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ORIGINAL ARTICLE

Unraveling the Relationship Between Beliefs in Traditional Gender Roles and Voting Participation: A Cross-National Perspective

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Abstract

Participation in elections is essential for the health of democracies. Regardless of gender, individuals may hold traditional beliefs about women's roles in society that hinder their engagements in areas that challenge gender stereotypes, such as political participation. In this study, we examined how gender and beliefs about gender roles influence voting participation, while accounting for various ideological and demographic factors. We also explored how structural gender inequality, as measured by the country-level Gender Inequality Index, is reflected in voting at the individual level. Data were collected in a cross-country study ($N = 19{,}297$ participants, 51.2% women, mean age = 41.3, $SD = 14.76$) from 18 countries. We employed an innovative method, Multi-Group Factor Analysis Alignment, to address cross-country measurement invariance of the Traditional Gender Roles scale—a key construct in this study. Results from multi-level modeling revealed significant main effects of gender and beliefs about traditional gender roles, but no significant interaction between them. Citizens who endorse traditional gender roles were less likely to vote, regardless of their gender. This effect was more pronounced in societies with low to moderate levels of structural gender inequality. In contrast, in countries with pervasive gender inequality, voting was not associated with individual beliefs about gender roles. These findings highlight the importance for policymakers to address the detrimental effects of structural gender inequality and traditional gender roles in society, that can hinder citizens participation in voting.

Keywords Traditional gender roles · Gender inequality · Voting · Cross-country research · Multi-Group Factor Analysis Alignment

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Introduction

In democratic societies, voting is a critical mechanism that empowers citizens to influence policy decisions, shape the laws that govern them, and usher for new rights. Through elections, citizens can elect leaders who represent their political worldviews. This process is fundamental to democracy, as it guarantees citizens' active participation in governance. By engaging in elections, citizens safeguard democratic values and foster a system where power remains vested in the people.

Although voting is considered the hallmark of democracy, this right was formerly restricted to men. In 1893, New Zealand became the first country to grant women the right to vote. However, it was not until the end of World War I and II that many countries around the world opened to women's suffrage (Henderson & Jeydel, 2013). Despite being the foundation of democracy, voting remains a gendered issue. Political scientists have long noted a gender gap in voting participation after women's enfranchisement, such that men were more likely to vote than women. Although this turnout gender gap has diminished over time (Inglehart & Norris, 2000; Wolbrecht & Corder, 2020), the size of the gap shows considerable variability across countries and is still exhibited in new democracies (Córdova & Rangel, 2017) and specific types of elections, like those of the European Parliament (Dassonneville & Kostelka, 2021). Nevertheless, a meta-analysis reported a non-significant effect of gender in explaining national election turnout (Smets & van Ham, 2013). This suggests that gender alone does not play a decisive or consistent predictor of voting behavior.

While there might be contextual factors influencing gendered voting patterns, focusing solely on gender as a its determinant overlooks the complexity of voting behavior. As a complex phenomenon, to understand the drivers of citizens' voting, it is essential to adopt a multi-dimensional approach that extends beyond gender. It is equally important to consider inequality and specifically gender inequality within societies. Gender inequality encompasses structural and systemic barriers that limit opportunities and reinforce power imbalances, thereby hindering country's development (UNDP, 2018) and potentially suppressing voting turnout.

Also, it is crucial to consider beliefs about gender, specifically traditional gender roles. The latter refer to individual perceptions, attitudes, and expectations regarding the roles, behaviors, and attributes considered appropriate for men and women within a society. These beliefs shape how individuals perceive their own and others' capacities for participation in various domains, including politics (Kerr & Holden, 1996; Schneider & Bos, 2019). Citizens, *independent* of their gender, may hold traditional beliefs regarding women's roles in society that restrict their interest in counter-stereotypical domains such as political engagement.

As such, to investigate to investigate this dynamic, we explored the interplay between gender, beliefs about traditional gender roles, and voter participation. Specifically, our aim was to determine whether gender, along with these particular beliefs, could serve as reliable predictors of voting behavior and to understand how these factors interact with one another. Additionally, by incorporating a cross-country perspective, we sought to examine the role of structural inequalities—measured using a national indicator, the Gender Inequality Index (GII; UNDP, 2018)—in influencing variations in voting behavior at the individual level. This approach allowed us to

assess how broader societal structures, such as gender inequality, shape and intersect with individual attitudes and behaviors related to voting. By considering these interactions, we were able to contextualize individual beliefs within the larger framework of societal inequalities. This not only helped us gain a deeper understanding of the individual factors influencing voting participation but also provided a broader view of how societal structures, like gender inequality, can have far-reaching effects on democratic engagement.

This research makes significant contributions to both the literature and practice. First, it expands the literature by investigating the complex interplay between gender, beliefs in traditional gender roles, and voting participation from a cross-country perspective, across 18 countries, including underrepresented non-WEIRD (Western, Educated, Industrialized, Rich, and Democratic) societies. By integrating individual attitudes with structural indicators, we address a notable gap in research (Inglehart & Norris, 2000; Córdova & Rangel, 2017). We incorporate the Gender Inequality Index (UNDP, 2018) to demonstrate how broader societal inequalities shape and interact with individual voting participation. This adds a crucial dimension to understanding democratic participation beyond individual-level factors. Second, this research provides a novel methodological approach by applying Multi-Group Factor Analysis Alignment, enhancing cross-national measurement validity in political behavior research (Asparouhov & Muthén, 2014). Third, By identifying how traditional gender role beliefs and structural gender inequalities suppress voter turnout, our findings offer actionable insights for policymakers and practitioners aiming to foster more inclusive democratic engagement (Schneider & Bos, 2019). These contributions demonstrate the theoretical value of integrating gender ideology and structural factors in political research and the practical value of identifying pathways to greater civic inclusion.

