

LINGUISTIC ORIGINS OF GENDER EQUALITY AND WOMEN'S RIGHTS

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In this article, we examine how the language spoken in a country can affect individual attitudes about gender equality and subsequently the level of legal rights afforded to women. This is because the feature of a language—specifically whether it requires speakers to make gender distinctions—can perpetuate popular attitudes and beliefs about gender inequality. To test this argument, we first identify a correlation between the gender distinction of a language and individual gender-based attitudes among World Values Survey respondents. We then isolate the causal mechanism using an experiment involving bilingual Romanian–Hungarian speakers in Transylvania, Romania. Finally, we examine one observable implication of our argument: the effects of gender distinction of official state languages on women's rights at the national level. Our results confirm the importance of the gender distinction of language on support for gender equality and women's rights.

Keywords: gender equality; gender attitudes; language; women's rights; Hungarians in Romania

AUTHORS' NOTE: *A previous draft of this article was presented at the 2014 Western Political Science Association's annual meeting (Seattle, WA). We would like to thank Beth Reingold, Bozena Welborne, the editors, and three anonymous reviewers from Gender & Society for their insightful comments and ideas that helped enrich this paper. Muna Malin, Kyla Raehn, and Tanja Westerhold provided invaluable coding assistance. All errors remain our own. Correspondence concerning this article should be addressed to Sarah Shair-Rosenfeld, School of Politics and Global Studies, Arizona State University, 6768 Coor Hall, 975 S. Myrtle Drive, Tempe, AZ 85287-3902, USA; e-mail: sarah.shair-rosenfeld@asu.edu.*

GENDER & SOCIETY, Vol 32 No. 1, February, 2018 82–108

DOI: 10.1177/0891243217741428

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Human beings do not live in the objective world alone . . . but are very much at the mercy of the particular language which has become the medium of expression for society.

Edward Sapir (1929, 209).

We dissect nature along lines laid down by our native languages.

Benjamin Lee Whorf (1940, 213-214)

The importance of language cannot be overstated. In our daily lives, languages structure how individuals understand the world and how the collective see their communities. And so when it comes to gender, the use of gender-based pronouns—and even the assignment of nouns to gender—can increase the overall salience. This happens because individuals are required to perpetually identify and value the subject of discussion distinctly—whether positively or negatively—based on their association with the subject’s gender. Some languages (e.g., Indonesian) are largely gender-free; conversations can be easily had without divulging the gender of the subject. Conversely, other languages (e.g., Arabic) go to painstaking lengths to identify the subject’s gender in all contexts. Depending on how gender is treated in these native languages, we hypothesize that extant attitudes of gender inequality can be perpetuated. This, in turn, can have concrete effects on gender equality policies and therefore women’s lives.

To test this claim, we used data extended from the World Atlas of Language Structures (WALS), paying particular attention to the gender distinctions of independent personal pronouns (Siewierska 2013). We identified three distinction levels. The *nondistinct* languages allow speakers to tell a story involving the singular third-person without needing to reference the subject’s gender. *Minimally distinct* languages require speakers to indicate the singular third-person’s gender. This requirement, however, does not manifest in the plural third-person. This enables speakers to choose to withhold information about the subject’s gender. Finally, the *extensively distinct* languages require information on the third-person’s gender regardless of whether the subject is singular or plural. While this method of categorizing a language’s gender distinction is reductionist in nature, it follows the gender “intensity” logic of previous studies (e.g., Santacreu-Vasut, Shoham, and Gay 2013), and it allows us to move beyond a binary approach where languages exert exclusively “gendered” or “nongendered” influences on the speaker.

To test the gendered effects of language, we first used observational data from the World Values Survey (WVS). The WVS notes the languages spoken in each respondent's home. With this information, we were able to identify the distinction level of each language and, correspondingly, for each respondent. It also asks each respondent a battery of questions that tap into their gender-based attitudes. Our statistical analyses suggest a robust correlation between the grammatical features of a language and individual attitudes toward gender equality.

This correlation is supported by experimental data. We administered a treatment to Romanian–Hungarian bilingual speakers in Transylvania, Romania, thereby allowing us to isolate the causal mechanism. Here, this bilingual arrangement is rare in that the two languages flank the two extremes when it comes to gender distinction levels: while Romanian is an extensively distinct language, Hungarian is nondistinct. The experiment revealed that individual attitudes toward gender equality can be “primed”; that is, the gender distinction of the language with which the speaker is being asked to engage can influence gender salience and gender-related beliefs.

Consequently, if the features of a language can shape the attitudes of its speakers toward gender equality, one observable implication is that we should find more widespread gender-based discrimination in countries with extensively distinct official languages. To examine this assertion, we identified the official language of each country and coded for its corresponding gender distinction level. We then tested for its effect on the levels of social rights afforded to women in each country, as measured by Cingranelli, Richards, and Clay (2014). The results corroborate our larger claim that the gender feature of a language can affect gender equality policies.

DETERMINANTS OF GENDER ATTITUDES AND SUPPORT FOR WOMEN'S RIGHTS

There are two primary national-level explanations for differences in women's rights: political institutions and socioeconomic factors. Political institutions define legal rights and civil liberties, implement antidiscrimination policies, and enforce quota laws for electoral representation and participation. For example, in democratic countries where government institutions are more open and inclusive, women are more likely to be able to vote, hold positions in government, participate in political movements, and voice gender-specific interests (Htun and Weldon 2010; Walsh 2012). Institutional legacies, such as the presence of affirmative action laws or a strong judiciary, also are important because they condition the goals and

strategies of those striving for gender equality and rights protection (Bolzendahl and Myers 2004; Krook 2008).

