	Party: LDP	Party: None
Benevolent Sex.		0.39	0.03	0.02	0.09	-0.18	0.03	-0.02
Hostile Sex.	0.39		0.18	-0.17	0.28	-0.38	0.21	-0.07
Women Uninterested	0.03	0.18		0.02	0.22	-0.16	0.11	0.00
Parties Unserious	0.02	-0.17	0.02		-0.13	0.17	-0.14	0.05
Unqualified Women	0.09	0.28	0.22	-0.13		-0.20	0.12	-0.01
Interventionism	-0.18	-0.38	-0.16	0.17	-0.20		-0.19	0.04
Party: LDP	0.03	0.21	0.11	-0.14	0.12	-0.19		-0.48
Party: None	-0.02	-0.07	0.00	0.05	-0.01	0.04	-0.48	

Figure C1: Correlation matrix of key explanatory variables. Each variable is operationalized in the manner described in Sections IV.1 ~ IV.3. Deeper red colors denote stronger positive correlations, while deeper blue colors denote stronger negative correlations.

TABLE D1: REGRESSION OUTPUT (FIGURES 2-4)

DV: Diet Quota	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Sample	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Main Text Figure	Fig 2		*with controls*		Fig 3		*with controls*		Fig 4		*with controls*	
AMBIVALENT SEXISM												
Benevolent Sex.	0.260***	0.0328	0.257***	0.0283								
	(0.0471)	(0.0398)	(0.0463)	(0.0394)								
Hostile Sex.	-0.328***	-0.307***	-0.286***	-0.267***								
	(0.0360)	(0.0340)	(0.0364)	(0.0345)								
MODERN SEXISM												
Women Uninterested					-0.343***	-0.321***	-0.278***	-0.278***				
					(0.0829)	(0.0690)	(0.0824)	(0.0685)				
Parties Unserious					0.923***	0.865***	0.913***	0.849***				
					(0.0826)	(0.0969)	(0.0827)	(0.0956)				
Unqualified Women					-1.023***	-0.790***	-0.992***	-0.758***				
					(0.0726)	(0.0646)	(0.0725)	(0.0649)				
INTERVENTIONISM												

Weak Passive					0.552***	0.659***	0.505***	0.631***
					(0.0828)	(0.0900)	(0.0828)	(0.0892)
Weak Active					0.577***	0.863***	0.561***	0.785***
					(0.0943)	(0.0902)	(0.0949)	(0.0916)
Strong Active					1.211***	1.297***	1.129***	1.188***
					(0.0913)	(0.0871)	(0.0917)	(0.0908)
CONTROLS								
Party: LDP	-0.296***	-0.107	-0.291***	-0.160**		-0.252***	-0.0950	
	(0.0822)	(0.0734)	(0.0858)	(0.0793)		(0.0792)	(0.0699)	
Party: CDP	0.327***	0.388***	0.135	0.168		0.217*	0.325***	
	(0.116)	(0.117)	(0.125)	(0.137)		(0.117)	(0.109)	
Party: DPP	0.776***	0.301*	0.605**	0.302*		0.810***	0.341*	
	(0.231)	(0.181)	(0.270)	(0.179)		(0.227)	(0.188)	
Party: Komei	0.341	0.416***	0.252	0.412**		0.472*	0.363**	
	(0.277)	(0.160)	(0.310)	(0.160)		(0.243)	(0.157)	
Party: JCP	0.410**	0.476***	0.203	0.368**		0.396**	0.443***	
	(0.197)	(0.147)	(0.184)	(0.149)		(0.182)	(0.139)	