Gender, Structural Gender Inequality and Voting Participation

At the early decades of women's enfranchisement, men were more likely to vote and engage in various political activities than women (Franklin, 2004; Verba et al., 1979). In most countries after the 1980s, voter turnouts tended to be similar for men and women (Inglehart & Norris, 2000). However, the size of the turnout gender gap varies by country and is dependent on various institutional differences (Burns, 2007; Kittilson & Schwindt-Bayer, 2012), like the presence or absence of inclusive institutional designs that encourage political engagement (Kittilson & Schwindt-Bayer, 2012). In a cross-national analysis, Córdova and Rangel (2017) examined how institutional policies can shape the size of the turnout gender gap. They found that countries with a compulsory voting system (relative to voluntary systems) have a smaller gender gap in not only voting but also other forms of political engagement, such as paying attention to political campaigns and partisanship.

Beyond institutional policies, access to resources is another critical structural factor that can contribute to the gender gap in voting participation (Schneider & Bos, 2019; Wolbrecht & Corder, 2020). After women's enfranchisement, women were still less politically engaged than men because they had fewer resources, thus confronting greater barriers in acquiring political information. For instance, women were less

likely to be educated and employed and were therefore of lower socioeconomic status than men; subsequently, their domesticity hindered them from engaging in politics (Verba et al., 1997). Women also had fewer political connections than men to encourage them to be politically active (Wolbrecht & Corder, 2020). Such structural issues can create barriers to women's political participation, including voting.

To summarize, taken together, previous literature suggests that the gender gap in voting participation has diminished in time, but the size of the gap varies across countries. In the current cross-country study, we aim to examine the impact of gender on individual voting participation. Our expectation aligns with the majority of existing literature, anticipating an overall lower voting participation rate for women compared to men, as found in many other surveys (Stockemer & Sundstrom, 2023):

H1 Gender would impact voting participation, with an overall lower voting participation for women, compared to men.

Additionally, we enlarged the perspective of our research by considering structural disparities that shape opportunities and constraints for individuals based on gender. Structural gender inequality reflects systemic imbalances that can profoundly influence societal dynamics, including civic behaviors like voting participation. Some studies have utilized macro-level composite indices, which include various life domains, to predict political behavior. For instance, the EIGE (European Institute of Gender Equality) index, encompassing dimensions such as work, money, knowledge, time, power, and health for European countries, has been employed to predict gender differences in political engagement (Fraile & Gomez, 2017). However, this index did not predict electoral participation (Dassonneville & Kostelka, 2021).

As anticipated, the current research used a cross-country perspective. This allowed us to formulate:

R1 How and how much do gender disparities at the societal level contribute to voting participation, a cornerstone of democratic engagement?

To explore this, we used the Gender Inequality Index (GII) developed by the United Nations Development Program (UNDP, 2018) that highlights how gender inequalities affect human development, with higher values indicating greater disparities (for further details, see the Method section). The GII offers a comprehensive view of gender disparities within a given country, taking into account factors such as reproductive health, empowerment, and labor market participation. By analyzing these macro-level dimensions of inequality, we aim to explore whether the pervasive inequalities embedded within societies resonate in individual voting participation, especially when considering that voting is a fundamental act of participation in a democracy.

Traditional Gender Roles

Another important factor impacting voting turnout is traditional gender roles (TGRs) in society. According to social role theory (Diekman & Schneider, 2010; Eagly et al., 2004; Schneider & Bos, 2019), political behaviors and attitudes are learned by

observing the social roles men and women traditionally occupy in societies. For instance, women are seen as communal and interpersonally-oriented because of their traditional role as caretakers, while men are perceived to be agentic and achievement-oriented because of their traditional roles as breadwinners and heads of households. These stereotypes lead to the perpetuation of self-views (see, e.g., Kosakowska-Berezecka et al., 2022), and roles that one occupies later in life. Men are seen as more agentic and, therefore more suitable for careers that demand agency, such as political leaders. However, women are seen as more communal and, therefore, more suitable for careers such as caretakers and social workers. Accordingly, girls learn that they do not fit into political domains (Schneider & Bos, 2019).

Social role theory has found support in the political socialization literature. Jennings (1983) argued that the gender gap in political engagement stemmed from early socialization in families. Parents play a large role in shaping children's political worldview, and this carries into their adulthood (Jennings et al., 2009). However, children do not seek political information equally from mothers and fathers. Children feel more comfortable talking to their fathers more so than their mothers on political matters (Jennings, 1983). Therefore, children are socialized early on to associate politics with male figures rather than female figures in their lives. Although adolescent boys and girls express similar rates of interest in politics, they have already learned to perceive politics as a masculine domain by then (Mayer & Schmidt, 2004). Recently, the gendered political socialization framework (Bos et al., 2022) provided compelling evidence that children commonly perceive politics as predominantly male-dominated. Furthermore, as girls progress in age, they tend to develop a more pronounced belief that political leadership is better suited for men. This phenomenon arises as children internalize societal norms and expectations surrounding gender, which in turn influences their career interests, aligning them with the gendered traits traditionally associated with their own sex. But the increasing political representation of women would be able to counteract such gendered associations. Indeed, adolescent girls who live in areas with more female parliamentary members are more politically engaged, suggesting that female role models can socialize girls to disassociate political spheres from being perceived as a male domain (Wolbrecht & Campbell, 2007).

This is important because participatory actions flow from the adoption of such beliefs. Bennett and Bennett (1989, 1993) found that in the USA, greater support for TGRs negatively predicted political participation, such as voting, and this is more likely to be the case for women than men (Clark & Clark, 1986). Valentova (2016) similarly found that endorsement of TGRs—in particular, attitudes towards the gender division of labor—negatively predicted formal political participation. McDermott (2016) found a negative, albeit non-significant, relationship between TGRs and political engagement; whereas Fraile and Gomez (2017) observed that low support for classic feminine role was associated with greater political interest. When women reject such traditional roles and perceive greater gender inequality in societies, they also tend to be more politically engaged (Bernstein, 2005).