The second explanation focuses on socioeconomic factors. When women comprise a large percentage of the workforce, they are better able to push for labor policies that outlaw discriminatory hiring practices and ensure equal pay for equal work (Inglehart, Norris, and Welzel 2002; Matland 1998). Women's participation in the labor force also can increase men's support for feminist agendas, because husbands benefit economically from their wives' employment (Wildavsky 1994)—though research also has shown that backlash among men may occur when women are seen as stealing jobs from them (e.g., Dworkin et al. 2012). Furthermore, the modernization that accompanies economic growth can influence gender attitudes and women's legal rights. As countries develop economically, fertility rates drop and female education levels increase (Inglehart and Norris 2003; Molyneux 1985). Modernization can also drive cultural changes that encourage women to join the labor force (Alesina, Ichino, and Karabarbounis 2011) and become involved in politics and public life (Inglehart, Norris, and Welzel 2002).

Additionally, changes in individual attitudes toward gender equality precede or coincide with changes in political and socioeconomic factors that then may lead to changes in the status of women. For example, generally men are presumed to be less supportive of gender equality than women. However, characteristics such as partisanship (Reingold and Foust 1998), societal women's higher education rate (Banaszak and Plutzer 1993), and an individual's education level and spouse's employment status (Bolzendahl and Myers 2004) can alter the likelihood of men's support for gender equality.

Yet characteristics and beliefs are not uniformly held across the population in any given country. For example, while being a highly educated female may explain one's greater support for feminism and subsequent support for gender equality (Bolzendahl and Myers 2004, 775), in any country's population there will be individuals who do not possess these attributes, and thus who should not be expected to be as supportive of gender equality or related policies regarding women's rights. Furthermore, beliefs in differential attributes of men and women lead individuals of both sexes to hold gender stereotypes (Eagly and Mladinic 1989). As such, these individual-level attributes are not particularly likely to explain a country's population-wide support for the legal respect for women's rights. Rather, they may explain the motivations of elite decision makers in adopting laws that tackle gender-based discrimination.

There is, however, an individual-level attribute likely shared by a substantial subset—if not an overwhelming majority—of the population that may be instrumental: language. We argue that language structures people's understanding of themselves and their interactions with others. This in turn can shape individual attitudes toward women's rights. In the next section, we elucidate the mechanism for a linguistic explanation of individual attitudes toward gender equality.

A LINGUISTIC EXPLANATION FOR GENDER ATTITUDES AND SUPPORT FOR WOMEN'S RIGHTS

Language is an important factor in the creation and reinforcement of an individual's identity, particularly in the context of in-group and out-group interactions, associations, and biases. Individuals use language to define themselves, their responsibilities, and their social relation to others (Lorber 1994). Interpretations of gender differences in language—even if these differences are arbitrary—underlie individual conceptions of what it means to be male or female (Eckert and McConnell-Ginet 2003; Eckert and Rickford 2001). Subsequently, these interpretations and identifications may influence the beliefs that structure gender-based attitudes held by individuals. If a language requires speakers to constantly perceive and categorize objects by gender—for example, through the perpetual distinction and referencing of an object's "gender"—then the language may contribute to raising gender salience and gender-based distinctions more generally (Boroditsky, Schmidt, and Phillips 2003).

Such linguistically induced gender-based distinctions can affect a range of educational, political, and economic outcomes. For example, psychological studies have shown that when teachers use gender-based references in preschool classrooms, students are more likely to see in-group and out-group distinctions and play less with students of the other sex (Bigler 1995; Hilliard and Liben 2010). Greater gender distinction of a language is also associated with lower support for legislative gender quotas, legislated quota enforcement, and women's political representation in national legislatures (Santacreu-Vasut, Shoham, and Gay 2013); the perpetuation of existing gender roles in the household division of labor (Hicks, Santacreu-Vasut, and Shoham 2015); less generous maternity leave policies (Givati and Troiano 2012); and a larger gender wage gap (Shoham and Lee, forthcoming).

We argue that a similar logic should prevail with respect to the effect of language on support for gender equality and women's rights. In other words,

because language shapes gender salience and ideology through discursive processes, we expect that the gender distinctiveness of a language will influence support among its speakers regarding gender equality. Languages vary in the degree to which speakers are forced to acknowledge and ascribe gendered identities to the subjects of speech. We use the term *gender distinction* to refer to how frequently speakers of a language make gender-based references in the words and grammatical structures of everyday communication. Some languages, such as Indonesian, do not require speakers to distinguish the gender of individuals in colloquial speech. In other languages, Arabic for example, individuals must always acknowledge the gender of their subject. When speakers repeatedly reference gender features, this translates into more pronounced differences between gender in-groups and out-groups. When such interactions identify an “other,” extant gender gaps are more likely to be perceived as unequal. These differences become a constant reinforcement to the speakers’ gender-differentiated views, and these beliefs are reflected in individual attitudes toward gender equality. In languages where gender figures prominently in the grammar feature, and thus in everyday speech, we expect individuals to hold gender-differentiated beliefs and attitudes. This is indicated by low levels of support for gender equality. The following hypothesis summarizes our argument:

Hypothesis: The more gender distinct an individual’s language, the less likely she or he is to believe in gender equality.

RESEARCH DESIGN

To empirically test the gendered effects of language, we adopted a three-pronged strategy. First, we used observational data from the World Values Survey to establish the correlation between the feature of languages and individual attitudes toward gender equality. Second, we elucidated the causal mechanism with data from an experiment of Romanian–Hungarian bilingual speakers in Transylvania, Romania. Third, we considered an observable implication, specifically, the gender distinctions of countries in their official languages and their effects on women’s rights. In the remainder of this section, we discuss the operationalization of our primary explanatory variable.

