

A Multi-Country Study of Women's Political Representation and Gendered Political Leadership Stereotypes

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Abstract

Political leadership positions are dominated by men. Arguably the most visible of a society's positions of power, these positions may be important symbols of women's ability to lead. If so, levels of female political representation within a society should shape its stereotypes of women's suitability for political leadership. This project (lifecyle plan DOI:10.71240/lcyc.322400) tested this possibility by conducting a secondary analysis of a dataset that measured the stereotypes of women, men and political leaders in 42 countries covering six continents (Nsample = 22,996). Specifically, we tested whether, as a country's representation of women in political leadership increases, there is a greater increase in the congruence of that country's stereotypes of political leaders and women than in the congruence of that country's stereotypes of political leaders and men. We also conducted exploratory analyses to identify whether other socio-ecological and cultural variables correlated with cross-national heterogeneity in the content and congruence of these stereotypes. Surprisingly, we did not find any evidence that the representation of women in politics affected the congruence of the stereotypes between political leaders and women or men. There was, however, (weak) evidence that political populism and conservatism may play a role in the congruence between political leader and gender stereotypes. These findings question the role of macro-level variables in micro-level gendered leadership beliefs.

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Registration

A registration of this project is available through the plan submitted to Lifecyle.

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Materials

The materials, raw data and code are available on OSF.

https://osf.io/tsh9x/overview?view_only=d22111d0615b42ba8c71117631104547

Data

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Paper

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Women are underrepresented in positions of political leadership. At the time of writing, only 29 countries—or about one in every eight—has a woman elected as Head of State or Government (UN women, 2025). Although the picture improves as one moves down the political hierarchy, lower levels are still dominated by men. Specifically, around the world, women only occupy 23% of ministerial positions, 27% of parliamentary seats and 36% of local governmental positions (UN Women, 2025). There is a widely expressed belief that this representation matters, not only because of what it says about gender discrimination within a society, but also because of what it tells a society about the ability of women to lead. For instance, Mansbridge (1999, pp. 648) argued that the observation that "*Persons with these characteristics do not rule*" carries the implication that "*Persons with these characteristics are not ... [fit] to rule*".

In this project, we aim to test whether Mansbridge's (1999) claim holds in the political domain. Specifically, we will test whether people's tendencies to stereotype political leaders as more like men than women will be strongest in countries that have fewer women in positions of political leadership. We will do this by conducting a secondary analysis of a recent large-scale study (Peters et al., in press) that measured people's stereotypes of women, men and political leaders in 42 countries and 6 continents. Importantly, these countries are heterogeneous with regard to women's political empowerment (including Finland and Nigeria, the 2nd and 143rd ranked countries respectively; World Economic Forum, 2025) and cultural context (including countries that are western, educated, industrialised, rich and democratic, and countries that are not; Henrich, Heine & Norenzayan, 2010). This dataset will, therefore, allow us to conduct a high-powered global test of the symbolic importance of women in political leadership for cultural beliefs of the traits of men, women and political leaders.

Gender Representation and Gendered Stereotype Content

Political leadership positions are arguably among the most visible positions of power in society. For this reason, it has been suggested that the characteristics of the people who occupy these

positions may have symbolic importance, shaping beliefs about which members of a society have what it takes to effectively exercise power (Jalalzai, 2019; Mansbridge, 1999). This symbolic possibility, if correct, has important implications for women. Specifically, the fact that women have rarely occupied positions of political leadership could support the belief that women lack the attributes that are necessary to succeed in these positions (Alexander, 2012)—beliefs that could make it harder for women to attain these positions in the future (Heilman, 2001).

Social role theory (Eagly, 1997; Eagly & Koenig, 2021; Eagly, Wood & Diekmann, 2000; Wood & Eagly, 2000) provides a strong theoretical basis for this symbolic possibility. According to this theory, people's beliefs about gender are informed by women's and men's roles in society. Specifically, because social roles constrain the kinds of behaviours that people can engage in, any systematic difference in the kinds of roles that are occupied by men and women can provide the basis for different stereotypes about their characteristics. Thus, the over-representation of women in unpaid domestic and care-giving roles should be associated with a tendency to believe that women are especially communal—that is, caring, nurturing and empathetic. In a similar way, the over-representation of men in paid roles outside of domestic and care-giving domains should be associated with a tendency to believe that men are especially agentic—that is, purposeful, powerful and independent. These expectations are borne out in work that finds that people tend to perceive women as more sympathetic, sensitive and kind and men as more competitive, independent and determined (Bem, 1981; Eagly, Nater, Miller, Kaufmann & Sczesny, 2020; Eagly & Wood, 2002; Ellemers, 2018; Prentice & Carranza, 2002; Williams, Satterwhite & Best, 1982).

The overrepresentation of men in positions of leadership and authority, more specifically, should likewise tend to reinforce stereotypes of women as more communal and men as more agentic. This is because people believe that leadership roles require agentic rather than communal attributes (e.g., Heilman, 1983; Eagly & Karau, 2002; Froehlich, Olsson, Dorrough & Martiny, 2020). In one demonstration of this tendency, Powell, Butterfield and Parent (2002; see also Powell & Butterfield, 1979, 1989) found that a majority of US-based students believed that agentic attributes (like forceful, dominant and independent) were more characteristic of managers than communal attributes (like warm, tender and affectionate). Only a small number of participants (fewer than 5%) believed that communal attributes were more characteristic of managers than agentic attributes were.