Additionally, benevolent sexism, a form of gender ideology that is akin to chivalry, refers to the endorsement of women as moral and warm yet incompetent and therefore requiring paternalistic protection (Glick & Fiske, 1996; Sibley et al., 2007). Benevolent sexists believe women are "better off" being restricted to their traditional

roles in society, such as housewives (Glick & Fiske, 2001; Glick et al., 1997). Its subjectively positive façade promises paternalistic protection and affection for women who conform to such traditional roles, which can subsequently create complacency for women (Barreto & Ellemers, 2005; Goh & Tignor, 2020; Hammond et al., 2020). Women exposed to benevolent sexism are more likely to see the gender division as fair and equal and, therefore less likely to engage in political actions to promote women's rights (Becker & Wright, 2011; Jost & Kay, 2005).

Ultimately, exposure to or endorsement of gender-restrictive beliefs can result in political inaction as well as complacency in favor of the status quo. This maintains system stability in both more gender-equal and unequal societies (Glick & Fiske, 2001; Glick et al., 2000). In essence, TGR beliefs promote the hierarchy of male dominance and control over women (Sidanius & Pratto, 2001). Evidence suggests that women who endorse and legitimize such TGR beliefs are less politically active, including exhibiting lower rates of voting.

In the current research, we seek to elaborate more on the negative effect of the endorsement of TGR beliefs on voting participation: even though possibly more pronounced in women (Valentova, 2016), we expected TGR beliefs would generally have a negative impact on voter turnout for all citizens, regardless of gender, for a series of possible reasons, that we try to disentangle. The assumption is indeed that TGR beliefs are inherently problematic, not exclusively for women. When TGR belief is conceived as fixed, it is associated with various attitudes and beliefs related to gender, which reinforce the existing social order; this pattern holds true for both women and men (Kray et al., 2017). In more equal contexts in which there is a higher women representation in politics, men supporting TGRs may perceive a conflictual situation with their own ideological system beliefs and thus reduce their voter turnout, to the extent that such voting participation is seen as a possible indicator of changing the status quo. Similar to the process observed in authoritarian leftists, mainstream political systems are often perceived as ineffective or inadequate in addressing the concerns of these individuals. This disillusionment with the existing political structures can consequently lead them to disengage from active political participation (Federico et al., 2017).

Additionally, as men may believe that their interests and perspectives will be prioritized in society regardless of their individual participation, in the long run, they can reduce their voting participation. Typically, men may exhibit higher levels of perceived political efficacy, which refers to the belief in one's ability to influence the political system (Wolak, 2020). They may feel a sense of entitlement or confidence based on TGR beliefs that can impact their motivation to engage in political activities. However, this can also lead to a perception that their participation may not be necessary or impactful, potentially resulting in lower voter turnout. Research by Kostelka and Blais (2021) found that, as countries achieve a certain level of economic prosperity, some voters are less inclined to view voting as a civic obligation and consequently, they tend to have lower voter turnout. As non-voters benefit from the efforts of others and a democratic electoral system represents an immensely valuable collective good, they can be seen as "free-riders" in the political process (Lever, 2010).

On the other hand, TGRs prescribe specific gender-based roles and responsibilities, limiting opportunities for both men and women, and preventing them from pursuing their interests, talents, and potential in various domains. TGRs assign women roles and behaviors that are unrelated to the political sphere while simultaneously imposing expectations on men that may be difficult to fulfill in the context of political engagement, with varying mechanisms contributing. For men, TGR beliefs are closely tied to masculinity ideologies that emphasize self-reliance and an individualistic mindset (Levant et al., 2013). Men may feel a need to portray independence and self-sufficiency, which can lead to a reduced inclination to engage in collective political activities, including voting. This can be particularly true if men perceive voting as an act of reliance on others or as a collective action that does not align with their self-reliant identity.

Thus, for all the reasons listed, the assumption is that TGR beliefs may reinforce existing social hierarchies and conflict with changing societal norms, leading to disengagement with acts of political participation like voting (e.g., Kray et al., 2017). We formulated the following hypotheses:

H2a TGRs beliefs would be negatively associated with voting participation, independent of the participant's gender.

H2b The negative relationship between TGRs beliefs and voting participation would be stronger for women than for men (i.e., moderation effect of gender).

Additionally, In light of the recent growing interest in the literature on the dynamic interplay between individual attitudes, behaviors, and broader structural or institutional contexts in political psychology (see, e.g., Noordzij et al., 2021), we explored the following research question:

RQ2 Is there a potential cross-level interaction (i.e., micro–macro level interaction) between the macro-level variable—country-level gender inequality (measured by the Gender Inequality Index, GII)—and individual-level variables, namely endorsement of traditional gender roles (TGRs) and gender?

Our focus is to examine whether the gender inequality climate of a country amplifies the hypothesized negative effects of individual-level factors (TGR beliefs and gender) on political behavior, such as voting, without formulating specific directional predictions.

The Current Study

To address the key research questions and test the specific hypotheses informed by the previously discussed literature on voting participation, this study adopts a cross-country approach, including non-WEIRD societies. In doing this, we employed a novel methodological approach to deal with the specificities of cross-country research, as detailed in the analyses section.

In the current study, we have also controlled for a host of demographic and ideological variables that have been shown to predict voting and political engagement generally, thus allowing us to better understand the unique role that gender ideology plays. Demographic variables include age, education, and income, which have been shown to predict voting participation and typically used as covariates (e.g., Clark & Clark, 1986; Córdova & Rangel, 2017; Smets & van Ham, 2013; Verba et al., 1997). We also controlled for the direct impact on the reported voting behavior of political ideologies, previously found to influence crucial political behaviors, including voting, that can either promote or hinder social changes (Becker, 2020; Major & Kaiser, 2017). Specifically, we included: social dominance orientation (SDO)—a motivation for group-based dominance and hierarchy (Sidanius & Pratto, 2001), as it generally fosters opposition to equality and thus may reduce voting behavior (Kunst et al., 2017); right-wing authoritarianism (RWA)—a motivation for collective security—because it generally correlates with support for the status quo (Weiner & Federico, 2017); and system justification (SJ)—a motivation to defend and justify the structure of group inequalities in society—which is associated with system-supporting action (Osborne et al., 2019). We had no specific expectations of the direction of the relationship with voting for RWA and SJ.