Gender Distinction

The concept of interest is the gender distinction of a language—that is, how easy is it for a speaker of a given language to make a statement

without referencing the subject's gender? Here, we began with data from the World Atlas of Language Structures (WALS), paying particular attention to the gender distinctions of independent personal pronouns (Siewierska 2013). While these distinctions may be absent in some languages (e.g., Indonesian), other languages make distinctions in the gender. And per Greenberg's (1963) Universals 44-45, if there is gender distinction, it most likely manifests in the third-person singular. In some languages (e.g., English) there is gender distinction, but it occurs only in the third-person singular. When this happens, we considered the distinction minimal. But in some other languages (e.g., Arabic) the gender distinction is "prominent" (Siewierska 2013), and it happens in third-person plural and/or first/second-person as well. In these cases, we noted the gender distinction as extensive. Given this discussion, we coded for three types of gender distinction with respect to language features: nondistinct (0), minimally distinct (1), and extensively distinct (2).

While the measure for gender distinction in WALS covers 378 languages, there are a number of languages missing in our analyses. There are two reasons for this incongruence. The first is a regional incongruence. A large concentration of languages documented in WALS is based in Africa, South/Southeast Asia, Oceania, and Western Americas; these are areas with a multitude of languages and where extensive research has been done. In contrast, Europe is severely under-represented. Yet, the survey that we used to measure gender attitudes has its origins and is administered heavily in Europe. The second reason for incongruence is political. The focus of WALS is heavily skewed toward indigenous languages. Yet, in many cases the indigenous languages lack a state boundary. And, in fact, in some instances the state limits, if not outright bans, these languages in the public sphere. And so in our cross-national sample, when we focused on the official language of the state, these indigenous languages were underrepresented.

To address this shortcoming, we coded for the missing languages. Specifically, we focused on whether there is gender in the third-person singular, and, if so, whether there is also gender in the third-person plural. In all, the distribution of gender distinctions and languages used in our analyses can be found in Table 1. Our language sample ($N = 90$) includes (1) all languages spoken by more than 1 percent of respondents in each World Values Survey country and (2) all major official languages. Note that the additional coding was done by four individuals, coincidentally each with a different mother tongue (Chinese, English, German, and Somali). The intercoding reliability was as high as 94.4 percent and no less than 82.2 percent.

TABLE 1: Gender Distinctions of Languages in Sample

<i>Nondistinct</i>	<i>Minimally Distinct</i>	<i>Extensively Distinct</i>
Armenian ^O	Afrikaans ^O	Albanian ^{WO}
Aymara ^W	Belorussian ^O	Amharic ^{WO}
Azerbaijani ^O	Bosnian ^O	Arabic ^W
Basque ^W	Bulgarian ^O	Chichewa
Bengali ^O	Burmese ^{WO}	Czech ^O
Estonian ^O	Catalan	Fula ^W
Ewe ^W	Chinese ^{WO}	Hausa ^W
Finnish ^{WO}	Croatian ^O	Hebrew ^{WO}
Georgian ^{WO}	Danish ^O	Japanese ^{WO}
Hindi ^{WO}	Dari ^O	Kongo ^W
Hungarian ^{WO}	Dutch ^{WO}	Latvian ^{WO}
Indonesian ^{WO}	Dzongkha ^O	Lithuanian ^O
Kazakh ^O	English ^{WO}	Moldovan ^O
Khalkha ^O	Farsi ^{WO}	Ndonga ^{WO}
Khmer ^{WO}	French ^{WO}	Polish ^{WO}
Kiribati ^{WO}	German ^{WO}	Romanian ^O
Kurdish ^W	Greek ^{WO}	Romany
Kyrgyz ^O	Italian ^{WO}	Slovak ^O
Lao ^{WO}	Kirundi ^O	Spanish ^{WO}
Malagasy ^{WO}	Korean ^{WO}	Swahili ^{WO}
Malay ^O	Macedonian ^O	Tamil ^O
Nepali ^O	Montenegrin ^O	Tigrinya ^O
Quechua ^W	Norwegian ^O	Zulu ^{WO}
Shona	Oromo ^W	
Sundanese ^W	Russian ^{WO}	
Tagalog ^{WO}	Portuguese ^O	
Tetum ^O	Serbian ^O	
Thai ^{WO}	Sinhalese ^O	
Turkish ^{WO}	Slovene ^O	
Turkmen ^O	Somali ^O	
Urdu ^O	Swedish ^O	
Uzbek ^O	Tajik ^O	
Vietnamese ^{WO}	Ukrainian ^O	
Yoruba ^{WO}		

W. Language distinction as identified by WALS (Chapter 44).

O. Official language in at least one country (inclusive of de facto).

IDENTIFYING CORRELATIONS: LANGUAGE FEATURES AND INDIVIDUAL ATTITUDES

We use the **World Values Survey (WVS, waves 3 through 6)**. The WVS began in 1981, and today it is the world's largest publicly available cross-national, time-series survey, with a spread of almost 100 countries. Here, the WVS offers two advantages over other cross-national survey data sets. First, unlike the regional barometers (e.g., the Euro Barometer, Latino Barometer, and Asian Barometer), the geographical scope of the WVS is global. This ensures our findings are not being driven by one single regional effect, although European countries have historically dominated the sample. This spread is important since languages in the same language family share similar grammar features, and often language families have a regional affiliation. Consider Europe. With a few exceptions, the languages are all derivatives of the larger Indo-European language family. It is not a coincidence that the largest language families all have a geographical association with their names (e.g., Austronesian, Niger-Congo, and Sino-Tibetan).

The second advantage is that, unlike other global surveys (e.g., International Social Survey), the WVS asks a very important and necessary question: "What language do you normally speak at home?" While this question was not asked in some countries, it allows us to measure from the respondent's perspective (not based on some descriptive classification) the language used primarily at home. Moreover, while many surveys do identify the survey language, just because a respondent can converse in that language does not necessarily mean it is the same language that shapes how the respondent identifies and perceives gender differences. Note that this language-at-home question was not asked in waves 1 and 2 of the WVS.