In sum then, the more leadership roles are dominated by men rather than women, the more people should tend to stereotype leaders as similar to men and dissimilar from women. In line with this, there is evidence that the stereotypes of women and leaders are indeed perceived to be more different from one another than are the stereotypes of men and leaders (Eagly & Karau, 2002; Heilman, 1983). Specifically, Schein (1973; see also Schein, 1975) asked participants, who were US-based managers, to rate an array of attributes according to how characteristic they were of one of three different target groups: successful middle managers, women or men. Importantly, the ratings of successful managers were more similar to the ratings of men than women on almost

three-quarters of the attributes. On the basis of these findings, Schein concluded people who think of a manager are likely to ‘think man’, not woman. Schein’s findings have been shown to hold for leaders in a range of different occupations (e.g., business, military, education; Koenig, Eagly, Mitchell & Ristikari, 2011).

Importantly, in explaining why gender stereotypes have the content that they do, social role theory points to an important mechanism for stereotype change. That is, as the roles that men and women occupy change, so too should stereotypes of what men and women are like. In line with this possibility, in a large meta-analysis, Koenig et al. (2011) observed that the stereotypes of leaders and women were descriptively more congruent in societies that could be expected to have a greater number of women in managerial positions (i.e., more contemporary societies, or those in the West). However, a formal test of this possibility did not yield conclusive results, possibly reflecting a lack of power and the low level of contextual heterogeneity in the countries that were included in the analysis. Indeed, only 15 percent of the studies that were included in the meta-analysis were conducted in non-industrialised countries (over half were conducted in the US).

Gendered Stereotypes in the Political Domain

The above literature suggests that the under-representation of women in positions of political leadership should support the belief that men—*not* women—have the attributes that are associated with leadership in the political arena. This literature also suggests that the more women there are among a society’s political leaders, the less people should tend to associate their stereotypes of political leaders with their stereotypes of men and the more they should associate them with their stereotypes of women.

There is a body of work within political science that has tested this expectation. Typically, this research examines whether geographical or temporal variations in women’s political representation (at local, legislative or executive levels) map onto variations in people’s agreement with statements like “men make better political leaders than women” (such measures are contained in public opinion surveys like the World Values Survey or AmericasBarometer). Some of these studies have observed the expected positive association between the presence of women in politics and beliefs that they are able to lead. For instance, Alexander and Jalalzai (2020) found that people who lived in countries with a greater percentage of women in parliament were less likely to agree that men make better political leaders than women (see Smith et al., 2017, for similar findings for legislative positions in the Americas, and Miller et al., 2015, for similar findings in the science domain).

However, the findings of other studies are less clear, suggesting that women’s representation at local (Campbell & Wolbrecht, 2006), legislative (Morgan & Buice, 2013) and executive levels (Barnes & Taylor-Robinson, 2018) may not matter that much for people’s gendered leadership beliefs. Still other studies suggest that whether the representation of women in politics matters for people’s

beliefs depends on the gender of the respondent. However, here too the evidence is inconsistent, with some studies finding the expected association only among women (Alexander, 2012) and others finding it only among men (Morgan & Buice, 2013; Kerevel & Atkeson, 2015).

In sum, then, the evidence that the presence of women in political leadership is symbolically important is rather mixed. While this may reflect the role of important unmeasured confounding variables and moderators, it may also reflect limitations in the way in which this work has measured people's beliefs about women's suitability for political leadership roles. Specifically, the body of work summarised above has relied on explicitly sexist measures of women's suitability for political leadership (e.g., asking people to agree that men are better than women). To the extent that these measures invoke social desirability concerns, they could bias participants' responses (e.g., Setzler, 2019). It is possible that the assessment of people's stereotypes and the congruence between them is less likely to be subject to such social desirability concerns.

Study Aims and Overview

Informed by the existing research and theorising summarised above, our proposed study aims to test two a-priori hypotheses and answer one exploratory research question:

H1: In countries with more (versus fewer) women in political leadership, the stereotypes of women will be more congruent with the stereotypes of political leaders.

H2: Moreover, the H1 increase in congruence between the stereotypes of women and political leaders will be stronger than any increase in congruence between the stereotypes of men and political leaders.

RQ: Are there socio-ecological and cultural variables that are associated with cross-national heterogeneity in the content and congruence of these stereotypes?

In order to test our hypotheses, we will conduct a secondary analysis of a dataset that includes the most comprehensive cross-national survey of the stereotypes of women, men, and political leaders to date (Peters et al., 2025). In particular, we will test the extent to which the World Economic Forum's political empowerment subindex (comprised of the number of years that a country had a women as head of state, the proportion of ministers who were women and the proportion of parliamentarians who were women) conditions the congruence in people's stereotypes of women, men and political leaders.

Although theorising only supports strong a-priori contextual expectations in the case of female political representation, we have identified three more sets of socio-ecological and cultural variables (covering 13 covariates in total) that may be expected to affect people's perceptions of social groups in general as well as the targeted social groups in particular (for a detailed overview see Emrich et al., 2004). We will test the role of these variables in stereotype content and congruence in an exploratory manner. The first set of covariates relate to a *society's gender equity*

and may affect stereotypes of men and women (Liu, 2018): (a) the gender gap in economic opportunities, (b) the gender gap in educational opportunities, and the prevalence of two ideologies that are associated with the endorsement of traditional gender relations, namely (c) religiosity and (d) political conservatism. The second set of covariates relate to a *society's responses to authority* and may affect stereotypes of political leaders (Eriksson et al., 2021; Sprong et al., 2020; Uz, 2015): (a) collectivism, (b) cultural tightness and (c) political populism. The final set of covariates relate to *climatic and material resources* and may affect stereotypes of social groups (and their differentiation) more generally (Van de Vliert & van Lange, 2019): (a) the Gini coefficient, (b) the Human Development Index (an aggregate of GDP, education and life expectancy), (c) latitude, (d) thermal density, (e) rainfall and (f) pathogen levels.

