

Supplementary Information Appendix

“Language Influences Mass Opinion Toward Gender and LGBT Equality”

Authors: Margit Tavits; Efrén O. Pérez (corresponding)

Emails: tavits@wustl.edu; perezeo@ucla.edu (corresponding)

This Supplementary Information Appendix contains the following information:

- 1) SI.1: additional information on Studies 1 and 2.
- 2) SI.2: randomization and balance checks, Studies 1 and 2.
- 3) SI.3: formal mediation tests and path diagrams, Studies 1 and 2.
- 4) SI.4: item-by-item analysis of *Pro-female preferences*, Studies 1 and 2.
- 5) SI.5: survey completion times across pronoun conditions, Study 2.
- 6) SI.6: information on Study 3.

SI.1. Additional Information about Studies 1 and 2

Our studies were carried out by Enkätfabriken, a leading independent polling firm in Sweden. We fielded Study 1 in April of 2018 and Study 2 in May-June of 2018. Respondents from Enkätfabriken’s web panel (Study 1 N = 315; Study 2 N = 1,840) were invited to participate in online surveys described as focusing on the effects of visual perception, reading comprehension, and creative thinking on political judgment. The panel represents a random sample of the Swedish population. No self-recruitment is possible to the panel. To make sure that the respondents taking our studies are representative of the population, Enkätfabriken employed quotas for age, gender and region when recruiting respondents from the panel. Because we are studying language effects, we focused on native speakers only. To achieve this, we used a set of three pre-screening questions listed below. Only respondents who answered “1” to all three questions were included in our studies.

1. Where were you born?
 - 1) Sweden
 - 2) Other country in the Nordic region
 - 3) Europe
 - 4) Outside Europe
2. Where were your parents born?
 - 1) Sweden
 - 2) Other country in the Nordic region
 - 3) Europe
 - 4) Outside Europe
3. What do you consider to be your native language?
 - 1) Swedish
 - 2) Other

Our treatments and survey items across studies were designed in English by both authors, and translated into Swedish by a professional translator at Enkätfabriken. The authors then hired an independent translator who proofed the translation suggested by Enkätfabriken. The studies were conducted as free-standing online surveys. This eliminates any concerns about interviewer effects or other modules included in omnibus surveys affecting our results.

Study structure and question wording

Both studies shared a similar structure consisting of a short pre-treatment questionnaires that collected some demographic data (e.g., age, education, gender, ideology, etc.), followed by assignment to treatment. In Studies 1 and 2, our manipulation was followed by an item serving as our mediator, followed by outcomes appraising opinions, knowledge, and beliefs about women, gays, lesbians, and transgender individuals in politics.

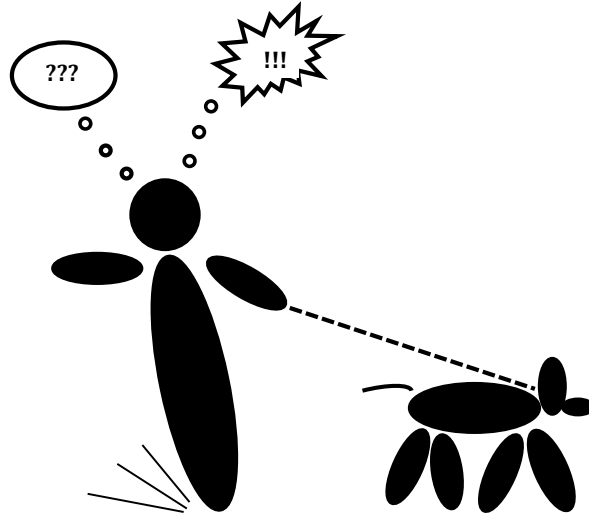
Treatment

In Studies 1 and 2, our **manipulation** instructed subjects to describe an androgynous figure walking a dog (see below). Treatment involved subjects summarizing this character's activity in three sentences by using masculine (*han*), feminine (*hon*), or gender-neutral (*hen*) pronouns. Specifically, here is the English version of the instructions (together with the image) that subjects received. The text in square brackets are instructions for the survey programmers.

Treatment instructions

The following task requires you to use your skills in visual recognition.

[*Next page*]



Please use the text boxes below to describe in three sentences what the person in the image is doing. Please be as specific as possible and provide as much detail as you can. In your description of this individual, it is important that you use the pronouns **“[he/she/they]”** and **“[his/her/their]”**. This will help to standardize the accounts provided by all participants in this survey, which will make them easier to interpret.

[Randomly assign subjects to one of three conditions]

[1. Describe figure using male pronouns]

[2. Describe figure using female pronouns]

[3. Describe figure using genderless pronouns]

[Insert textboxes about here, according to treatment group]

[If treatment = 1, use text boxes below]

He *[insert text box]*

He *[insert text box]*

His *[insert text box]*

[If treatment = 2, use text boxes below]

She *[insert text box]*

She *[insert text box]*

Her *[insert text box]*

[If treatment = 3, use text boxes below]

They *[insert text box]*

They *[insert text box]*

Their *[insert text box]*

[Please ensure that subjects cannot skip around text boxes, that is, that they complete the text boxes sequentially as described above]

Manipulation check

At the end of Study 1, we invited subjects to use a five-point scale to indicate the degree to which the figure they evaluated was clearly male (1) or clearly female (5), with the scale midpoint (3) suggesting the figure was neither male or female. The average rating of the figure, pooled across subjects, was $M = 2.90$, $SD = 0.70$, which indicates the figure was generally viewed as gender-neutral, as intended. The specific question wording was as follows:

Manipulation check question

Finally, the image below presents a figure walking a dog. Using the response scale below, please indicate the degree to which you think the gender of the figure is clear. A score of 1 means the figure is clearly male. *[Insert image from treatment]*