For our dependent variable, we began with a battery of questions that measure gender-based attitudes. Specifically, we focused on those that were asked in more than one wave and that employed the same Likert scale across each surveyed wave. In all, we looked at the questions that asked respondents whether they agreed with the following five statements:

1. On the whole, men make better political leaders than women do.
2. On the whole, men make better business executives than women do.
3. When jobs are scarce, men should have more right to a job than women.

4. A university education is more important for a boy than a girl.
5. Wives must obey their husbands.

We ran two sets of models. First, to create an aggregate index, we normalized all responses from 0 to 1, where a value of 0 would indicate strong agreement with the statement that women are *not* equal to men (i.e., lower gender equality), and a 1 would suggest strong agreement with the statement that women *are* equal (e.g., higher gender equality). We then took the average of the five normalized scores (alpha Cronbach score for internal consistency: 0.761). The distribution is relatively bimodal, with a mean of 0.533 and a standard deviation of 0.279. Given our theoretical argument, we predicted a language's gender distinction and whether respondents agree that women are equal to men as follows:

Prediction 1: Gender distinction has a negative effect on whether respondents agree with gender equality statements.

We included two sets of control variables. First, at the country level, we controlled for civil liberties, democracy, economic growth, political gender quotas, and predominant religion. Second, at the individual level, we considered sociodemographic factors, including gender, age, parental status, and marital status. We also expected available economic resources can either make individuals more exposed to some normative notion of gender equality or cue them to be even more aware of gender differences. To this end, we considered whether respondents have at least a high school degree, whether they are the chief wage earner, and their income on a self-reported 10-point scale.

As shown in Table 2, we begin with a baseline linear regression (model 1). Specifically, we examined the effects of language gender distinction on aggregate attitudes—subject to the country—and individual-level controls. As expected, we found the coefficient of interest, *Gender Distinction*, is significant and correctly signed. A negative coefficient here ($\beta = -0.04$) suggests that speakers of extensively distinct languages (e.g., Spanish) are the least likely to believe in gender equality. This disparity in attitudes is striking: gender-equality attitudes can be 17 percent higher among those of a minimally distinct language (e.g., German) and 27 percent higher among speakers of a nondistinct language (e.g., Finnish).

To ensure the robustness of the findings, we subjected the baseline model to two alternative specifications. One specification (not reported) is to transform the ordered *Gender Distinction* variable into three component

TABLE 2: Gender Distinction of Languages and Individual Gender-Based Attitudes

	Gender Inequality Statements Higher values = more equality Prediction: β (gender distinction) < 0					
	Baseline: WALS Ch44	Alternate: WALS Ch32	Political Leader	Business Executive	Scarce Jobs for Men	University for Boys
	(1)	(2)	(3)	(4)	(5)	(6)
Gender distinction	-0.04 (0.01) [‡]	-0.03 (0.01) [†]	-0.33 (0.10) [‡]	-0.26 (0.12) [†]	-0.24 (0.11) [†]	-0.04 (0.08)
Controls						
Country-level ^a	Yes	Yes	Yes	Yes	Yes	Yes
Individual-level ^b	Yes	Yes	Yes	Yes	Yes	Yes
N	117,458	80,726	110,549	55,647	115,777	112,996
R ² / pseudo-R ²	0.30	0.30	0.10	0.11	0.13	0.04
						0.06
						-0.85 (0.06) [‡]

a. Country-level controls: civil liberties, democracy, economic growth, political gender quotas, and predominant religion.
b. Individual-level controls: gender, age, marital status, parental status, educational status, chief wage earner, and income level.
[†] $p \leq 0.05$, [‡] $p \leq 0.01$.

dummies: *Nondistinct*, *Minimally Distinct*, and *Extensively Distinct*. Given our theoretical argument, we expected the coefficients for both *Nondistinct* and *Minimally Distinct* to be positive vis-à-vis *Extensively Distinct*. The results (available on request) corroborate our priors. The second alternative specification is the use of a different WALS measure in lieu of our *Gender Distinction* measure. We focused on the system of gender assignment, specifically how speakers of a language designate nouns to genders (Corbett 2013). If there is one, is the assignment semantic (e.g., Tagalog and Tamil) or formal (e.g., Russian and Spanish)? All else being equal, we expected when individuals speak a language with a more formal gender assignment that is similar to speaking a language with greater gender distinction, they also are more likely to hold gender-unequal attitudes. As we found in model 2, the coefficient for *Gender Distinction* is yet again negative ($\beta = -0.03$) and significant. In particular, speakers of a gender formal-assigning/extensively distinct language (e.g., Arabic) are more likely than their counterparts speaking either a gender nonassigning/nondistinct (e.g., Vietnamese) or a semantic-assigning/minimally distinct (e.g., English) language to agree with the comments “men deserve scarce jobs” and “wives must obey husbands.” While the magnitude of the gender coefficients may seem small, it is important to note that relative to all the other controls their sizes are some of the largest.

Next, we broke down the aggregate index into the five component questions. We estimated these remaining models using ordered logistic regression with robust standard errors. Note that the Likert scale is not consistent across all five questions. Three of the questions have 4-point answers ranging from strongly disagree to weakly disagree to weakly agree to strongly agree. The one about scarce jobs is on a 3-point scale, and the one about wives obeying their husbands is on a 5-point. Here, we found that each of the concerned coefficients remains negative and—with one exception—significant. When individuals speak a gender nondistinct language, they are less likely to agree with the statements that “men make better political leaders” ($\beta = -0.33$); “men make better business executives” ($\beta = -0.26$); “men should have more right to a [scarce] job” ($\beta = -0.24$); “university education is more important for a boy” ($\beta = -0.04$); and “wives must obey their husbands” ($\beta = -0.85$).