Method

Ethics

The stereotype dataset was collected under the aegis of the Psychological Science Accelerator (PSA). Participating labs obtained local ethical approval (documentation is stored on <https://osf.io/gjv2f/files>). All participants provided informed consent.

Participants

Participants were 22,996 adults who consented to complete a web-based survey on the perceptions of social groups and passed three exclusion criteria: (a) having resided in the country of recruitment since at least the age of 12, (b) passing two attention checks and (c) completing at least 80 percent of items in the survey. Consistent with the kind of data that is collected by psychologists, the majority of participants were women ($N = 14,946$) and students ($N = 17,481$). Participants were 28.41 ($SD = 12.31$) years of age on average.

Participants were recruited from 42 countries or regions: Argentina ($N = 463$), Armenia ($N = 540$), Australia ($N = 431$), Austria ($N = 296$), Brazil ($N = 410$), Burkina Faso ($N = 236$), China ($N = 386$), Colombia ($N = 684$), Czech Republic ($N = 295$), Denmark ($N = 371$), Finland ($N = 279$), France ($N = 525$), Germany ($N = 1,286$), Greece ($N = 451$), Hungary ($N = 429$), India ($N = 255$), Indonesia ($N = 329$), Iran ($N = 368$), Italy ($N = 867$), Japan ($N = 515$), Macau ($N = 248$), Mexico ($N = 619$), Morocco ($N = 245$), Netherlands ($N = 685$), Nigeria ($N = 292$), Norway ($N = 617$), Pakistan ($N = 299$), Peru ($N = 269$), Poland ($N = 1,319$), Portugal ($N = 397$), Romania ($N = 1,272$), Serbia ($N = 355$), Slovakia ($N = 490$), South Korea ($N = 236$), Spain ($N = 486$), Sweden ($N = 320$), Switzerland ($N = 371$), Thailand ($N = 283$), Turkey ($N = 2,072$), United Kingdom ($N = 939$), United States ($N = 1,353$) and Vietnam ($N = 413$).

Power Analysis

To verify that our sample size was sufficient to generate reliable inferences for our analysis approach, we conducted a parameter recovery analysis. This analysis assesses the reliability with which model parameters (in this case, regression coefficients) can be estimated given the study design and expected sample size (Heathcote et al., 2015; Ballard, 2021). To run the recovery analysis, we randomly sampled 120 sets of model parameters based on the prior distributions used in the analysis (shown in the model specification above). For each set of parameters, we simulated 20 datasets assuming data were collected from 44 countries and 50 participants per country (a sample that is one tenth the size of our final sample).¹ We then analysed each simulated dataset using the same approach as is planned for the study (also described below). Parameters are considered to be reliably estimated (i.e., “recovered”) if their estimated values align with the “true” values that were used to generate the simulated datasets.

The results of our analysis for the five regression coefficients of interest in this study (i.e., the main effects of man rating, woman rating, political empowerment of women, and two gender X political empowerment interactions) are shown in Figure 1. This reveals a high degree of alignment between the data-generating and estimated values for all five regression coefficients, indicating that the inferences that will be made about effect sizes based on these regression coefficients can be expected to be reliable. The 95% credible interval on the overall correlation between data-generating and estimated values across the five parameters shown in Figure 1 spanned the interval from 0.987 to 0.991. This finding indicates that the inferences that will be made about effect sizes based on these regression coefficients can be expected to be reliable.