Method

Participants and Procedure

We used an existing cross-national dataset from the survey of the World Digital Influence Project (WDIP; see Gil de Zúñiga & Liu, 2017 for more details). The study received prior approval from the Human Ethics Committee of Victoria University of Wellington, ensuring compliance with ethical standards for the treatment of human participants during data collection. Participants were recruited through the international polling firm Nielsen using the Qualtrics platform to form a quota sample national socio-demographic characteristics (Gil de Zúñiga & Liu, 2017). The original WDIP data collection was carried out in September 2015 (for the relevance of the dataset, see the Supplementary Online Material, SOM); the same respondents were contacted again in the second wave six months later. We underline that the dataset continues to reflect enduring trends and structural characteristics in the studied contexts, as beliefs in traditional gender roles and structural inequalities tend to change slowly and persist over time. The original WDIP consortium included 22 countries. In the present research, we did not consider data from India and South Africa because representative samples were not reached, and Taiwan, because the GII is not available for this country. For some preliminary analyses, Turkey was also considered but then removed after checking for psychometric properties of the Traditional Gender Role scale—our central key variable. The dataset is available on the OSF platform (https://osf.io/26ch5/overview).

All the analyses were carried out with R Software (R Core Team, 2022). The final sample included 19,297 participants (51.2% women, mean age = 41.3, *SD* = 14.76), from 18 different areas of the world: Anglosphere (New Zealand, UK, USA), Western

Europe (Germany, Italy, Spain), Eastern Europe (Poland, Estonia, Russia, Ukraine); Latin America (Argentina, Brazil, Chile), East Asia (China, Japan, South Korea), and South-East Asia (Indonesia, Philippines). Each country had around 1,000 participants, with roughly equal gender distribution and a mean age of around 40. A survey was administered in the dominant language of each respective society. Surveys were translated by researchers involved in each respective country, using either a team approach (Behling & Law, 2000) or a committee approach (Brislin, 1980). In the SOM, Table S1 reports the demographic information and descriptive statistics, Table S2 the reliabilities, and Table S5 the correlations of all country sub-samples, for all the key variables in the present research.

Measures

Gender Inequality Index (GII)

To assess variations at the country level, we utilized the Gender Inequality Index (UNDP, 2018) for the year 2015. This composite indicator captures women's relative disadvantage and their reduced opportunities for human development across three societal domains: reproductive health (e.g., maternal mortality ratio and adolescent birth rates), empowerment (which includes the proportion of parliamentary seats held by women and the proportion of adult women and men aged 25 years and older with at least some secondary education), and the labor market (measured by the labor force participation rate of females and males aged 15 years and older). For further details, refer to the UNPD technical notes. (http://hdr.undp.org/en/composite/GII). The GII has been developed within the same framework as the IHDI (Inequality-adjusted Human Development Index), in order to better display differences in the distribution of attainments between women and men.

Higher GII values represent more discrepancies between genders, with Indonesia, Philippines, and Brazil having the highest level of gender inequality in this dataset (>. 41; see Table S1 for details), and Germany and South Korea the lowest (GII < .077). We checked for the relationships between GII and HDI (data available at https://hdr.undp.org/en/data), reflecting society's achievements in three fundamental aspects of human development (health, knowledge, and standard of living), which was expected to be in the opposite direction. GIIs were negatively correlated with the respective HDIs related to the same year (2015), $r(18) = -0.79$, $p < .001$. Additionally, as reported in Table S8, the comparison between the 2015 GII values used in this research and the most recent estimates (UNDP, 2023) indicates gradual improvement in gender equality, yet the overall pattern across countries remains strikingly consistent.

Traditional Gender Roles Beliefs

TGRs belief was measured using five items on a 7-point scale (1 = *disagree completely*; 7 = *agree completely*) adapted from Kerr and Holden (1996): 1. "The husband should be regarded as the legal representative of the family group in all matters of

law;" 2. "Women should be concerned with their duties of childbearing and housetending, rather than with the desires for professional and business careers, which are best left to men;" 3. "Women should have as much sexual freedom as men" (reverse); 4. "Swearing and obscenity is more repulsive in the speech of a woman than a man;" and 5. "The initiative in courtship, between a man and a woman, should usually come from the man."

Voting Participation

Participants indicated their frequency of voting in elections at both the local/statewide level and the national level (1 = *never*; 7 = *all the time*): "Usually, as far as you can recall: How often do you vote: 1. In local or statewide elections; 2. In national or presidential elections." The items had a good reliability for all the countries (Table S2, in SOM). Reported voting was higher for men than women only in some countries: Germany, Japan, Poland, UK, and the USA (Table S3, in SOM).

Ideological Covariates

We included six political ideologies as covariates that have been shown to predict voting and other forms of political engagement: system justification (Becker & Wright, 2011), right-wing authoritarianism (Becker, 2020), social dominance orientation (Ho & Kteily, 2020), religiosity (Cassese & Holman, 2016), conservatism (Becker, 2020), and trust in fair election outcomes (Birch, 2010). See SOM for list of all items, reliabilities (Table S2), and for some methodological details testing (Table S7).

Demographic Covariates

In addition to gender, demographic covariates were included given their relationships to voting and political engagement (e.g., Clark & Clark, 1986; Córdova & Rangel, 2017; Smets & van Ham, 2013; Valentova, 2016; Verba et al., 1997): age, subjective social status via Mac Arthur Scale (Adler et al., 2000). See SOM for list of items.

Results

Cross-Country Validity of the TGRs Scale

Before addressing the core research questions and testing the main hypotheses of the study, we first established measurement invariance for the TGRs scale across countries. This step was both critical and methodological necessary to ensure the validity of subsequent analyses.