- 1) The figure is clearly male
- 2)
- 3) The figure is clearly neither male or nor female
- 4)
- 5) The figure is clearly female

Mediator

Post-treatment in Studies 1 and 2, subjects completed our **mediator** (*Imagine non-males*). Subjects were instructed: "The next exercise requires you to use your creativity and composition skills. Here is a beginning of a story: 'Today, I met a person who is interested in running for a political office. This person is...'" Subjects were then asked to "...complete the story by giving this person a first name and describing in two sentences what happens next." We code replies as '1' if subjects provide a female name and '0' for all others.¹ We also coded '1' those instances in which subjects used (a) the well-established gender-neutral names Kim and Majbjörn (or Maj-björn), (b) the less well-known unisex name Robin and a female or gender neutral pronoun in the subsequent two sentences, or (c) a made-up name and a female or gender neutral pronoun in the subsequent two sentences. These coding decisions are in line with our goal to capture the salience of non-males in memory.

Post-treatment variables

In Studies 1 and 2, after subjects completed the treatment task and the item serving as our mediator, they were asked to respond to a series of items that we used to measure our dependent variables.

¹ We used the following source for identifying the gender of names: Pfaff, Judith. 2019. *Nordic Names*. Available at www.nordicnames.de

Knowledge of female politicians

This variable was based on the following items (3 in Study 1 and 2 in Study 2). We code replies as '1' if subjects name a female figure and '0' otherwise.

In the next section, you will be asked to name individuals who can be classified under specific categories. Please answer these items as best as you can.

Please name a current member of Riksdag.

[Insert text box here]

Please name an effective leader in world politics today.

[Insert text box here]

Included in Study 1 only:

Please name a Swedish politician who you find inspiring.

[Insert text box here]

Pro-female preferences

This variable is based on the following items. We take average replies to female-focused items and subtract average replies to male-focused items, yielding an index of relative preference for women.

You will now be presented with some proposals aimed at improving certain aspects of Swedish society and politics. Using the response options provided, please indicate how strongly you agree or disagree with each proposal.

[Programming instructions: items a-b are set 1; items c-d are set 2; items e-f are set 3; items g-h are set 4. Item order within each set is fixed. Sets 1 and 2 administered as a pair; sets 3 and 4 administered as a pair. Order of pairs is fixed. Order of sets within each pair is randomized.]

- a. Recruit more women to Ministerial positions.
- b. Increase the number of women on the Riksdag Committee on Defense
- c. Appoint a well-qualified woman to be Minister of Gender Equality
- d. Boost the number of women on the Riksdag Committee on Health and Welfare
- e. Recruit more men to Ministerial positions.
- f. Increase the number of men on the Riksdag Committee on Defense
- g. Appoint a well-qualified man to be Minister of Gender Equality
- h. Boost the number of men on the Riksdag Committee on Health and Welfare

[All items use the same response scale]:

- 1) Strongly disagree
- 2) Somewhat disagree
- 3) Neither disagree nor agree
- 4) Somewhat agree
- 5) Strongly agree

Positive feelings: gays

This variable is based on the following items. The order of these items was randomized.

Next, please use the scale provided to indicate how unfavorable or favorable you feel toward the following groups or individuals.

- a. Gays
- b. Transgender people

- 1) Very unfavorable
- 2) Unfavorable
- 3) Somewhat unfavorable
- 4) Neither unfavorable nor favorable
- 5) Somewhat favorable
- 6) Favorable
- 7) Very favorable

Social acceptance: gays

This variable is based on the following four items. (Note the slight variation in the wording of the second question between the two studies.) The question order within each pair of items is randomized.

Next, please use the response scale provided to express your opinion about each of the following issues.

Some people argue that same-sex marriages are harmful to society. Other people argue that same-sex marriages are beneficial to society. Still others are somewhere in between. Where would you place yourself on the scale below?

- 1) Same-sex marriages are harmful to society.
- 2)
- 3)
- 4)
- 5)
- 6)

7) Same-sex marriages are beneficial to society.

Some people argue that same-sex couples are less likely to successfully raise children. Other people argue that same-sex couples are more likely to successfully raise children. [*Study 2: Some people argue that same-sex couples cannot successfully raise children. Other people argue that same-sex couples can successfully raise children.*] Still others are somewhere in between.

Where would you place yourself on the scale below?

- 1) Same-sex couples are less likely to [*Study 2: cannot*] successfully raise children.
- 2)
- 3)
- 4)
- 5)
- 6)
- 7) Same-sex couples are more likely to [*Study 2: can*] successfully raise children.

Some people argue that gays and lesbians should be encouraged to run for seats in parliament. Other people argue that gays and lesbians should be discouraged to run for seats in parliament. Still others are somewhere in between. Where would you place yourself on the scale below?

- 1) Gays and lesbians should be discouraged to run for seats in parliament.
- 2)
- 3)
- 4)
- 5)
- 6)
- 7) Gays and lesbians should be encouraged to run for seats in parliament.

Some people argue that fewer gays and lesbians should be considered for ministerial positions. Other people argue that more gays and lesbians should be considered for ministerial positions. Still others are somewhere in between. Where would you place yourself in the scale below?

- 1) Fewer gays and lesbians should be considered for ministerial positions.
- 2)
- 3)
- 4)
- 5)
- 6)
- 7) More gays and lesbians should be considered for ministerial positions.