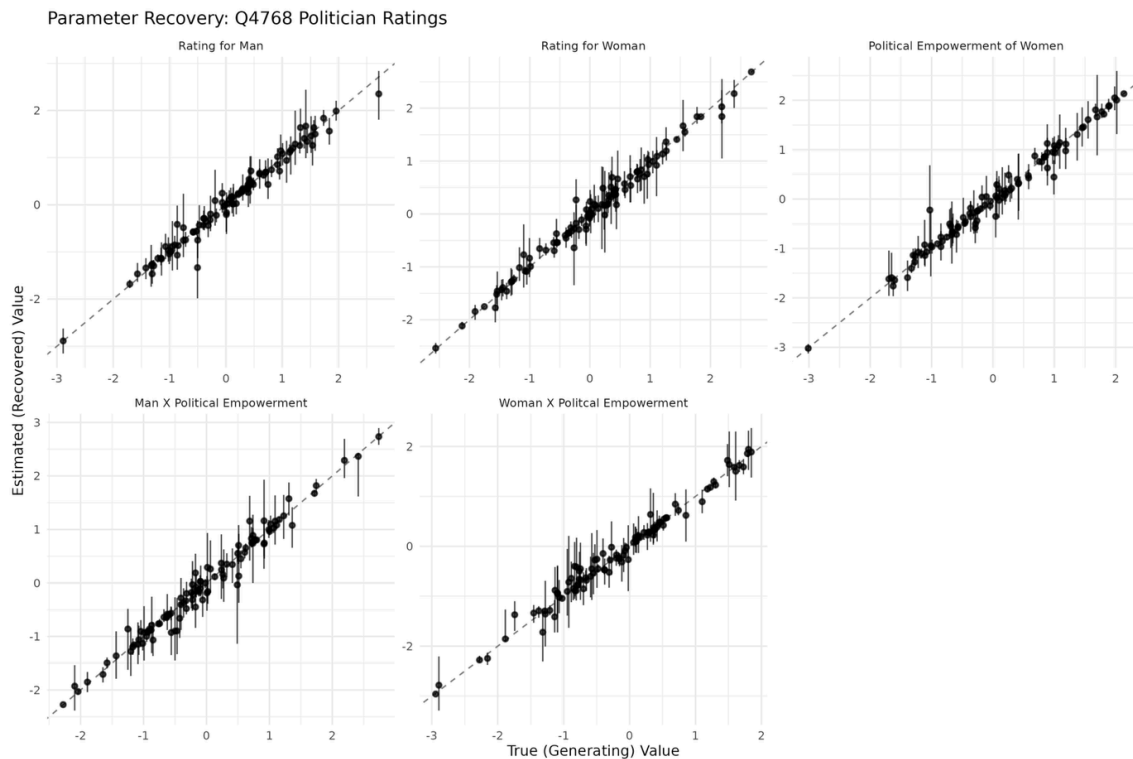


Figure 1. Results of parameter recovery analysis. The black dots represent the mean of the posterior distribution for the estimated value of the relevant parameter after being fit to a simulated dataset generated using the true value. The error bars represent the 95% credible interval.

As with any multi-level analysis, the precision of parameter estimates will depend more on the number of units at the highest, country, level than on the number of units at lower, participant or attribute, levels. Simulations using frequentist methods (Maas & Hox, 2005; Cameron & Miller, 2015) have suggested that researchers should aim to have 50 or more groups at the highest level. Although there is evidence that Bayesian methods can obtain relatively unbiased estimates with smaller samples (e.g., 30 groups or fewer; Stegmueller, 2013), when modelling cross-level interactions, larger samples are desirable for avoiding overly conservative credible intervals. Our sample of 42 countries is therefore approaching the ideal of 50 groups.

Design

The study used a mixed design, with stereotype ratings measured within-subjects and country- and individual-level covariates measured between-subjects. Participants were randomly allocated to one of 6 the possible presentation orders, where the first presentation group was either men, women or political leaders and the distractor group 'the elderly' always followed the first gender group. The data was collected as part of an experiment that tested the impact of a gender fair

language intervention on people's tendencies to stereotype political leaders as more like women than men (see Peters et al., in press). As this intervention did not have any significant effects on stereotype congruence, we will disregard it in our current analysis.

Procedure and measures

Participants were recruited to take part in a survey of people's perceptions of social groups. Surveys were translated into the local language. As part of a longer survey², participants were asked to consider each of four social groups in turn: women, men, political leaders and the elderly (the order of the first three groups was randomised; the elderly always followed the first gender group). For each group, participants read these instructions: *"On this page, we would like you to rate [target group]. In making your judgments, it may be helpful to imagine that you are about to meet a person for the first time and the only thing you know in advance is that the person is a [target group member]. Below, you will see 30 pairs of terms. Please select the point between the words in each pair that best describes what [target group] are like in general."* The name of the target group was specified as "women", "men", "people who occupy political leadership positions" and "the elderly".

This instruction was followed by 30 semantic differentials that assessed two communal sub-facets (morality and friendliness) and four agentic sub-facets (assertiveness, competence, self-sufficiency and dominance; Abele et al., 2016; Cuddy et al., 2015; Hentschel et al., 2019; Koch et al., 2016; Ma et al., 2022). Morality was measured with "fair—unfair", "just—unjust", "moral—immoral", "ethical—unethical", "honourable—dishonourable". Friendliness was measured with "caring—uncaring", "warm—cold", "empathetic—unempathetic", "kind—unkind", "good-natured—bad-natured". Assertiveness was measured with "strong—weak", "confident—hesitant", "decisive—indecisive", "assertive—unassertive", "never-giving-up—giving-up-easily". Competence was measured with "capable—incapable", "competent—incompetent", "talented—untalented", "skilled—unskilled", "accomplished—unaccomplished". Self-sufficiency was measured with "self-controlled—uncontrolled", "self-reliant—other-reliant", "mature—immature", "independent—dependent", "self-sufficient—not-self-sufficient". And finally, dominance was measured with "dominant—submissive", "conceited—humble", "self-promoting—modest", "overbearing—accommodating", "feeling-superior—feeling-inferior". For presentation purposes, these attributes were divided into two sets of three sub-facets each. Within a given set, items were presented in a random order. The poles were alternated so that approximately half the items presented the positive pole on the right.

Our measure of female political representation was based on the political empowerment sub-index of the World Economic Forum's 2025 Global Gender Gap Index. This sub-index is a weighted average of (1) the percentage of women in parliament, (2) the percentage of women in ministerial positions and (3) the share of the last 50 years with a female head of state. We measured covariates related to a *society's gender equity* with the economic participation and educational attainment sub-indices of the 2025 Global Gender Gap Index, the Gallup (2025) measure of national religiosity and Norris's (2020) measures of political conservatism (aggregated across party

and weighted by party vote share). We measured covariates related to a *society's responses to authority* with Pelham et al.'s (2022) global collectivism index, Uz's (2015) and Eriksson et al.'s (2021) measures of cultural tightness and Norris's (2020) measure of political populism (aggregated across party and weighted by party vote share). We measured covariates related to *climatic and material resources* with Gini coefficient data from the world population review (2026), HDI from the UN human development data (2023), and climatic data from the Van de Vliert archive (Van de Vliert & van Lange, 2019).