Item analysis for each country separately indicated that the third item ("Women should have as much sexual freedom as men," reversed) was problematic. In 11 out of 19 countries, the third item showed a Corrected Item-Total Correlations (CITC) below the acceptable value of .30 (Nunnally & Bernstein, 1994). Moreover, its removal increased the overall scale of Cronbach's alpha in all countries; the final

alphas ranged from mediocre (e.g., .54 in Ukraine) to very good levels (e.g., .81 in Spain). Thus, we did not retain this item for further analyses.

To test the construct validity of the TGRs scale, we ran Confirmatory Factor Analyses (CFA) for each separate country. We tested a first-order model, in which the four items of the TGRs scale are assumed to load the respective latent factor. Given the ordinal nature of TGRs items, we estimated model parameters using the Diagonal Weighted Least Squares (DWLS), which is well suited for ordinal data (Mîndrilă, 2010). A manifold approach was used to assess the model fit of CFAs. For the Comparative Fit Index (CFI) and Tuker-Lewis Index (TLI), fit is considered adequate if values are > 0.90, suffering for values between 0.8 and 0.9 and bad if it is less than 0.8 (van de Schoot et al., 2012). For the Root Mean Square Error of Approximation (RMSEA), values smaller than 0.05 indicate good fit, values between 0.05 and 0.08 indicate acceptable model fit and values greater than 0.10 suggest poor model fit (Hu & Bentler, 1999). For Root Mean-Square Residual (RMSR), values smaller than 0.08 indicate good fit (Hu & Bentler, 1999). Table 1 displays the fit indices for each country. Data from Turkey were excluded from further analysis due to the poor fit of the measurement model.

Alignment method. One of the most significant challenges in cross-country research is establishing measurement invariance (i.e., confirming that the same construct was measured the same way, using the same scale, for each sample group). This

Table 1 Confirmatory factor analysis: fit indices and factor loadings for Traditional Gender Role scale for each country

Country	Traditional Gender Role scale								
	CFI	TLI	RMSEA	90% CI RMSEA	SRMR	Load TGR1	Load TGR2	Load TGR4	Load TGR5
Argentina	0.955	0.865	0.125	0.092–0.162	0.064	0.64	0.56	0.52	0.65
Brazil	0.993	0.979	0.056	0.022–0.096	0.03	0.68	0.68	0.48	0.64
Chile	0.989	0.972	0.067	0.027–0.105	0.035	0.62	0.64	0.51	0.73
China	0.968	0.904	0.09	0.056–0.13	0.054	0.80	0.68	0.31	0.51
Estonia	0.953	0.865	0.105	0.073–0.141	0.057	0.85	0.66	0.2	0.45
Germany	0.988	0.969	0.064	0.03–0.104	0.037	0.74	0.69	0.64	0.52
Indonesia	0.989	0.968	0.052	0.018–0.093	0.033	0.66	0.65	0.45	0.6
Italy	0.981	0.948	0.1	0.06–0.139	0.049	0.72	0.73	0.56	0.66
Japan	1	1	0	0.00–0.061	0.019	0.68	0.68	0.35	0.52
South Korea	0.996	0.989	0.048	0.008–0.092	0.029	0.75	0.78	0.56	0.77
New Zealand	0.986	0.962	0.076	0.041–0.111	0.041	0.79	0.75	0.48	0.63
Philippines	0.963	0.888	0.099	0.065–0.138	0.052	0.70	0.57	0.52	0.48
Poland	0.966	0.898	0.1	0.066–0.138	0.053	0.77	0.63	0.38	0.47
Russia	0.975	0.925	0.079	0.047–0.117	0.045	0.76	0.67	0.31	0.51
Spain	0.994	0.983	0.061	0.026–0.102	0.035	0.72	0.74	0.65	0.77
Turkey	0.70	0.102	0.288	0.251–0.326	0.166	0.84	0.50	0.32	0.38
UK	0.983	0.952	0.097	0.063–0.136	0.05	0.77	0.70	0.57	0.71
Ukraine	0.955	0.864	0.077	0.046–0.114	0.044	0.59	0.57	0.37	0.36
USA	0.993	0.98	0.064	0.031–0.102	0.035	0.81	0.73	0.56	0.72

CFI = Comparative Fit Index; TLI = Tuker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; RMRS = Root Mean-Square Residual (RMSR); TGR1, TGR2, TGR4, TGR5 indicate the items of the Traditional Gender Role Scale (see Method section for the item wording)

was a necessary step in relation to the measure of TGRs beliefs, a key factor hypothesized to be associated with voting participation. Measurement invariance includes configural (i.e., each latent construct loaded with the same indicators), metric (i.e., the factor loadings were equivalent across groups), and scalar (i.e., the factor loadings and indicator intercepts were equivalent across groups). For the most part, testing for measurement invariance via multi-group confirmatory factor analysis often leads to a conclusion of non-invariance. Scalar invariance is especially hard to achieve (see Cieciuch et al., 2018; Marsh et al., 2018). Whenever loadings or intercepts turn out noninvariant, the typical procedure is to gradually relax equality constraints based on modification indexes until the models no longer differ significantly, thus establishing partial measurement invariance (Byrne et al., 1989). However, "particularly in large-scale studies, the stepwise selection process of relaxing invariance constraints one parameter at a time is highly cumbersome, idiosyncratic, and likely to capitalize on chance, so that the final solution is not replicable" (Marsh et al., 2018. p. 525). Byrne et al. (1989) warned against indiscriminate post-hoc adjustment of model parameters. When measurement non-invariance is observed, instead of omitting indicators for a given scale, or forgoing entirely the possibility of cultural similarities and differences exploration, scholars have suggested that partial invariance with at least two invariant indicators is sufficient for performing meaningful comparisons (see Byrne et al., 1989).