ELUCIDATING THE CAUSAL MECHANISM: A BILINGUAL EXPERIMENT

To elucidate the causal mechanism between the gender distinction of languages and individual gender-based attitudes, we took advantage of a

survey experiment. We focused on the Romanian–Hungarian bilingual speakers in Cluj-Napoca (Romania) because this language pairing offers a most-similar design leverage (Seawright and Gerring 2008). First and foremost, like some Romance language counterparts (e.g., Spanish), Romanian makes extensive gender distinctions. Conversely, Hungarian is a nondistinct language. As a member of the Finno-Ugric language family, Hungarian is in fact the most widely spoken non-Indo-European language in Europe (excluding Turkish). Aside from the linguistic difference, the political and economic differences between the majority Romanians and minority Hungarians are relatively small, especially when compared to other at-risk minorities.¹ This ensures that whatever effect we observed from the treatment is not the result of some political or economic association with the languages.

We focused on Cluj, the second largest city in Romania, because of its multiethnic nature. Once part of the Austro-Hungarian Dual Monarchy, Cluj today has a Hungarian population of 50,000 in a city of more than 300,000 (2011 census). It is the city with the largest Hungarian minority population outside of Hungary. While Romanian–Hungarian ethnic relations have not always been amicable, today Hungarian is a legally recognized minority language in Romania, but only in areas where Hungarians constitute more than 20 percent of the population. This rule has effectively rendered Cluj a multiethnic city, with Romanian as the singular recognized language (Csata and Marác 2016).

We recruited students from Babeş-Bolyai University, which is considered the best university in Romania and one of the best in the greater Hungarian-speaking world (see Times Higher Education 2018, 64). The bilingual survey experiment was administered face-to-face in December 2015 with ethnic Hungarian students across a range of different majors. Only bilingual Hungarian students were surveyed in order to reduce linguistic and ethno-specific cultural heterogeneity. As a preliminary check, survey enumerators asked all subjects whether they knew enough Romanian to take a survey in Romanian. Only those who answered in the affirmative were surveyed.

The survey included a battery of six gender questions similar to those in the WVS. Respondents were asked to what extent they agree with the following statements:

1. All in all, men make better policy leaders than women.
2. All in all, men are better economic leaders than women.
3. If there are few jobs, men have more right than a woman to get the job.
4. University study is more important for boys than girls.

5. Being a housewife is just as important as money to work.
6. If a woman earns more money than her husband, this could create problems.²

For each question, respondents were asked whether they strongly disagreed, weakly disagreed, neither disagreed nor agreed, weakly agreed, or strongly agreed. We coded the responses such that higher values indicate greater levels of equality. As controls, we also asked the respondents their gender and what language(s) they spoke at home.

We included two gender-irrelevant questions at different points in the survey. The first is about refugees: “The government should help the refugees.” The second is about poverty: “Poverty is a serious problem in this country.” These two questions are intentional negative checks against social desirability bias. If the argument is that the grammatical feature of a language has an effect on how speakers see gender, we should observe no effect when it pertains to non-gender related matters.

The placebo group completed the survey—directions and questions—all in Romanian ($n = 116$). To differentiate whether respondents can be primed from the outset by simple exposure (i.e., seeing the directions) or are responding in real-time (i.e., to the questions), we allowed the languages of directions and questions to differ in two of the treatments. In treatment 1, we gave the directions in Hungarian but kept the questions in Romanian ($n = 115$). In treatment 2, the directions were given in Romanian but the questions were asked in Hungarian ($n = 100$). And in treatment 3, the entire survey was completed in Hungarian ($n = 118$). Note that the questions were translated from English to Romanian and Hungarian by a nonnative speaker who has studied both languages, then they were back-translated to English by an ethnic Hungarian-Romanian national, and finally they were matched against those in the native languages administered by the WVS.

We expected the gender distinction effects to be muted most notably in the all-Hungarian survey (treatment 3: Hungarian direction–Hungarian question). Between the two mixed-language treatments, we expected the effects of language to manifest more prominently, although not necessarily significantly, when it appears in the survey question as opposed to the directions. In this regard, we predicted the following rank-ordered effects, with larger values indicating more equality in gender-based attitudes:

Prediction 2: Romanian direction–*Romanian question* (placebo)
 \leq Hungarian direction–*Romanian question* (treatment 1)

- < Romanian direction–*Hungarian question* (treatment 2)
- ≤ Hungarian direction–*Hungarian question* (treatment 3)

First, we constructed a gender inequality index where we summed the six responses for a scale from 0 to 4, where higher values suggest attitudes of greater equality (Cronbach's $\alpha = 0.70$). We estimated all models using ordered logistic regression with robust standard errors. The results are presented in Table 3. We see that in model 1, respondents who had a Hungarian survey were statistically more likely to express beliefs in gender equality. This is the case regardless of the direction language. While this magnitude is small, it is substantively the difference between a “weakly neither disagree nor agree” and a “weakly agree” on a question such as “to what extent do you agree [that] men make better policy leaders than women.” Note that getting directions in Hungarian had no effect if the questions were in Romanian.

Next, we disaggregated the index into three non-mutually exclusive indices. First, the *social* index considers three questions: “university study is more important for a boy,” “wives must obey their husbands,” and “a woman earn[ing] more money could create problems.” Second, the *political* index includes the “men make better policy leaders” and “men are better economic leaders” questions. And third, the *economic* index is the composite of “men are better economic leaders,” “men have more right to a [scarce] job,” “university study is more important for a boy,” and “a woman earn[ing] more money could create problems.” As a reminder, the individual questions need not be exclusive to one index.