Analysis Plan

We used Bayesian estimation of a cumulative ordinal probit model where the response variable was participants' ratings of political leader attributes. The fixed effects in the model were the rating of attributes for women, rating of attributes for men, the country's political representation of women and the two 2-way interactions between the rating of attributes for each gender group and the political representation of women. The three main effects were standardised prior to analysis. The model also included random intercepts for attribute, country, and participant, as well as the random slopes of ratings for men and women.

The model was implemented in R (Development Core Team, 2011) using the *brms* (Brückner, 2016) and *RStan* packages (Stan Development Team, 2020), which use Hamiltonian Monte Carlo (HMC) to estimate the posterior distributions on model parameters. We planned to run four chains for 2000 iterations each discarding the first 1000 iterations per chain as warmup, leaving a total of 4000 posterior samples to be analysed. These settings are default in both *brms* and *RStan* and are generally sufficient for achieving model convergence when using HMC. Moreover, this number of iterations is more than what was sufficient to achieve convergence in the parameter recovery simulations reported above. We verified model convergence using the split chain potential scale reduction factor (Rhat) statistic (Vehtari et al., 2019), for which values close to 1 indicate that the model has converged.

We interpreted effects as statistically reliable when the relevant 95% credible interval (CI), which spans the 2.5th to 97.5th percentiles of the posterior distribution, excludes zero. To test H1, we examined the two-way interaction of the ratings of attributes for women and the country's political representation of women. Evidence consistent with H1 was provided by a credible positive coefficient on the two-way interaction between the rating of attributes for women and the political representation of women. To test H2, we computed the posterior distribution on the difference in two-way interactions between each gender group and the political representation of women. Evidence consistent with H2 was provided if the two-way interaction between the rating of attributes for men and political representation of women was credibly less positive than the two-way interaction for women and political representation of women. See Table 1 for further details of the study design and the confirmatory hypothesis tests.

Data and code availability

The materials, raw data and code are available on OSF: [https://osf.io/tsh9x/overview?view_only = d22111d0615b42ba8c71117631104547](https://osf.io/tsh9x/overview?view_only=d22111d0615b42ba8c71117631104547)

Table 1. Study Design Table: Confirmatory Hypothesis Tests

Question	Hypothesis	Rationale ^a	Interpretation given different outcomes	Theory ^b
Does the representation of women in politics shape people's tendencies to perceive political leaders as similar to women?	H1: Countries with greater female representation in political leadership will show higher congruence between stereotypes of women and stereotypes of political leaders.	We will interpret effects as statistically reliable when the relevant 95% credible interval (CI), which spans the 2.5 th to 97.5 th percentiles of the posterior distribution, excludes zero.	A positive coefficient on the interaction between ratings for women and female political representation will suggest that the presence of women in politics serves a symbolic function. A null or negative coefficient on this interaction will suggest that the presence of women does not serve a symbolic function.	Social role theory
Does the representation of women in politics shape people's tendencies to perceive political leaders as similar to a greater extent than their tendency to perceive political leaders as similar to men?	H2: Moreover, the H1 increase in congruence between stereotypes of women and political leaders is expected to be stronger than any corresponding increase in congruence between stereotypes of men and political leaders	We will interpret effects as statistically reliable when the relevant 95% credible interval (CI), which spans the 2.5 th to 97.5 th percentiles of the posterior distribution, excludes zero.	A weaker two-way interaction for men and female political leader representation (versus that reported for H1) will suggest that the presence of women in politics reduces gender bias in political leader stereotypes. A null or stronger two-way interaction for men	

			and female political leader representation (versus that reported for H1) will suggest that the presence of women in politics does not reduce gender bias in political leader stereotypes.	Social role theory
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Notes. The following table follows the PCI-RR format for a Study Design Table with two exceptions: (1) the *sampling plan* column is omitted because this is a secondary analysis of an existing dataset and (2) The *analysis plan* column is omitted because the manuscript provides a summary of the specific tests that will be used to confirm each hypothesis. ^a Rationale for deciding the sensitivity of the test for confirming or disconfirming the hypothesis; ^b Theory that could be shown to be wrong by the outcomes.

Results

Descriptive Statistics

Table 2 contains the means, standard deviations, and correlations between variables at the country level. Examination of this table reveals that the ratings of attributes for men had a credibly positive association with the ratings of attributes for politicians. The ratings of attributes for women also had a credibly positive, albeit weaker, association with politician ratings. These findings replicate previous analyses of this dataset (e.g., Peters et al., in press). The level of female political representation was not credibly associated with the ratings of politicians or women; there is, however, evidence of a credible negative association with ratings of men.

Interestingly, several of the other contextual variables had credible associations with the ratings of men (i.e., the gender gap in education, religiosity, political conservatism, ingroup collectivism, cultural tightness and HDI). In contrast, none of the contextual variables had credible associations with the ratings of women. A small set of contextual variables (i.e., the gender gap in economic opportunities, religiosity and political populism) had credible associations with the ratings of political leaders. This suggests that the stereotypes of men, and to a smaller extent politicians, may be more sensitive to contextual variables than the stereotypes of women.