SI.2. Randomization and Balance Tests, Studies 1 and 2

Table SI.2.1 Randomization Checks

Study 1	Masculine pronouns	Feminine pronouns
Age	.000 (.009)	-.001 (.009)
Female	.374 (.288)	-.026 (.294)
Education	.250 (.139)	.024 (.140)
Conservative ideology	-.024 (.060)	.039 (.060)

Study 2	Masculine pronouns	Feminine pronouns
Age	.004 (.006)	.000 (.003)
Female	.006 (.118)	-.006 (.116)
Education	-.018 (.057)	-.069 (.056)
Conservative ideology	-.014 (.022)	-.013 (.022)

Note: Entries are estimates from multinomial logit models, with standard errors in parentheses. Block tests in Study 1 ($\chi^2 = 8.29$, Prob $\chi^2(8) > 8.29 = 0.41$, two-tailed) and Study 2 ($\chi^2 = 3.49$, Prob $\chi^2(8) > 3.49 = 0.90$, two-tailed) indicate that one cannot reject the null hypothesis that the observed covariates are collectively equal to zero.

Age is a continuous measure indexed in years.

Female is a dichotomous variable, with males as the omitted category.

Education is a categorical variable running from 1-completed high school to 4-completed university studies.

Conservative ideology is a continuous measure running from 0-Left to 10-Right.

** $p < .05$, two-tailed.

Table SI.2.2 Balance Check for Study 1 and Study 2

Study 1	Masculine Pronoun [1]	Feminine Pronoun [2]	Gender-neutral pronoun [3]	X² Test
Age (mean years)	48.22	49.45	49.24	X ² (122) = 136.20, p<.179
Education (% some college)	63.55	53.00	55.56	X ² (2) = 2.60, p<.273
Gender (%female)	51.40	42.00	42.59	X ² (2) = 2.36, p<.307
Conservative ideology (mean, 11-pt. scale)	4.84	5.31	5.12	X ² (20) = 23.77, p<.252
Study 2	Masculine Pronoun [1]	Feminine Pronoun [2]	Gender-neutral pronoun [3]	X² Test
Age (mean years)	49.47	48.70	48.56	X ² (126) = 100.06, p<.957
Education (% some college)	56.07	53.98	55.16	X ² (2) = .547, p<.761
Gender (%female)	47.59	47.77	47.14	X ² (2) = .053, p<.974
Conservative ideology (mean, 11-pt. scale)	6.20	6.17	6.27	X ² (20) = 21.27, p<.381

SI.3. Formal Mediation Tests and Path Diagrams, Studies 1 and 2

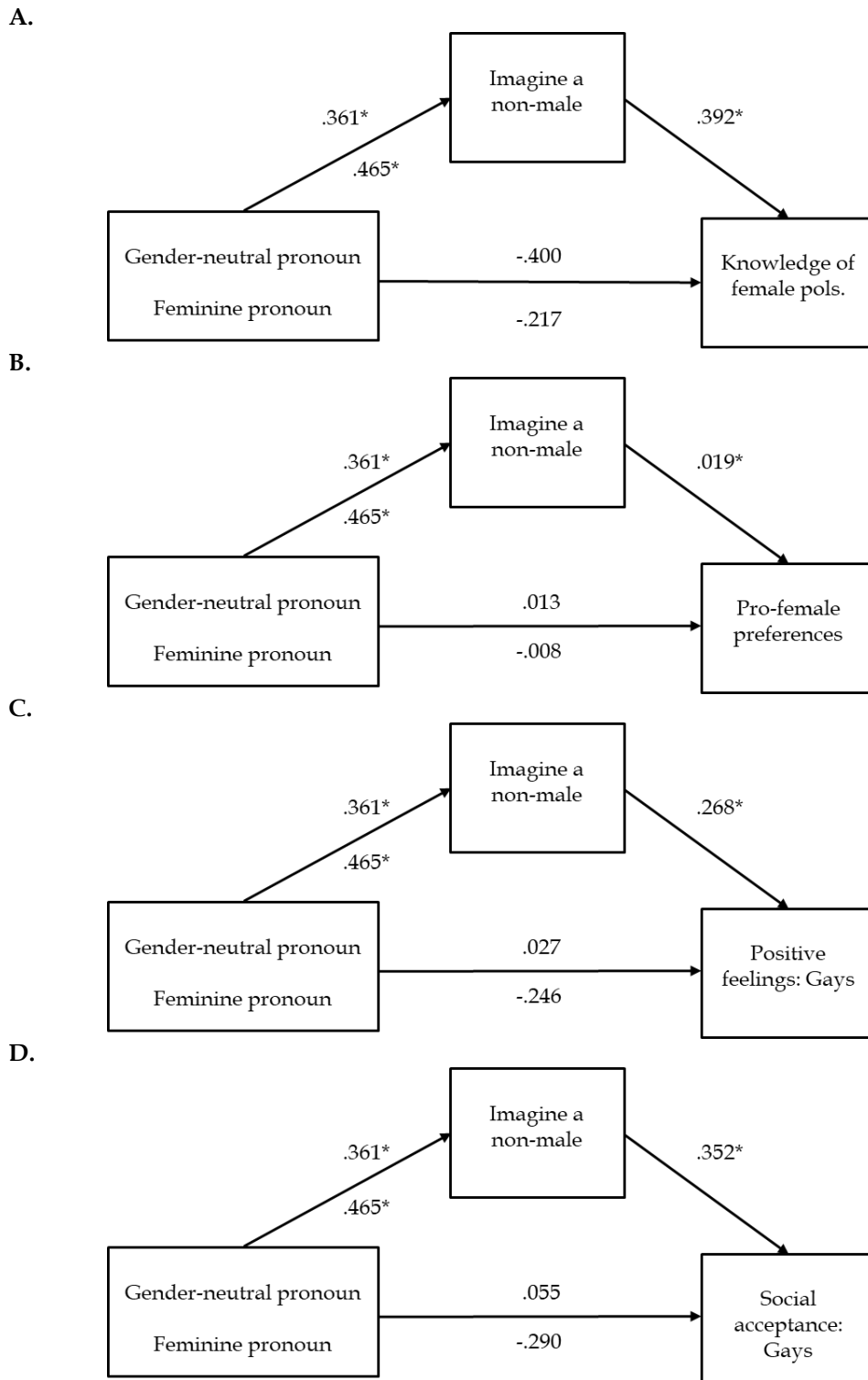
Table SI.3.1 Bootstrapped Tests of Pronoun's Indirect Effects