The results remain consistent: the effects of the all-Hungarian survey—directions and questions—are positive and the largest. Of the three indices, the linguistic effects were most pronounced when the subject matter pertains to social inequality. As for the two negative checks, the results were reassuring: our findings were driven neither by social desirability bias nor respondent fatigue. When asked whether the government needed to address the refugee crisis or poverty was perceived to be a serious problem, respondents across all four groups answered uniformly.

These results indicate that support for gender equality among bilingual speakers of gender distinct/nondistinct languages can be affected by the language they see or hear. Among the bilingual Romanian–Hungarian speakers in our experiment, support for gender equality declined when subjects saw the survey questions through a gender-distinct lens (e.g., in Romanian). Admittedly, the context of the experiment is arguably rare (Laponce 1985). But our primary goal here is to demonstrate that when

TABLE 3: Effects of Romanian–Hungarian Surveys on Gender-Based Attitudes

	Gender Inequality Statements Higher values = more equality Prediction: β (Romanian) < β (Hungarian)			Negative Check Government should address X Prediction: β (Romanian) = 0 Prediction: β (Hungarian) = 0		
	Aggregate (1)	Social (2)	Political (3)	Economic (4)	Refugees (5)	Poverty (6)
Treatment effects ^a						
Hungarian direction–Romanian question	0.32 (0.52)	0.14 (0.09) [^]	0.10 (0.30)	0.07 (0.11)	0.16 (0.17)	−0.17 (0.14)
Romanian direction–Hungarian question	1.04 (0.57) [*]	0.21 (0.10) [†]	0.43 (0.33)	0.18 (0.12) [^]	0.03 (0.19)	−0.12 (0.14)
Hungarian direction –Hungarian question	1.20 (0.52) [†]	0.32 (0.09) [‡]	0.44 (0.31) [^]	0.23 (0.11) [†]	0.04 (0.17)	−0.20 (0.13)
Individual-level controls ^b	Yes	Yes	Yes	Yes	Yes	Yes
<i>n</i>	446	446	449	447	447	448
<i>F</i> statistic	15.68 [‡]	4.91 [‡]	5.84 [‡]	14.60 [‡]	1.93 [*]	1.10
<i>R</i> ²	0.15	0.05	0.06	0.14	0.02	0.01

a. Reference group = Romanian direction–Romanian question.

b. Individual-level controls: gender and language(s) spoken at home.

Robust standard errors reported. [^] $p \leq 0.15$; ^{*} $p \leq 0.10$; [†] $p \leq 0.05$; [‡] $p \leq 0.01$.

individuals who possess the ability to speak both nondistinct and distinct languages are asked to engage with the nondistinct language, their responses reflect more support for gender equality.

OBSERVABLE IMPLICATIONS: OFFICIAL LANGUAGES AND WOMEN'S RIGHTS

If speaking a gender-distinct language can negatively affect an individual's attitude toward gender equality, one observable implication is that women's rights are also limited in countries where the official language makes gender distinctions. We contend that there is a complementary macro-level effect at play. Specifically, the official language and its features exert a cultural constraint on the population's propensity to exhibit gender equality attitudes or support for women-friendly policies (Antecol 2000; Fuwa 2004). When an official language requires frequent gender distinctions, thereby shaping societal views about gender equality, we hypothesized that national governments are less likely to adopt laws that protect women's rights. This is the case even in countries where there is only a *de facto* official language, as is the case with the United States.

To test this assertion, we used the Cingranelli, Richards, and Clay (2014) Human Rights Dataset. Given the time-invariant nature of our primary explanatory variable, we employed a cross-sectional sample (unit of analysis: *country*). We focused on 1995, which was the year of the First World Conference on Women in Beijing; for robustness, we also examined 2005, ten years following the Beijing Conference and a date by which there might be sufficient time to enact new or changes to existing legal protections for women's rights. Cingranelli, Richards, and Clay (2014) identify social rights levels for women in each country. These rights are coded along a 4-point scale. A minimum value of 0 indicates legal restriction and absolute discrimination. Not only are women's rights not protected by law, but the government actually condones high levels of gender-based discrimination. Conversely, when women are guaranteed equality by law and enjoy it in practice, a maximum coding of 3 translates into a government "fully and vigorously enforc[ing] these laws [that guarantee women social rights]" (93). The variable is normally distributed. Given this discussion, we predicted the following effect:

Prediction 3a: Gender distinction has a negative effect on women's rights.

We again included the same battery of country-level controls from the first test (civil liberties, democracy, economic growth, political gender

quotas, and predominant religion). Additionally, we also controlled for what percentage of the country speaks the official language. If language shapes how a populace values gender equality and how its government subsequently behaves, it follows that we must also consider both the unconditional and conditional effects of the size of the official language-speaking population on whether the effect of language on state-level behavior should be observed. Specifically, we predicted the following effect:

Prediction 3b: Gender distinction has a negative effect on women's rights when the official language-speaking population is large.

To measure official language-speaking population size, we used data reported by Leclerc (2012). In instances where there are no official languages, we looked at the de facto language. In cases where there are multiple official languages (e.g., Canada), we focused on the language spoken by most speakers. We estimated all models using ordered logistic regression with robust standard errors.

The results are presented in Table 4. Model 1 is the baseline model, where we examined the effects of language distinctions on social rights in 1995. As expected, the coefficient for *gender distinction* is negatively signed and significant. In fact, when the official language makes no gender distinction, there is a 30 percent probability that there are some social rights for women, even if subject to some latent discrimination (social rights = 2). There is an additional 12 percent probability that this equality manifests both in law and in practice (social rights = 3). In contrast, when the official language is extensively distinct, there is a 70 percent probability that women will have social rights guaranteed—but not enforced—by law (social rights = 1), and there is a further 10 percent probability that women will have no legal protection whatsoever (social rights = 0). These trends are robust even when we look at the effect a decade later in 2005 (model 2).