Table 2. Country-level means, standard deviations, and correlations between study variables.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Ratings of men	4.56	0.22																	
2. Ratings of women	4.73	0.19	.21																
3. Ratings of politicians	4.44	0.32	.47*	.03															
4. G G: Politics a	0.30	0.18	-.34*	.15	.02														
5. G G: Economy ^a	0.67	0.11	-.02	.18	.33*	.46*													
6. G G:																			

Ed uc ati on a	0. 98	0. 04	-.6 1*	.1 0	-.1 0	.4 3*	.3 1*											
7. Re lig ios ity	0. 54	0. 26	.3 2*	.2 2	-.3 9*	-.5 2*	-.5 3*	-.4 5*										
8. Po liti cal co ns er va tis m	5. 73	1. 18	.3 7*	.1 5	.0 2	-.5 1*	-.2 0	-.4 0*	.4 5*									
9. In gr ou p col lec tiv is m	- 0. 49	0. 73	.4 4*	.1 4	-.1 9	-.5 5*	-.5 2*	-.6 2*	.8 6*	.6 0*								
10 · Cu ltu ral tig ht ne ss b	52 .5 3	27 .1 7	-.4 8*	.0 7	.0 6	.7 2*	.5 6*	.5 8*	-.6 4*	-.6 6*	-.7 6*							
11 · Cu ltu ral tig ht																		

ss c	- 0. 04	0. 37	.4 3*	-.1 6	.2 1	-.3 3	-.2 6	-.4 9*	.2 6	.1 7	.3 4	-.4 8*						
12 · Po liti cal po pu lis m	5. 52	1. 35	-.0 8	.0 6	-.6 0*	-.3 5*	-.4 2*	-.0 1	.3 3*	.2 7	.2 6	-.5 9*	-.0 2					
13 · Gi ni	33 .9 7	6. 58	-.2 1	.2 3	-.0 6	-.1 2	-.1 0	.0 1	.4 0*	.1 3	.4 0*	-.2 0	-.1 9	-.1 3				
14 · H DI d	0. 85	0. 12	-.5 8*	-.0 9	.0 3	.5 4*	.4 4*	.8 0*	-.7 8*	-.5 8*	-.9 1*	.6 8*	-.4 2*	-.0 7	-.2 4			
15 · La tit ud e	32 .8 7	23 .6 6	-.0 3	-.1 4	.0 6	.2 1	.1 2	.1 4	-.4 3*	-.1 8	-.4 6*	.3 0	.0 1	.0 2	-.5 9*	.3 5*		
16 · Th er m al de nsi ty	69 .6 8	19 .1 2	-.2 0	-.1 0	.0 1	.2 5	.1 5	.2 5	-.5 0*	-.2 1	-.5 2*	.2 9	-.1 6	.1 0	-.5 3*	.4 6*	.6 6*	
17 · Ra inf all	0. 27	0. 21	-.2 9	.0 7	.0 5	.5 0*	.4 5*	.3 7*	-.5 1*	-.2 5	-.6 2*	.5 5*	-.4 5*	-.1 9	-.0 9	.5 1*	.1 4	.4 8*
18 · Pa th																		

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Note. Correlations use pairwise-complete observations; * $p < .05$; ^a = World Economic Forum's gender gap index where higher values reflect increased participation of women; ^b = Uz's (2015) dispersion measure where high values indicate looseness, ^c = Eriksson's (2021) measure where high values indicate tightness; ^d = Human Development Index.

Hypothesis Testing

Table 3 contains the results of the Bayesian probit model predicting participants' ratings of attributes for political leaders. H1 predicted that countries with greater female representation in political leadership will show higher congruence between their stereotypes of women and their stereotypes of political leaders. This hypothesis was assessed by examining the two-way interaction between the ratings of attributes for women and the level of female political representation (as represented by the World Economic Forum's index of the gender gap in political representation). This interaction was not credible in our analysis, as the 95% credible interval on the posterior distribution associated with this interaction term included zero. H1 is, therefore, not supported.

Table 3. Bayesian cumulative ordinal probit model predicting ratings of political leaders.

Predictor	Estimate	95% Credible Interval	
		Lower	Upper
Rating of women	0.057	0.008	0.103
Rating of men	0.270	0.252	0.287
GG politics	0.008	–0.062	0.074
Rating of women × GG politics	–0.018	–0.066	0.031
Rating of men × GG politics	–0.013	–0.031	0.004

Note: Estimate indicates the mean of the parameter's posterior distribution. Lower/Upper 95% CI indicate the lower and upper bounds of the 95% credible interval on the posterior distribution (the 2.5 and 97.5 quantiles respectively). GG politics = gender gap in political representation; higher values reflect greater representation of women.

H2 predicted that the increase in congruence between stereotypes of women and political leaders predicted by H1 would be stronger than any corresponding increase in congruence between stereotypes of men and political leaders. As can be seen in Table 3, the interaction between the ratings of attributes for men and the level of female political representation was not credible (the

estimate of the parameter's posterior mean was also descriptively smaller than that for women). Computing the 95% credible interval on the difference between these interaction terms (with positive values indicating a stronger interaction for ratings of women than ratings of men) suggested that this difference was not credible (Mean estimate = -0.008 , 95% CI = $[-0.051, 0.043]$). H2 is, therefore, not supported.

Exploratory Analyses

We ran a set of follow-up exploratory analyses to examine whether other country-level variables were associated with the content of stereotypes of political leaders or the congruence of these stereotypes with those for women or men. For each of the 14 covariates identified above, we re-estimated the model reported for H1, replacing female political representation with the standardised covariate of interest. Table 4 contains the 95% credible intervals around the parameter posterior means for each analysis.