	Indirect effect	95% CI (bias-corrected)
<i>Study 1</i>		
Gender-neutral pronouns → Imagine a non-male → Knowledge of female pols.	.141	[.006, .483]
Feminine pronouns → Imagine a non-male → Knowledge of female pols.	.182	[.025, .553]
Gender-neutral pronouns → Imagine a non-male → Pro-female preferences	.007	[.000, .022]
Feminine pronouns → Imagine a non-male → Pro-female preferences	.009	[.001, .025]
Gender-neutral pronouns → Imagine a non-male → Positive feelings: gays	.097	[.009, .252]
Feminine pronouns → Imagine a non-male → Positive feelings: gays	.125	[.028, .283]
Gender-neutral pronouns → Imagine a non-male → Social acceptance: gays	.127	[.009, .303]
Feminine pronouns → Imagine a non-male → Social acceptance: gays	.164	[.040, .347]
<i>Study 2</i>		
Gender-neutral pronouns → Imagine a non-male → Knowledge of female pols.	.052	[.014, .134]
Feminine pronouns → Imagine a non-male → Knowledge of female pols.	.123	[.037, .253]
Gender-neutral pronouns → Imagine a non-male → Pro-female preferences	.007	[.003, .012]

Feminine pronouns → Imagine a non-male → Pro-female preferences	.016	[.011, .023]
Gender-neutral pronouns → Imagine a non-male → Positive feelings: gays	.073	[.029, .123]
Feminine pronouns → Imagine a non-male → Positive feelings: gays	.171	[.120, .237]
Gender-neutral pronouns → Imagine a non-male → Social acceptance: gays	.068	[.029, .117]
Feminine pronouns → Imagine a non-male → Social acceptance: gays	.160	[.110, .221]

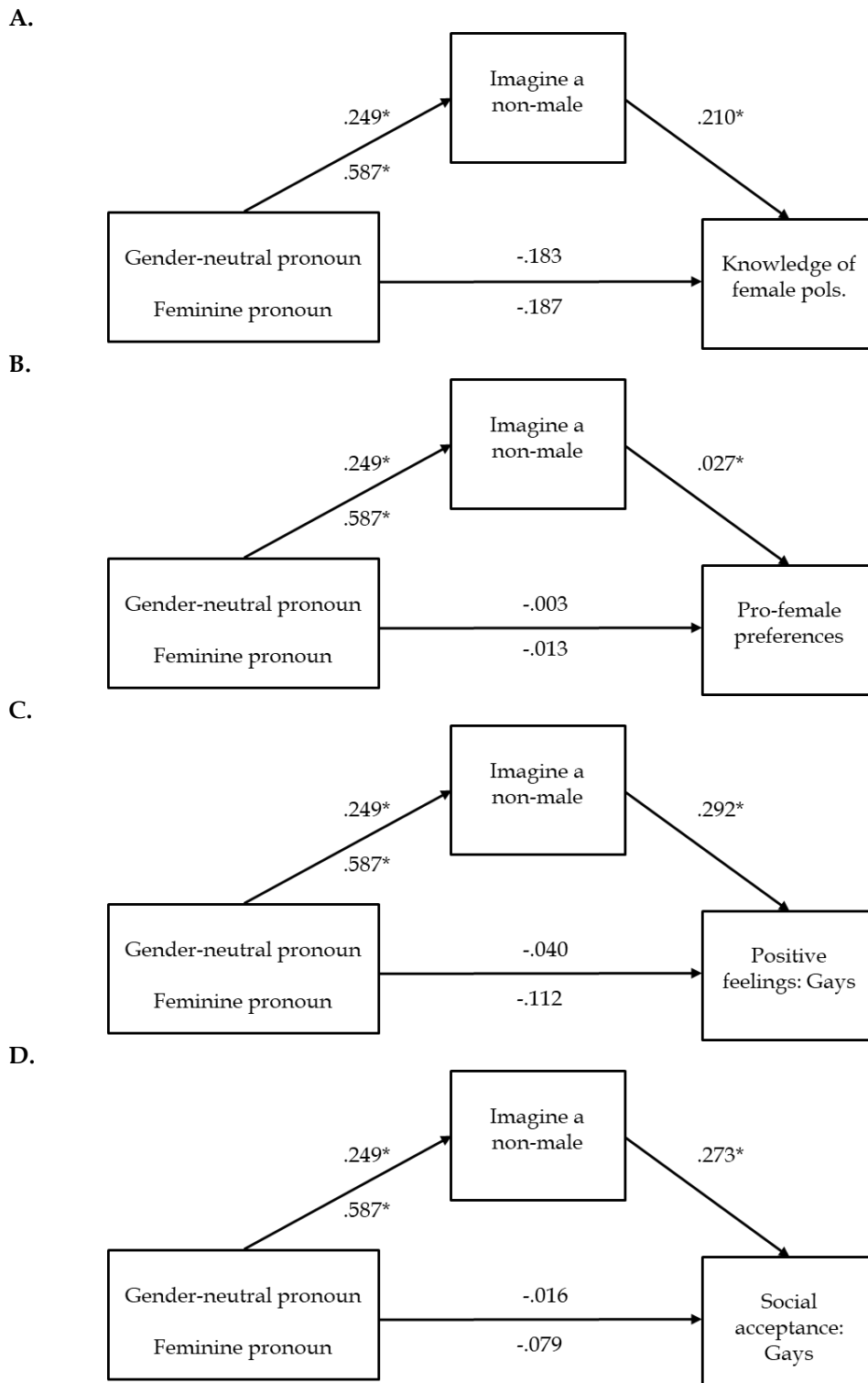
Note: CI = confidence interval. These tests formally examine whether the CI attending the estimates of the indirect effects exclude zero. When they do, an indirect effect is deemed reliably different from zero. CIs shown here take into account the non-normality of each parameter distribution, so they are not necessarily symmetric around their point estimates. Entries are rounded to the nearest thousandth.