In addition to social rights, Cingranelli, Richards, and Clay (2014) also look at political and economic rights. Again, each type of right is coded along a 4-point scale, ranging from de jure restrictions (0) to de facto equality (3). Specifically, a coding of 3 for political rights corresponds to “women hold[ing] more than thirty percent of seats in the national legislature and/or in other high-ranking government positions” (71). And related, a value of 3 for economic rights indicates that the “government tolerates none or almost no discrimination against women” (77). The general patterns we saw in the first two models are largely mirrored when we shift the focus from social rights to political rights (model 3). Countries

TABLE 4: Gender Distinction of Languages and Cross-National Women's Rights

	Women's Rights Higher values = more women's rights Prediction: β (gender distinction) < 0					
	Baseline: Social 1995 ^a	Alternate: Social 2005	Political Rights	Economic Rights	Colonial Legacy	Moderating: Official Lang Pop Size
	(1)	(2)	(3)	(4)	(5)	(6)
Gender distinction	-0.55 (0.30)*	-0.48 (0.24) [†]	-0.48 (0.27)*	-0.42 (0.33)	-0.54 (0.30)*	-0.60 (0.34)*
Official language size	0.02 (0.01) [‡]	0.03 (0.01) [‡]	0.01 (0.01)	0.03 (0.01) [‡]	0.02 (0.01) [‡]	0.03 (0.01) [‡]
Gender * Official						
Controls						
Baseline (Table 2) ^b	Yes	Yes	Yes	Yes	Yes	Yes
Colonial Dummies	No	No	No	No	Yes	Yes
Regional Dummies	No	No	No	No	No	Yes
N	135	142	137	135	142	142
Pseudo-R ²	0.23	0.21	0.19	0.23	0.21	0.26

a. All models from 1995 unless otherwise noted.
b. Baseline (Table 2) controls: civil liberties, democracy, economic growth, political gender quotas, and predominant religion.
Robust standard errors reported. * $p \leq 0.10$, [†] $p \leq 0.05$, [‡] $p \leq 0.01$.

where the official language is extensively distinct are the ones where women experience more discrimination, either by law and/or in practice. And while we found no statistically significant effect for *Gender Distinction* in the economic rights model (model 4), two comments warrant mentioning. First, we postulate that the lack of significance could be the result of the smaller number of observations; this is an inherent risk with a cross-sectional sample. Second, despite the lack of significance, the coefficient is signed as expected ($\beta = -0.42$).

We also considered whether the effects of language are merely elements of a broader cultural trend. In model 5, we focused on the country's colonial legacy, specifically, if it is a former British colony. There are two considerations. First, being a British colony increases the likelihood of English, a minimally distinct language, being adopted as an official language. Second, since the British also were more likely than their continental European counterparts to leave better quality institutions in their colonies—for example, an independent judiciary (see La Porta et al. 1999)—it is possible that a stronger protection of women's rights is merely the byproduct of a distinct colonial legacy. The results in model 5 suggest that even when we control for colonial origins, language distinction still has a significant, independent effect.

In model 6, we included regional controls. The rationale is twofold. First, countries in the same region are more likely to share a similar culture (e.g., a communist legacy in Eastern Europe that espoused gender equality), learn from each other (e.g., adoption of gender quotas in Latin America), and be constrained by the same set of regional organizations when it comes to women's rights (e.g., protection of pregnant or breastfeeding workers in the European Union). Second, language families and their features tend to be regionally clustered. As a result, language and culture may be spuriously correlated (Roberts, Winters, and Chen 2015). But as we see in model 6, even with regional controls, our results remain unchanged.³

The effects of language distinction on women's rights assumes there is a large population proficient in the official language. Put differently, we expected the effect of language to be moderated by how many people can speak the official language. For example, if a country has a nondistinct official language that no one actually speaks, then the purported effects linking language features to women's rights cannot manifest. Conversely, if the official language of a country is an extensively distinct language that is widely spoken by the entire populace, then we would expect to see a robust relationship. To address this concern, we reran model 6 with an interaction term.