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Party: Ishin			-0.381**	-0.181			-0.427***	-0.0749			-0.428***	-0.0536
			(0.152)	(0.133)			(0.141)	(0.135)			(0.139)	(0.130)
Party: SDP			0.950**	0.286			0.664**	-0.0836			0.674**	0.189
			(0.410)	(0.222)			(0.309)	(0.212)			(0.282)	(0.172)
Party: Reiwa			0.0765	0.409*			-0.160	0.330*			-0.0149	0.497**
			(0.216)	(0.228)			(0.214)	(0.192)			(0.211)	(0.219)
Party: NHK			-0.0829	0.494**			-0.0124	0.476**			0.0780	0.409
			(0.261)	(0.208)			(0.315)	(0.237)			(0.240)	(0.261)
Party: Other			-1.499***	0.759***			-1.792***	0.764***			-1.666***	0.118
			(0.295)	(0.233)			(0.246)	(0.120)			(0.343)	(0.191)
Age Decile (2-7)			-0.0461**	-0.104***			-0.0660***	-0.120***			0.0303	-0.0362**
			(0.0215)	(0.0187)			(0.0228)	(0.0202)			(0.0211)	(0.0183)
Constant	3.649***	4.800***	3.808***	5.088***	3.810***	4.068***	4.146***	4.517***	3.011***	3.291***	3.003***	3.457***
	(0.172)	(0.129)	(0.187)	(0.141)	(0.0990)	(0.103)	(0.141)	(0.129)	(0.0549)	(0.0730)	(0.116)	(0.113)
Observations	1,632	1,420	1,631	1,419	1,314	1,079	1,313	1,078	1,694	1,446	1,693	1,445
R-squared	0.066	0.073	0.103	0.118	0.231	0.234	0.263	0.279	0.102	0.161	0.136	0.184

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
The baseline level for the Party affinity variables is "None" (independents).

TABLE D2: REGRESSION OUTPUT (FIGURE 5)

DV: Diet Quota	1	2	3	4	5	6	7	8
Ideal % Women in Diet	0.0283***	0.0251***	0.0222***	0.0189***	0.0265***	0.0240***	0.0212***	0.0175***
	(0.00240)	(0.00347)	(0.00415)	(0.00272)	(0.00239)	(0.00345)	(0.00411)	(0.00276)
Interventionism	0.845***				0.763***			
	(0.156)				(0.156)			
Ideal X Interventionism	-0.00457				-0.00392			
	(0.00368)				(0.00365)			
Women Uninterested		-0.816***				-0.695***		
		(0.181)				(0.179)		
Ideal X Women Uninterested		0.00926**				0.00779*		
		(0.00419)				(0.00415)		
Parties Unserious			0.586***				0.604***	
			(0.182)				(0.179)	
Ideal X Parties Unserious			0.00829*				0.00727	
			(0.00468)				(0.00465)	
Unqualified Women				-1.477***				-1.414***
				(0.154)				(0.154)

Ideal X Unqualified Women	0.0121***				0.0117***
	(0.00365)				(0.00367)
Party: LDP		-0.236***	-0.306***	-0.256***	-0.253***
		(0.0518)	(0.0562)	(0.0546)	(0.0534)
Party: CDP		0.199**	0.240***	0.170**	0.140*
		(0.0791)	(0.0845)	(0.0865)	(0.0790)
Party: DPP		0.470***	0.508***	0.449***	0.453***
		(0.161)	(0.169)	(0.156)	(0.164)
Party: Komei		0.406***	0.421***	0.491***	0.347**
		(0.135)	(0.133)	(0.146)	(0.155)
Party: JCP		0.299***	0.293**	0.320***	0.245**
		(0.109)	(0.122)	(0.111)	(0.114)
Party: Ishin		-0.412***	-0.447***	-0.448***	-0.318***
		(0.0990)	(0.106)	(0.0999)	(0.1000)
Party: SDP		0.407**	0.499**	0.340	0.259
		(0.200)	(0.208)	(0.216)	(0.171)
Party: Reiwa		0.147	0.165	0.177	0.0191
		(0.156)	(0.162)	(0.151)	(0.157)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Party: NHK					0.0129	-0.0480	0.0115	-0.0405
					(0.172)	(0.200)	(0.179)	(0.202)
Party: Other					-1.130***	-0.971**	-0.977**	-0.879**
					(0.365)	(0.409)	(0.440)	(0.429)
Age Decile (2-7)					-0.0122	-0.0496***	-0.0707***	-0.0661***
					(0.0143)	(0.0148)	(0.0148)	(0.0142)
Constant	2.370***	3.140***	2.241***	3.693***	2.575***	3.423***	2.652***	4.059***
	(0.0936)	(0.154)	(0.154)	(0.121)	(0.117)	(0.166)	(0.166)	(0.137)
Observations	3,160	2,859	2,794	2,842	3,158	2,857	2,792	2,840
R-squared	0.165	0.135	0.184	0.230	0.190	0.171	0.219	0.256

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
The baseline level for the Party affinity variables is "None" (independents).