Table 4 reveals that the only covariate to credibly moderate the congruence between ratings of attributes for women and ratings of attributes for political leaders was political populism. Specifically, the congruence between the stereotypes of women and political leaders appeared to be weaker in countries higher in political populism. Importantly, this negative interaction was credibly stronger than the man rating $\times$ populism interaction (there was no credible evidence that this interaction differed from zero). The only covariate to credibly moderate the congruence between ratings of attributes for men and ratings of attributes for political leaders was political conservatism. Specifically, the congruence between the stereotypes of men and political leaders appeared to be stronger in more politically conservative countries. However, this was not credibly stronger than the corresponding women rating $\times$ conservatism interaction (which did not credibly differ from zero).

Table 4. Parameter estimates from exploratory analyses of the impact of covariates on ratings of attributes for political leaders.

Covariate	Parameter Predicting Political Leader Rating						Difference
	Ratings of Men	Ratings of Women	Covariate	Men $\times$ Cov.	Women $\times$ Cov.	Women–Men ^a	
Gender equity							
GG economy	[0.252, 0.289]*	[0.010, 0.107]*	[0.002, 0.120]*	$[-0.013, 0.019]$	$[-0.013, 0.073]$		$[-0.012, 0.068]$
GG education	[0.250, 0.286]*	[0.0004, 0.098]*	$[-0.055, 0.046]$	$[-0.022, 0.005]$	$[-0.065, 0.007]$		$[-0.055, 0.014]$
Religiosity	[0.252, 0.289]*	[0.008, 0.106]*	$[-0.143, -0.035]*$	$[-0.017, 0.015]$	$[-0.049, 0.037]$		$[-0.048, 0.036]$
Political							

conservatism	[0.253, 0.286]*	[0.007, 0.093]*	[-0.057, 0.060]	[0.010, 0.041]*	[-0.031, 0.053]	[-0.055, 0.025]
Responses to authority						
Ingroup collectivism	[0.250, 0.286]*	[0.015, 0.109]*	[-0.113, 0.016]	[-0.007, 0.026]	[-0.017, 0.076]	[-0.026, 0.063]
Cultural tightness (Uz)	[0.246, 0.285]*	[-0.010, 0.107]	[-0.058, 0.104]	[-0.031, 0.007]	[-0.086, 0.023]	[-0.073, 0.034]
Cultural tightness (Eriksson)	[0.244, 0.283]*	[0.001, 0.105]*	[-0.032, 0.107]	[-0.006, 0.029]	[-0.004, 0.095]	[-0.012, 0.080]
Political populism	[0.250, 0.289]*	[-0.002, 0.085]	[-0.169, -0.060]*	[-0.021, 0.016]	[-0.092, -0.008]*	[-0.088, -0.007]*
Climatic and material resources						
Gini coefficient	[0.250, 0.287]*	[0.010, 0.109]*	[-0.075, 0.069]	[-0.022, 0.016]	[-0.041, 0.061]	[-0.035, 0.062]
Human Development Index	[0.249, 0.284]*	[0.0003, 0.098]*	[-0.040, 0.070]	[-0.027, 0.0003]	[-0.067, 0.008]	[-0.052, 0.020]
Latitude	[0.252, 0.289]*	[0.004, 0.108]*	[-0.051, 0.072]	[-0.018, 0.013]	[-0.060, 0.028]	[-0.054, 0.027]
Thermal density	[0.251, 0.288]*	[0.007, 0.108]*	[-0.059, 0.074]	[-0.021, 0.015]	[-0.071, 0.023]	[-0.065, 0.022]
Rainfall	[0.252, 0.288]*	[0.004, 0.097]*	[-0.047, 0.080]	[-0.017, 0.017]	[-0.086, 0.001]	[-0.085, -0.002]*
Pathogen levels	[0.251, 0.287]*	[0.007, 0.098]*	[-0.060, 0.056]	[-0.010, 0.023]	[-0.005, 0.080]	[-0.010, 0.072]
<i>Note:</i> Values indicate 95% credible intervals; * intervals exclude zero; a = credible interval around the difference between the two-way interaction between the rating of men and the covariate and the rating of women and the covariate.						

There was also evidence that rainfall had a credibly more negative interaction with the stereotypes of women than with those of men, although neither individual interaction differed credibly from zero. Because these analyses were exploratory and involved testing a large number of covariates, there is a heightened risk of false positives. We therefore encourage cautious interpretation of these effects until they have been replicated.

Discussion

This study aimed to test the possibility that seeing women in positions of political power may serve a symbolic function, shaping people's beliefs that women do (or do not) have the attributes that are necessary to succeed in these positions. Specifically, we expected that in countries that had more women in positions of political leadership, people would report greater congruence between their stereotypes of women and political leaders (H1). We further expected that any increase in the congruence between the stereotypes of women and political leaders with increasing female representation would be greater than any increase in the congruence between the stereotypes of men and political leaders (H2). Unexpectedly, our analysis of the stereotypes of women, men and political leaders in 42 countries did not provide any credible evidence that the greater presence of women in positions of political leadership affected the congruence in the stereotypes of either women or men and political leaders. We did not, therefore, support either of our hypotheses.