Asparouhov and Muthén (2014) proposed an alternative method: multiple-group confirmatory factor analysis alignment. This approach offers several advantages, including (1) the ability to estimate multiple models conveniently without going through excessive iterations of model adjustments, (2) the capacity to identify factor loadings and indicator intercepts that are non-invariant, providing an understanding for how a given measurement performs in each cultural group, and (3) the capacity to estimate reliable group-specific factor scores based on partial non-invariant measures when there are roughly 25% or fewer non-invariant parameters (Asparouhov & Muthén., 2014).

This innovative method was particularly suited to the sample used in the current study, as it as it addresses some limitations of more traditional techniques. The findings from the alignment analysis are presented in Table S4 (see SOM). The analysis revealed an overall amount of non-invariance equal to 11.1 which falls well within the recommended threshold of 25% (Asparouhov & Muthén., 2014). As such, the alignment method allowed us to proceed with the main analyses, despite the presence of some measurement non-invariance.

As a further step, in the absence of a standardized method for estimating individual aligned scores, we utilized the lambda (factor loadings) and nu (intercepts) values to compute individual aligned item scores. The idea is to predict for each participant in each country the aligned items scores for the TGRs scale, thus correcting for some amount of measurement non-invariance:

$$AlignedScore_{i.j} = \nu_j + Score_i * \lambda_j$$

where *i* indicates the individual instance and *j* indicates the affiliation country of that instance. Once having predicted each item aligned score, we computed the over-

all aligned value of TGRs scale by averaging the aligned values. Finally, that value was group mean-centered to assign a more comprehensible metric to the variable. Findings indicated that Argentina showed the lowest variable value (mean = 6.11, *SD* = 1.60), while Indonesia the highest (mean = 8.64, *SD* = 1.35). See Table S1 in SOM for details.

Main analyses: Multilevel Regression Analysis

To test our hypotheses and answering the research questions, we conducted multilevel regression models (MLMs), a technique used to analyze data with a hierarchical or nested structure, accounting for variability at multiple levels (Raudenbush & Bryk, 2002); respondents have been nested within countries. In the model (see Table 2 for the overall results), individuals' voting self-reported participation was the dependent variable, whereas the level 1 predictors (individual level variables) were: gender (to test **H1**), individuals' endorsement of TGRs beliefs (to test **H2a**), while adjusting for socio-demographic information (age, socio-economic status, education, and religiosity) and individuals' ideological beliefs (i.e., SJ, RWA, SDO, and conservatism,

Table 2 Multilevel regression model of voting behavior

	Model 4		
Level-1 predictors	b	95% CI	p
(Intercept)	0.01	− 0.17–0.18	< .001
System justification	− 0.03	− 0.04–-0.01	.001
Right-wing authoritarianism	0.03	0.02–0.04	< .001
Conservatism	0.04	0.03–0.05	< .001
Social dominance orientation	− 0.06	− 0.07–-0.05	< .001
Gender [female]	− 0.03	− 0.06–-0.01	.013
Age	0.21	0.20–0.22	< .001
Socio-economic status	0.08	0.06–0.09	< .001
Importance of religion	0.05	0.04–0.07	< .001
Trust election outcome	0.17	0.16–0.19	< .001
Aligned TGRs	− 0.05	− 0.10–− 0.01	.017
Level-2 predictor			
GII (2015)	− 0.03	− 0.20–0.15	.757
Cross-level interactions			
Aligned TGRs * GII (2015)	0.04	0.00–0.08	.043
Aligned TGRs * Gender [female]	− 0.02	–0.04–0.01	.212
Gender [female] * GII (2015)	0.03	0.01–0.06	.018
Random effects			
σ2	3.235		
τ00 Country	0.612		
τ11 Country,Aligned.TGRs	0.013		
ρ01	− 0.834		
ICC	.166		
N	18 Country		
Observations	19,297		
Marginal R2 / Conditional R2	.105 / .254		

Aligned TGRs = Traditional Gender Role Beliefs.
GII = Gender Inequality Index

all group mean-centered). Moreover, we considered the 2-way interaction between TGRs and individuals' gender (to test **H2b**).

The GII (group mean-centered) at the country level was the level 2 predictor (to answer **RQ1)**. We also explored the 2-way cross-level interactions (i.e., micro–macro level interactions) between gender and GII, and between TGR**s** beliefs and GII, to disentangle whether voting participation is underpinned by society-level gender differences (to answer **RQ2**). In the model, we allowed for random variation on each country's intercept and on the slopes for endorsement of TGRs (Raudenbush & Bryk, 2002).

On Table S6 in SOM, a hierarchical multilevel regression model is displayed, to establish whether the effect of the main predictors significantly increases the explanation of voting above the covariates. The results of an ANOVA comparing model fit statistics, indicates that the incremental validity is always significant: the chi-square difference between Model 1 (basic model with only the covariates), and Model 2 (adding the main predictor TGRs beliefs) is 82.53 ($df = 1$), $p < .2e\text{-}16$. The chi-square difference between Model 2 and Model 3 (which adds random effect of slope and intercept, the GII, and the interactions of TGRs with GII and gender) is 158.88 ($df = 5$), $p < .2e\text{-}16$. The chi-square difference between Model 3 and Model 4 (which adds the interaction of GII with gender) is 5.63 ($df = 1$), $p = .018$.

In Table 2, we report the overall results of the multilevel analysis. The model accounted for 25% of the variance in the dependent variable. Our findings supported the presence of a modest gender gap, with women being slightly less likely to vote, thus confirming **H1**. Additionally, we observed a negative impact of TGRs beliefs: the higher the endorsement of traditional gender roles, the lower the likelihood of voting (**H2a** confirmed). Contrary to our prediction, no interaction was found between the aligned factor of TGRs beliefs and gender, thus not supporting **H2b**.