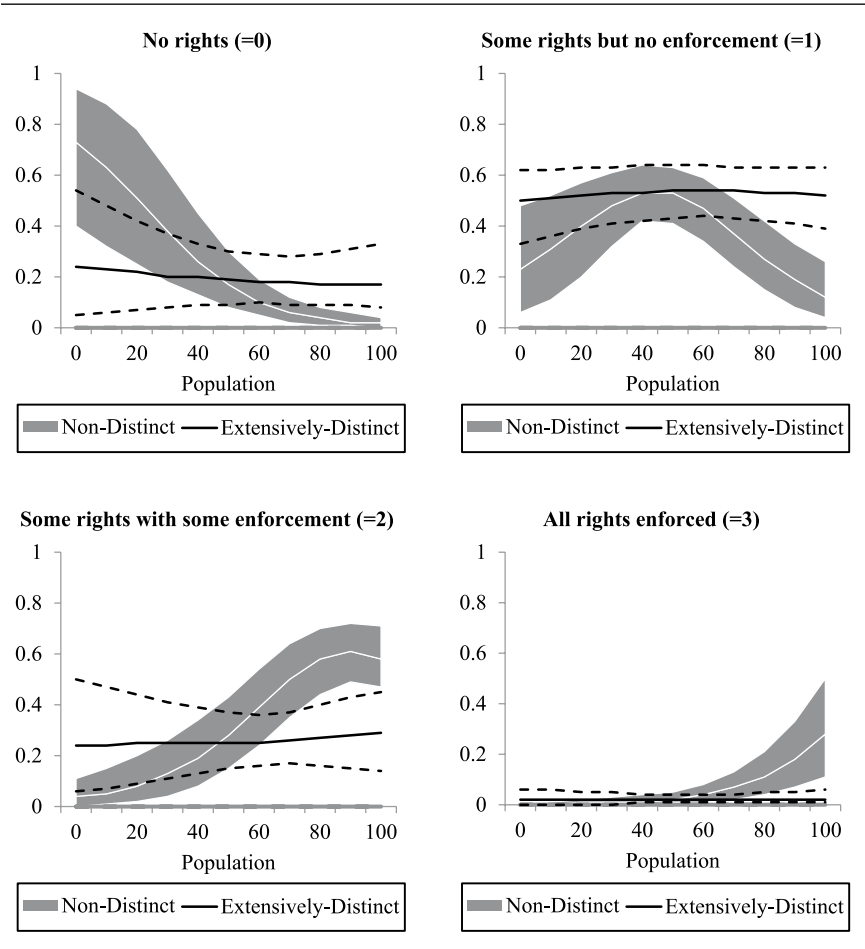


FIGURE 1: Moderating Effects of Official Language-Speaking Population on Social Rights.

The results in model 7 suggest there is some moderating effect at play. To better understand the effects, Figure 1 demonstrates the changes in the probability that women are afforded each level of social rights given the gender distinction of the country's official language and the percentage of the population who speaks that language. Note that when a language is nondistinct, its effect on women's rights increases as the population size of official language speakers also increases. In contrast, when the language of interest is extensively distinct, it decreases the level of women's rights as the official language-speaking population size increases. The

difference between the two language distinctions is statistically significant when and only when the proficient population is large.

CONCLUSION

The feature of a language, specifically its gender distinction, has an effect on whether individuals hold attitudes supportive of gender equality, and this in turn matters for the legal rights of women. We have argued that language shapes how a speaker sees the world, specifically with respect to gender-based beliefs, attitudes, and discrimination. Undoubtedly, this difference can be generated by other factors beyond language. But when speakers of a language are forced to always indicate whether the subject of their statement is male or female (e.g., Arabic), this clearly and constantly demarcates a difference that is important. Conversely, when speakers can tell a story without identifying the subject's gender (e.g., Indonesian), gender-based delineation can be blurred, if not completely ignored.

The results from the individual-level survey, experimental survey, and cross-national analysis bear out this relationship between language and support for gender equality. Importantly, evidence from the experiment on Romanian–Hungarian bilingual speakers highlights an important causal process: the attitudes of individuals toward gender equality can be directly influenced (e.g., primed) by engagement with a specific language. Taken together, the empirical tests indicate that language is not just an important factor in shaping attitudes and policies toward gender equality more generally, but that the relationship between language and support for gender equality is dynamic and malleable.

We acknowledge that there are a number of causes for variation in support for gender equality, and those causes provide reasons why women enjoy different levels of rights globally. Our claim here is not that the gender distinction of a language is a sufficient condition. For example, one avenue for future research might be for scholars to conduct surveys that evaluate whether an individual's level of identification with feminist beliefs alters their views of gender equality in distinct ways from other same-language speakers. Such tests would provide evidence for whether active, explicit engagement with issues of gender equality might be able to override passive, implicit biases built into a speaker's worldview. Still, it is necessary to first establish that language itself might play a bias-inducing role before assessing whether such bias can be overcome via another mechanism. The evidence we have presented indicates that the effects of language gender distinction cannot be ignored.

If a language's feature can affect an individual's attitude toward gender equality and women's rights more generally, our finding suggests an alternative channel for promoting gender equality beyond the adoption of antidiscrimination or affirmative action legislation. Instead of changing policies directly, governments, nongovernmental organizations, and social movements can advocate for changes toward more gender-inclusive or gender-neutral language use among speakers of official languages. In many languages, there are creative avenues—often found in social media—to deemphasize gender or even outright de-gender everyday speech. In Arabic, for instance, passive voice is heavily used, thereby eliminating the gender of the subject. In Spanish, while pronouns are not necessary, gender can still be identified through the object (e.g., *amigo* vs. *amiga*). However, the use of the @ sign in Latin America—a combination of both the “o” for masculine and the “a” for feminine—enables the written nongendered corresponding sentence: [dropped third-person pronoun] *es mi amig@*. Even in Chinese, which has no gender in speaking but does in writing, the characters 他 (*ta*; masculine) and 她 (*ta*; feminine) are written simply in the Latin alphabet as *ta*—for example, *ta 是我的朋友 (ta shi wo de pengyou*; [nongendered third-person pronoun] is my friend). Policy makers and others seeking to promote gender equality might investigate the effectiveness of more widespread or intentional use of such gender-avoidant speech.

Aside from these creative channels, which are more popular among certain segments of the population, what may also help is the spread of English. In an era of increasing globalization, technological advancements, and social media use, English is a global lingua franca (Ostler 2010; Ricento 2015). It is now the most commonly studied foreign language around the world (Cook and Liu 2016; Kim et al. 2015). While English does impose minimal gender distinction, it gives speakers the ability to refer to subjects without the use of gender identification (e.g., “they”) and thus provides a route to undercut gender salience. An increasing English proficiency could help mute the effect of gender distinction globally, particularly if employed as an explicit strategy by policymakers or promoters of gender equality.

NOTES

1. The Minorities at Risk database (<http://www.mar.umd.edu/>) identifies the status of “politically-active communal groups in all countries in the world with a current population of at least 500,000.”

2. We dropped this question from the observational WVS test because the Likert scale changed across waves.

3. As a robustness check, we ran the model with language families in lieu of regions. We identified six families: Afro-Asiatic, Austronesian, Indo-European, Niger-Congo, Sino-Tibetan, and others. The results are substantively no different ($\beta = -0.76$, $SE = 0.46$).

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