Figure SI.3.1 Path Diagrams Depicting Mediated Effects of Pronoun Use, Study 1



Note: Entries above path lines correspond to gender-neutral pronouns and those below path lines to feminine pronouns.

Figure SI.3.2 Path Diagrams Depicting Mediated Effects of Pronoun Use, Study 2



Note: Entries above path lines correspond to gender-neutral pronouns and those below path lines to feminine pronouns.

SI.4: Item-by-Item Analysis of *Pro-female preferences*, Studies 1 and 2

Recall that our outcome variable *Pro-female preferences* is based on a number of different items about women and men in politics (see SI.1). Specifically, subjects answered eight statements about (fe)males in politics, including: “Recruit more women to ministerial positions;” “Increase the number of women on the Riksdag Committee on Defense;” “Appoint a well-qualified woman to be Minister of Gender Equality;” and “Boost the number of women on the Riksdag Committee on Health and Welfare.” These statements were also asked about men, with gender-focus randomized.

We expect highly correlated responses on the female items; ditto for replies on the male items. This is what actually emerges in our data. In Study 1, the average correlation for the female items is 0.67, while it is 0.77 for the male items. In Study 2, the average correlation for the female items is 0.68, while it is 0.45 for the male items. Importantly, each scale is also non-redundant with the other. In Study 1, the correlation between the female and male scales is -0.21, $p < 0.01$, while in Study 2 it is 0.01, $p > 0.61$.

In addition, we also show that the results we originally reported based on our relative index are not an artifact of our scaling procedure. To this end, we estimated similar models to those in tables 1 and 2 in the main text, except now we did so for each scale item.

Table SI.4.1 uses data from Study 1 and leads us to a similarly substantive conclusion as our scaled results. The top panel in this table shows that gender-neutral pronouns boost the salience of non-males, which then increases favorable opinions toward women in the various political domains under analysis. Each of these latter effects is in the expected direction and statistically significant. In turn, the bottom panel in table SI.4.1 reveals that the increase in the salience of non-males generated by gender-neutral pronouns generally reduces favorable opinions toward males or has no impact on them at all. We attribute this to measurement error and Study 1’s relatively smaller sample size. By scaling these items, however, we address these challenges by design, allowing us to both attenuate measurement error and increase statistical power.

Table SI.4.2 uses data from Study 2 and leads us to a similar inference. In this table’s top panel, we see that gender-neutral pronouns reliably increase the salience of non-males, which then produces more favorable opinions toward women in each political domain under question. In the bottom panel, we find that the increased salience of non-males generated by gender-neutral pronouns generally decreases favorable opinions for men. Unsurprisingly, our larger sample size here yields more precisely estimated coefficients.

Table SI.4.1. The Mediated Effects of Gender Pronoun Use, Individual Items in Pro-Female Preference Scale (Study 1)

	Effects on Mediator	Mediator's Effects on Pro-Female Preferences			
	1. Imagine a non-male	2. Recruit females	3. More women - Defense	4. Female Min. Gender Equality	5. More women - Health & Welfare
Gender-neutral pronoun	.127* (.064)	.185^ (.109)	.245* (.104)	.150 (.109)	.170^ (.103)
Feminine pronoun	.168* (.066)	---	---	---	---
		6. Recruit males	7. More men - Defense	8. Male Min. Gender Equality	More men - Health & Welfare
		-.125 (.078)	-.175* (.086)	.031 (.108)	.000 (.074)

Note: Table entries are probit coefficients with standard errors from a structural equation model (SEM) estimated in Mplus (v.8). * $p < .05$, ^ $p < .10$, two-tailed.

Table SI.4.2. The Mediated Effects of Gender Pronoun Use, Individual Items in Pro-Female Preference Scale (Study 2)