Concerning the control variables, we found significant fixed effects of the sociodemographic variables on voting behavior: older individuals and those with higher income levels were more likely to participate in voting. Among the political ideology variables included as controls, social dominance orientation exerted the strongest negative effect, which hindered voting as expected. Conversely, trust in election outcomes and the perceived importance of religion emerged as the most influential factors promoting voting participation.

The findings also indicated that the overall gender inequality climate at the country level (GII) had no significant direct effect on voting participation, addressing **RQ1**. Interestingly, to answer **RQ2**, findings also revealed two significant cross-level interactions. The first effect is between the aligned TGRs factor and the GII (Fig. 1). The correlation between the random intercept and random slope was -0.834, which indicates that countries with higher intercepts for voting were more likely to have lower (more negative) associations between voting and traditional gender role. Simple slope analysis revealed that the interaction is significant only for those countries where the GII is low, i.e., below -1*SD* (beta = − 0.13, $t = -3.42$, $p < .001$), and average (beta = − 0, $t = -2.90$, $p = .01$). TGRs beliefs are not associated with voting participation in countries where the level of gender inequality is already high (above + 1*SD*; beta = − 0.03; $t = -0.74$, $p = .47$).

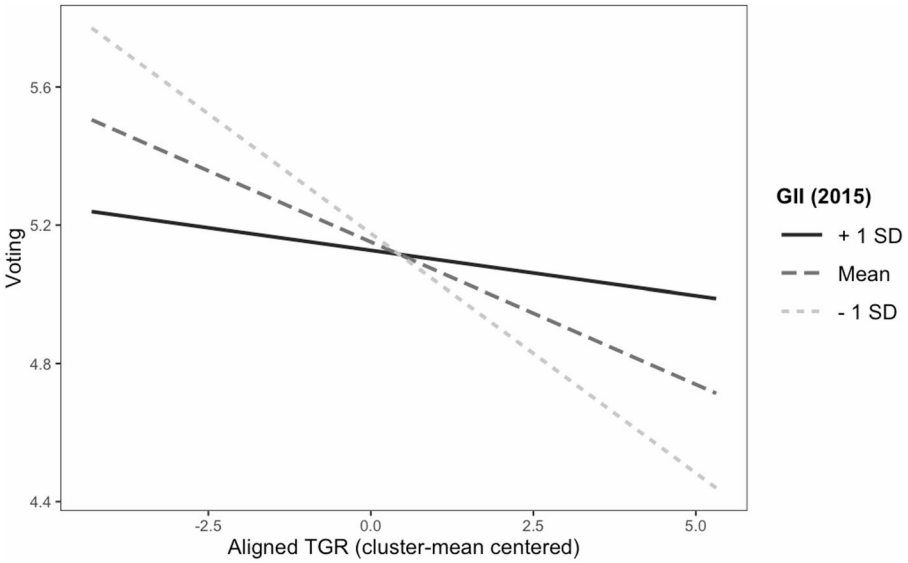

Fig. 1 Cross-level interaction effect between traditional gender role beliefs (aligned TGRs, individual-level variable) and the gender inequality index (GII; country-level variable) on voting participation

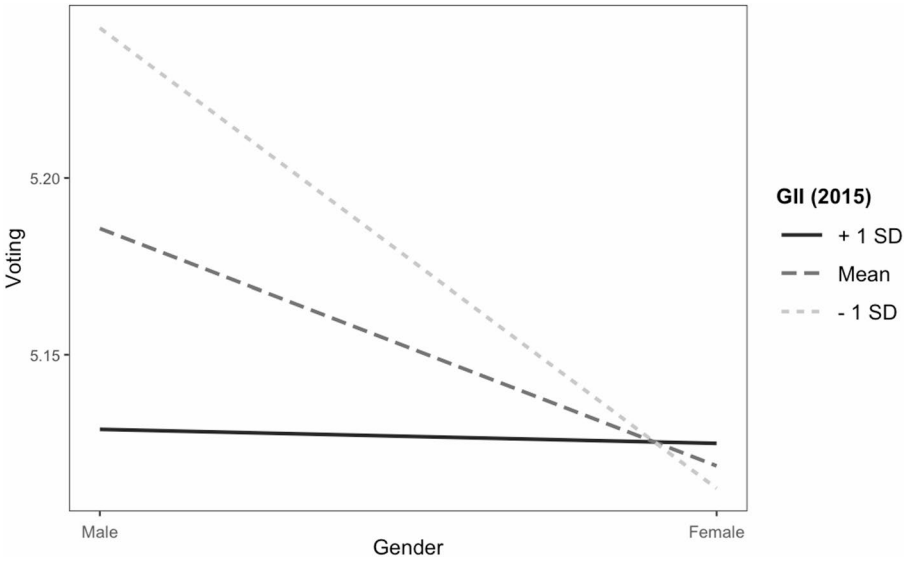

Fig. 2 Cross-level interaction effect between gender (individual-level variable) and the gender inequality index (GII, country-level variable) on voting participation

The second significant cross-level interaction considers GII and gender (Fig. 2). Simple slope analysis revealed that the interaction is significant only for those countries where the GII is low, i.e., below -1*SD* (beta = − 0.13, t = -3.43, p < .001), and average (beta = − 0.07, t = − 2.48, p = .01). Gender is not associated with voting behavior

in countries where the level of gender inequality is high (above + 1*SD*; beta = − 0; $t = -0.10$, $p = .92$).

Discussion

Much has changed since the advent of women's suffrage movements around the world. What had once been traditionally limited to men is now an inalienable democratic right for women as well. Yet despite such progress, low voting turnout remains a critical issue that has perplexed politicians and social scientists (e.g., Pew Research Center, 2021). While some have looked to gender and associated policies as contributing factors, this research examined, along with gender, the potential role of a key psychological variable at the individual level (Burns, 2007; Huddy et al., 2008). Specifically, we investigated how gender and gender ideology—particularly beliefs in TGRs—predict voting participation across 18 countries. We also examined the influence of country-level gender inequality and explored the cross-level interactions between these structural and individual factors.