Exploratory analysis only identified one covariate that conditioned the congruence in the stereotypes of women or men and political leaders to different extents. In particular, there was evidence that in countries where politically populist parties received a greater share of the vote the stereotypes of women and political leaders were less congruent; there was no evidence that political populism conditioned the congruence between the stereotypes of men and political leaders. Although there was evidence that rainfall conditioned the congruence in the stereotypes of women or men and political leaders to different extents, neither interaction was significant. This should, consequently, be interpreted with caution. In general, therefore, our findings provide little evidence that contextual factors play an important role in shaping congruence in gender and political leader stereotypes.

There was additionally evidence that three covariates had associations with the content of political leader stereotypes. Specifically, in countries that were more populist and more religious and where women had lower levels of economic participation, people were less likely to endorse the attributes for political leaders. In order to better understand what these associations mean, it would be necessary to examine whether this reflects a tendency to endorse all attributes to a lesser degree, or only those associated with specific sub-facets—an analysis that extended beyond what was proposed in this study.

Our findings have implications for social role theory (Eagly, 1997; Eagly & Koenig, 2021; Eagly, Wood & Diekmann, 2000; Wood & Eagly, 2000). Specifically, social role theory supports that expectation that, first, people will believe that men are more similar to political leaders than women are, and second (and of particular importance for our current purpose), that this belief will be shaped by the number of women that people see in positions of political power. Previous analysis of this dataset (see Peters et al., in press; see also the zero-order correlations in Table 1),

supports the first of these expectations. Our current analysis does not, however, support the second. That is, there is no evidence that the presence of women in positions of political leadership affect people's tendencies to think political leader, think woman (or indeed, man).

Our findings are also inconsistent with some existing empirical work. This includes Koenig et al.'s (2011) meta-analytic finding (admittedly, non-significant) that people who lived in societies that were likely to have more women in managerial positions were descriptively less inclined to think manager, think male. It also includes work that has found that a greater representation of women in politics or science is associated with a diminished tendency to agree that men make better leaders than women do (Alexander & Jalalzai, 2020; Smith et al., 2017; Miller et al., 2015). On the other hand, it is consistent with other studies that have not found a clear association between the representation of women in politics and people's gendered leadership beliefs (Barnes & Taylor-Robinson, 2018; Campbell & Wolbrecht, 2006; Morgan & Buice, 2013).

There are a number of possible explanations for our findings. First, it is possible that people's stereotypes about gender are less affected by actual numerical representation of men and women in social roles than social role theory suggests. Second, it is possible that the fact that political positions, while visible and impactful, are not common in society means that they have little impact on people's stereotypes relative to more numerically prevalent roles (e.g., employees or managers). Third, it is possible that the stereotypes of political leaders do not vary as a function of the gender of the role incumbent. Indeed, Takizawa, Iacoviello, Ryan and Kulich (2024) have found that male and female politicians are perceived to be very similar to one another. If so, it is possible that the presence of women in these positions is not seen as saying anything about what women are like, in general.

Limitations and Future Directions

This study of the impact of the numerical representation of women in political leadership roles on beliefs that politicians are similar to women has a number of strengths. This includes the fact that it afforded a very well-powered test across a large number of culturally heterogeneous contexts. It also includes the fact that it provided a more subtle test of these beliefs than many of the existing studies in political science and thus was less likely to have been affected by biases associated with reactance to explicitly sexist measures.

At the same time, there are a number of limitations associated with this analysis. This includes the difficulties of inferring causal associations from cross-sectional datasets. In future work, it would be worth identifying instrumental variables that could be used to provide greater causal certainty. It also includes the fact that this analysis focused on the endorsement of attributes without considering whether the pattern of endorsement varied across sub-facets of the stereotype. This approach may have obscured mixed changes in stereotype content or congruence, such that

people's endorsement of some sub-facets increased while their endorsement of others decreased. This sub-facet level analysis is also necessary to make sense of our findings that the stereotypes of men and, to a lesser extent, political leaders, varied systematically across different contexts. Finally, when interpreting differences in responses to measures in different contexts, it is important to understand the extent to which these measures are invariant across context. These are all important directions for future work.

Conclusions

There is a large body of evidence that people believe that being a man is more consistent with being a leader than being a woman. It has been argued that as people see more women in leadership positions, this bias will be reduced. In this study, the largest examination of the stereotypes of women, men and political leaders to date, we did not find any evidence that the representation of women in political leadership positions shaped this bias. In particular, people's tendency to believe that men were more similar to political leaders than women did not vary as a function of their country's gender gap in political representation. There was only weak evidence that other contextual variables may shape this bias. These findings, therefore, challenge claims that macro-level variables, like numerical representation, necessarily matter for micro-level stereotype beliefs, and suggest that in some contexts the levers for stereotype change may lie elsewhere.

Supporting Information

Supporting Information files related to this work can be found here: <https://osf.io/nts85/files/xr8w6>

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Notes

[1] We intended to analyse data from 44 countries, but two countries with small sample sizes (Bosnia and Tanzania) were inadvertently omitted from the analysis that we present in this manuscript.

[1] Participants completed the stereotype measure twice: once, providing their personal endorsement, and a second time, providing their best estimate of the community endorsement. The current analysis focuses on the personal stereotype endorsements only. The survey also assessed a range of individual attitudes and demographic variables and contained two attention checks. For full details see Peters et al. (in press).

Declarations

Ethics

Ethical approval (or exemption) was obtained from the institutions housing all labs that collected data for this study.

Competing Interests

The authors declare that no conflicts of interest exist.

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Author Contributions

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