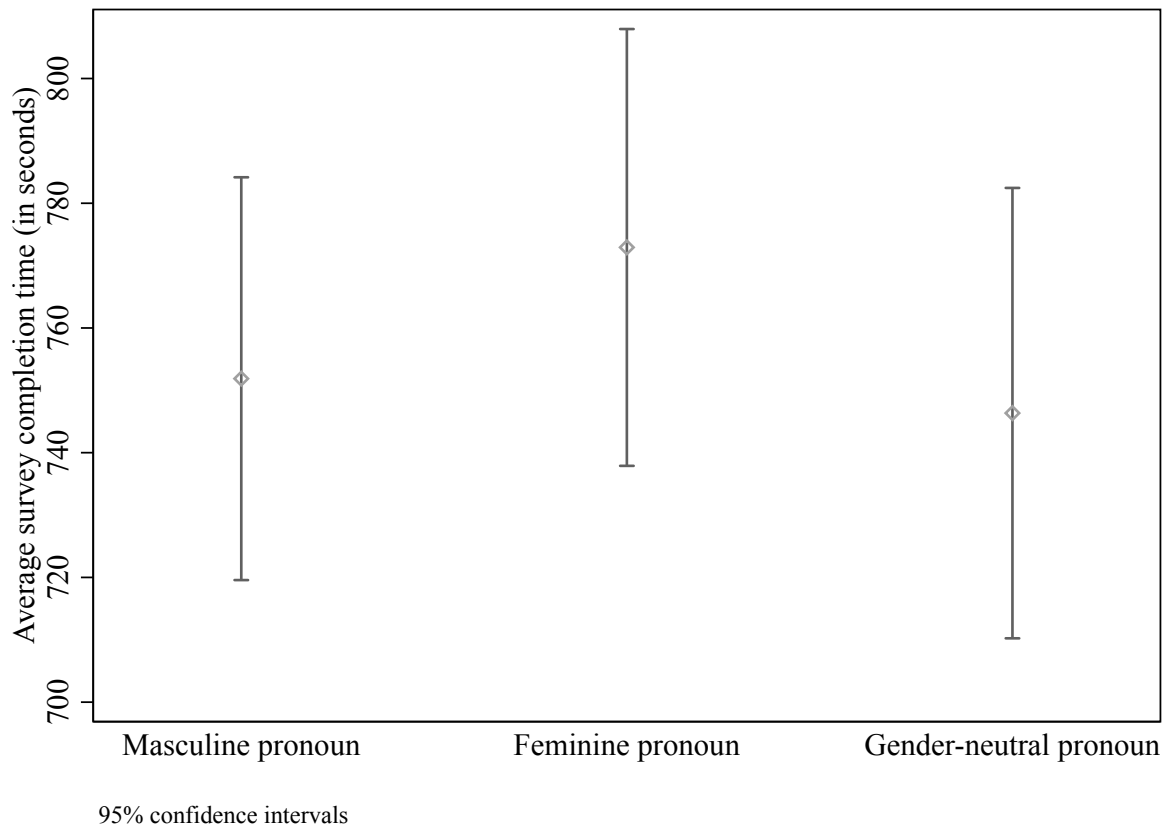
	Effects on Mediator	Mediator's Effects on Pro-Female Preferences			
	1. Imagine a non-male	2. Recruit females	3. More women - Defense	4. Female Min. Gender Equality	5. More women - Health & Welfare
Gender-neutral pronoun	.087* (.027)	.409* (.046)	.328* (.046)	.195* (.046)	.229* (.044)
Feminine pronoun	.219* (.027)	---	---	---	---
		6. Recruit males	7. More men - Defense	8. Male Min. Gender Equality	More men - Health & Welfare
		-.129* (.036)	-.164* (.039)	-.009 (.044)	.048 (.034)

Note: Table entries are probit coefficients with standard errors from a structural equation model (SEM) estimated in Mplus (v.8). * $p < .05$.

SI.5. Survey Completion Times Across Pronoun Conditions, Study 2.

Figure SI.5.1 displays graphically the average survey completion times (and corresponding 95% confidence intervals) across the three experimental conditions. The figure complements Table 3 in the main text and confirms lack of significant differences across different pronoun use.

Figure SI.5.1: Average Survey Completion Times by Pronoun Condition



SI.6. Information on Study 3

We designed Study 3 with two goals in mind: (1) to directly test for social desirability bias, and (2) to further probe whether gender-neutral pronouns heighten the salience of *non-binary* gender specifically. We discuss the analyses related to goal (1) in the main text (section “Ruling Out Social Desirability”) and in section SI.6.3. Below, we also describe the study design (section SI.6.1), provide the results of the randomization and balance tests (SI.6.2), and discuss the analyses related to (2) (SI.6.4; see also main text section “Pronouns and the Mental Salience of Gender Categories”).

SI.6.1 Study Design

Study 3 was carried out in April 2019 by Enkätfabriken, a leading independent polling firm in Sweden, and the same firm that conducted our Studies 1 and 2. Respondents from Enkätfabriken’s web panel (N = 1,238) were invited to participate in an online survey. The panel represents a random sample of the Swedish population. No self-recruitment is possible to the panel. To make sure that the respondents taking our two studies are representative of the population, Enkätfabriken employed quotas for age, gender and region when recruiting respondents from the panel. As was the case with Studies 1 and 2, we focused on native speakers only and applied the same pre-screening questions as in those earlier studies (see SI.1). We also used the same procedures as before for designing and translating the survey items. The study structure was also similar to that of the earlier two studies: a short pre-treatment questionnaire that collected some demographic data (e.g., age, education, gender, ideology), followed by assignment to treatment.

Our manipulation instructed subjects to report the first names they think of when they hear *han* (masculine pronoun), *hon* (feminine pronoun), or *hen* (gender-neutral pronoun). We also crossed this manipulation with a speeded response treatment, where a random half of subjects listed names in 15 seconds or less and others at their own pace. Specifically, here is the English version of the instructions that subjects received. The text in square brackets are instructions for the survey programmers.

Instructions for the treatment

[Randomize whether pre-amble below shown with or without the bolded wording.]

In the next task, you will be asked to write your thoughts about Swedish first names. Please answer these questions as best as you can. There is no right or wrong answer. **[In the interest of time, you will have 15 seconds to complete your answer to this question. Please write you answers as fast as you can while making as few mistakes as possible.]**

[Next page]

[Randomize whether respondent shown (1) han; (2) hen; or (3) hon.]

[The last line of bolded text is only presented if respondents are asked to respond to questions in 15 seconds or less; see instructions above.]

Thinking about the pronoun **[Han/Hen/Hon]**, what first names come to mind when you hear or read the word **[Han/Hen/Hon]**? Please use the text boxes below to write as many first names as possible that you can think of. **[Remember, you have 15 seconds to write your answer. The clock starts when you begin writing].**

[Provide 10 single lines of text.]

[When timer is applied, please display a small clock counting down the 15 seconds allotted to respondents.]

Coding of names

In the subsequent analyses, we focus on the names provided in the first response field only. Our coding of the variable *Non-Male Name* (which we use in section “Ruling Out Social Desirability” of the main text) followed the same rules that we applied in Studies 1 and 2. Specifically, we coded replies as ‘1’ if subjects provided a female name and ‘0’ for all others.² In line with our earlier two studies, we also coded ‘1’ those instances in which subjects used the unisex names Kim, Majbjörn (or Maj-björn) or Robin. As was the case in Studies 1 and 2, these coding decisions are in line with our goal to capture the salience of non-males in memory.

² Similar to Studies 1 and 2, we used the following source for identifying the gender of names: Pfaff, Judith. 2019. *Nordic Names*. Available at www.nordicnames.de

SI.6.2 Randomization and Balance Tests

Table SI.6.2.1 Randomization Checks, Study 3

Pronouns	Masculine pronouns	Feminine pronouns
Age	-.001 (.004)	-.005 (.004)
Female	.117 (.140)	.029 (.139)
Education	-.038 (.069)	.000 (.069)
Conservative ideology	.013 (.028)	.063 (.028)
Timing	Timing	
Age	.000 (.003)	
Female	-.023 (.114)	
Education	.014 (.056)	
Conservative ideology	.022 (.023)	

Note: Entries are estimates from multinomial logit models, with standard errors in parentheses. Block tests for pronouns ($\chi^2 = 8.81$, Prob $\chi^2(8) > 8.81 = .36$, two-tailed) and timing ($\chi^2 = 1.08$, Prob $\chi^2(8) > 1.08 = .90$, two-tailed) indicate that one cannot reject the null hypothesis that the observed covariates are collectively equal to zero.

Age is a continuous measure indexed in years.

Female is a dichotomous variable, with males as the omitted category.

Education is a categorical variable running from 1-completed high school to 4-completed university studies.

Conservative ideology is a continuous measure running from 0-Left to 10-Right.

** $p < .05$, two-tailed.

Table SI.6.2.2 Balance Checks, Study 3

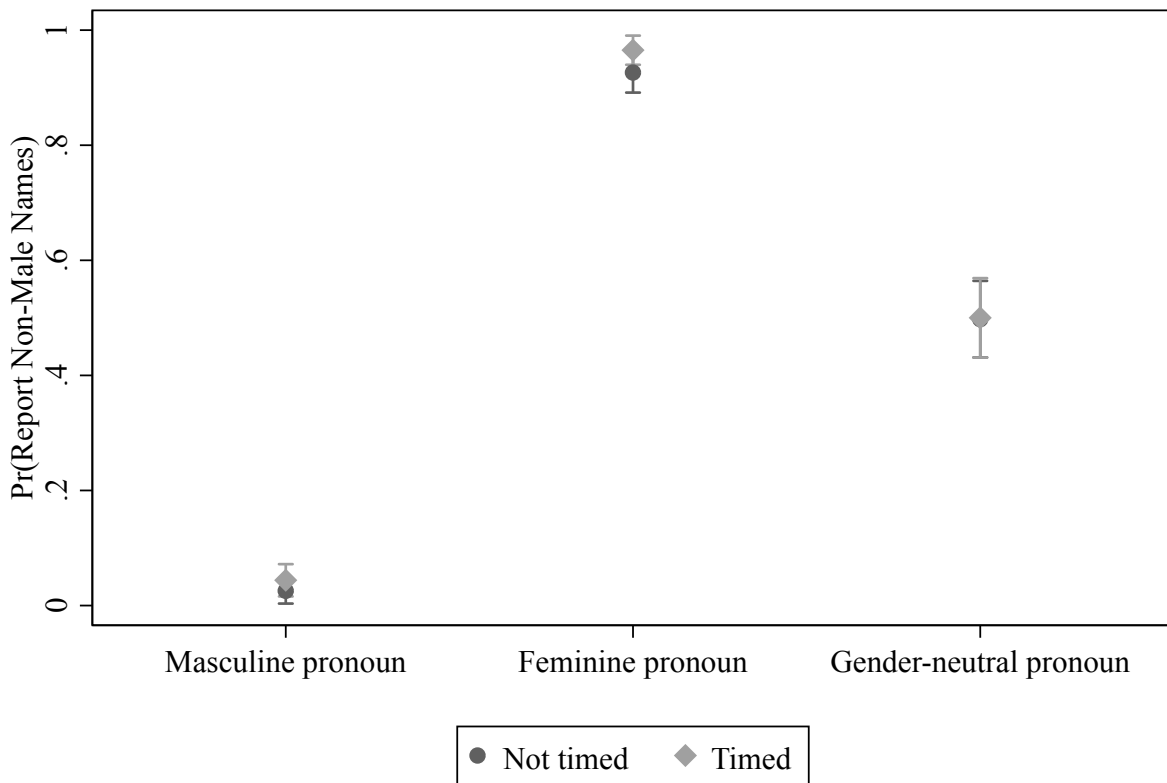
Pronoun	Masculine Pronoun [1]	Feminine Pronoun [2]	Gender-neutral pronoun [3]	X² Test
Age (mean years)	52.29	51.02	52.49	X ² (134) = 147.45, p<.202
Education (% college)	32.67	34.21	31.50	X ² (2) = .70, p<.705
Gender (%female)	52.62	49.76	49.88	X ² (2) = .85, p<.654
Conservative ideology (mean, 11-pt. scale)	5.44	5.77	5.37	X ² (20) = 24.87, p<.206

Timing	Timed response	Not timed response	X² Test
Age (mean years)	51.86	52.00	X ² (67) = 68.27, p<.434
Education (% college)	32.22	33.39	X ² (2) = .191, p<.662
Gender (%female)	51.11	50.33	X ² (2) = .076, p<.783
Conservative ideology (mean, 11-pt. scale)	5.46	5.60	X ² (10) = 12.07, p<.280

SI.6.3 Ruling Out Social Desirability

This section complements the discussion of social desirability bias in the main text. Figure SI.6.3 plots predicted probabilities (and corresponding 95% confidence intervals) of subjects reporting non-male names across the three experimental conditions and separately for subjects whose responses were timed vs. those whose were not. The figure uses the results of Model 2 in Table 4 presented in the main text. As the figure clearly illustrates, there are no significant differences in these predicted probabilities according to whether the subjects were timed.

Figure SI.6.3: Time Constraints Do Not Impact Name Reports by Pronoun Condition



SI.6.4 Gender-Neutral Pronouns and Unisex names

Our main analyses from Studies 1 and 2 support the claim that gender-neutral pronouns significantly reduce the mental salience of males relative to non-males. Here, we can further unpack this effect by exploring whether gender-neutral pronouns lead people to think about gender in a less *binary* way, as evidenced by unisex names. This is a hard test because, as we discuss in the main text, unisex names are still very rare. Despite that, in the main text, we show that pooling across Studies 1 and 2, 51% of the unisex names (Kim, Majbjörn, Robin) offered across both studies appear in the gender-neutral condition compared to only 26% in the masculine and 23% in the feminine conditions. This is in line with the expectation that gender-neutral pronouns heighten the salience of non-binary gender specifically.

We can perform a similar test with data from Study 3. We focused, again, on the names provided in the first response field (see “coding of names” in subsection SI.6.1) and created a categorical variable as follows:

0 = nonsensical response

1 = male name

2 = female name

3 = unisex name (*Kim*, all versions of *Majbjörn*, and all versions of *Robin*)

4 = responses along the following lines: “could be any name,” “no name comes to mind,” “there are no such names,” “don't know,” etc.

We then tabulated all of these response options by treatment condition: masculine pronoun (*han*), feminine pronoun (*hon*), or gender-neutral pronoun (*hen*). Table SI.6.4.1 provides this information and reveals several interesting patterns. First, we see that the share of unisex names is highest in the gender-neutral condition: 32% compared to 1% in the masculine pronoun condition and 0.5% in the feminine pronoun condition. The data also show that, in the gender-neutral treatment condition, unisex names are the most frequently offered names (32%) compared to male (24%) or female ones (17%). These patterns are in line with the expectation that gender-neutral pronouns heighten the salience of non-binary gender specifically.

Interestingly, the share of “don't knows” and nonsensical responses is also the highest in the gender-neutral condition compared to the other two treatments. Recall that the “don't know” category is a collection of responses where subjects revealed that they could not come up with a name when thinking of this particular pronoun. Inability to think of an appropriate name for the “hen” pronoun could also have motivated respondents to give a nonsensical, made-up name as a response. This is in line with our intuition that the naming exercise is a hard test for determining whether non-binary gender is salient for the respondent.

In fact, given the limited options for expressing the salience of non-binary gender through using specific names, subjects who are not able to recall such a name might do

any of the following: (1) honestly state that they cannot come up with a name, (2) give a nonsensical response, (3) or randomly pick a male or female name. The descriptive evidence in Table SI.6.4.1 suggests that all of these things are happening: we already mentioned that the share of “don’t knows” (and the equivalent) as well as non-sensical responses are highest in the gender-neutral compared to other conditions, which is in line with expectations (1) and (2). Focusing on the gender-neutral condition alone, we see evidence of (3) as well: respondents offered a relatively balanced mix of male and female names (24% male vs. 17% female). The balance is significantly more skewed in the gendered pronoun conditions: 87% male vs. 1% female in the male pronoun condition and 3% male vs. 92% female in the female pronoun condition.

Table SI.6.4.1: Different Types of Names by Treatment (i.e., Pronoun)

	Masculine pronoun (<i>han</i>)	Feminine pronoun (<i>hon</i>)	Gender-neutral pronoun (<i>hen</i>)	Total
Male name	349 (87.03%)	14 (3.35%)	101 (24.11%)	464
Female name	3 (0.75%)	384 (91.87%)	71 (16.95%)	458
Unisex name	5 (1.25%)	2 (0.48%)	135 (32.22%)	142
Don’t know	2 (0.5%)	5 (1.2%)	57 (13.60%)	64
Nonsensical response	42 (10.47%)	13 (3.11%)	55 (13.13%)	110
Total	401 (100%)	418 (100%)	419 (100%)	1,238

Note: The percentages in parentheses are column shares.

We can apply the last line of reasoning (i.e., that subjects who were not able to recall a unisex name might instead pick a name at random from the two mentally more easily accessible pools (male and female names)) to our original Studies 1 and 2. If this line of reasoning is correct, then subjects in the gender-neutral condition in those studies should be more likely to pick non-male names than subjects in the masculine condition, but less likely to do so than subjects in the feminine condition. This is exactly what we see using the pooled data from Studies 1 and 2: the share of non-male names is the highest in the feminine pronoun condition (48%) and lowest in the masculine pronoun condition (26%), with gender-neutral pronoun condition producing a share that’s almost an exact average of these two: 36%.

Admittedly, each piece of evidence presented here is only suggestive because testing whether gender-neutral pronoun use leads people to think about gender in a less binary way is hard. There simply is no straightforward measure for the mental salience of non-

binary gender. The naming exercise that works well for observing the salience of males or females is challenging because there are only a few gender-non-binary names and many people may not know them or be able to recall them. Despite these difficulties, we see from the multiple pieces of evidence across all three studies that gender-neutral pronouns likely increases the mental salience of non-binary gender. We see this both in terms of increased use of unisex names and a more gender-balanced mix of names in the gender-neutral pronoun treatment compared to the gendered treatment conditions.