Results revealed a mild overall gender gap in voting behavior and aligns with previous research that utilized self-report measures to examine voting participation (e.g., Dassonneville & Kostelka, 2021). As suggested by Stockemer and Sundstrom (2023), nevertheless, this gap in voting might be influenced by self-reporting biases, where men tend to overreport their participation when self-report measures are employed: these authors indeed found results contradicting this picture, with a higher turnout for women when considering validated turnout data by institutions. Future research might investigate the influence of self-report measures in voter turnout deeply.

Notably, structural inequality does not create fair conditions for voting. While our results did not reveal a direct effect of the overall country-level climate of gender inequality on voting participation, an examination of the cross-level interaction between gender and the GII at the country level revealed an interesting pattern. In countries with higher levels of inequality, voting participation is consistently lower regardless of citizens' gender. This suggests that in nations where the structural barriers contribute to gender disparities, these imbalances do not solely affect women but also have broader societal implications, impacting even those who are not directly subjected to such inequalities, such as men. In essence, the negative effects of gender inequality are felt across the entire population, highlighting the interconnected nature of structural disparities and their wider influence on democratic engagement. Conversely, in societies with lower to moderate levels of country gender inequality, women reported lower past voting behavior than men. The structural disparity, even when mild, results in greater limitations and disparities for women in various domains, amplifying the gender gap and contributing to lower voter turnout for women (see Table S3 in SOM, for details about differences between women and men voting self-reported participation Building on the growing body of literature exploring micro–macro level interactions (e.g., Noordzij et al., 2021), our findings reveal the mechanisms connecting individual agency with structural forces. Studying these interactions helps research move beyond simple descriptions and provides useful insights to strengthen democracy.

When taking into account gender-based beliefs, our results showed robust evidence of TGR convictions negatively predicting voting participation. This speaks to the powerful role that a psychological variable at the individual level can have on gendered political behaviors (Burns, 2007; Cassese & Holman, 2016; Huddy et al., 2008). Interestingly, gender did not moderate the effect of TGRs on voting.

To explain this finding, here we put forward the idea that endorsing of gender-restrictive beliefs may lead to political inaction, regardless of gender, maintaining the status quo, by considering various possible explanations. According to the social role theory of political behaviors (Schneider & Bos, 2019), women and men engage in different forms of political behaviors depending on how societies have traditionally structured the division of labor by gender. To the extent that men have dominated the political sphere, women and men should learn early on that politics is a male domain and political engagement is a masculine activity (Bos et al., 2022). Therefore, endorsement of TGRs should likely differentiate voting patterns for men and women, yet we found that TGR belief was associated with lower voting likelihood for all participants. One possible explanation is that ideologies are generally shared among all residing in the same culture or society (Major & Kaiser, 2017; Sidanius & Pratto, 2001), and their toxic effects may affect both genders, as in the case of gender role attitudes reducing, for instance, people general well-being (Chen et al., 2023).

Men and women sometimes collude together to promote a social hierarchy favoring men (Glick & Fiske, 2001). Given that the status quo has traditionally favored men, voting reflects and has been championed as the best method to upend such status quo. Traditional gender ideology tends to inhibit political engagement for all who endorse or are exposed to such beliefs (Becker & Wright, 2011). Therefore, beliefs in TGRs would be related to lower voting likelihood to the extent that voting is seen, for instance, as a herald of change to the status quo. When voting is seen as fulfilling different gendered goals, gender would likely play a smaller role than traditional gender beliefs. A similar process is observed in authoritarian leftists: when they view mainstream political systems as ineffective or in disagreement with their beliefs may disengage from politics (Federico et al., 2017).

Furthermore, lower turnout for men may be due to their false perception that their interests will be prioritized regardless of their participation, resulting in a sort of self-detrimental political free-riding (Lever, 2010). Additionally, TGRs prescribe gender-based roles, difficult to adhere to, and hinder collective political engagement. Men's emphasis on some features of masculinity (Levant et al., 2013), like self-reliance and individualism, may reduce their inclination to engage in collective political activities, including voting. Future research should aim to further explore and disentangle the alternative explanations offered for our results.

As shown by the results of the cross-level interaction between TGRs belief and GII—which takes into account women's parliamentary representation—a country's climate of gender inequality can exacerbate the negative impact of TGRs convictions on voting. The country level indicator of gender inequality strengthened the negative relationship between TGR beliefs and voting in countries with low or medium gender inequality, and this effect persisted even after accounting for various demographic and ideological factors (e.g., RWA, SDO, system justification, conservatism). Notably, TGRs beliefs predicted a reduced voting participation despite some countries

having fairly gender-egalitarian views, like New Zealand (the first country to enfranchise women in 1893). Our findings align with previous research demonstrating the similarly detrimental impact of TGRs on political engagement, even in countries with greater gender equality (Bhatti et al., 2019). Yet TGR belief still reduce voting in men and women. In countries with higher and more pervasive gender inequality climate, however, voting participation does not seem to be related to individual beliefs about genders. In summary, the findings indicate that in countries where structural gender inequality is less pronounced, individual beliefs play a significant role in determining voter participation. Conversely, in countries with lower levels of gender equality, other factors seem to influence voting participation. The International IDEA's Global State of Democracy Indices (Silva-Leander, 2022) reveal that nondemocratic countries generally perform poorly in ensuring gender equality. These nations may also exhibit higher levels of authoritarianism, reduced democratic practices, and greater economic disparity, all of which contribute to variations in voter participation—for both genders—as noted by i Coma (2016) who analyzed differences in voter turnout between democratic and nondemocratic regimes.

In our research, other predictors of voting participation included age, social status, trust in a fair election outcome, and importance of religion. All demonstrated positive relationships such that older and richer participants were more likely to vote, consistent with past findings (Córdova & Rangel, 2017). Those who believed that election outcomes would be fair were also more likely to vote, also replicating previous comparative research (Birch, 2010). The positive impact of the importance of religion on voting is in line with research showing that religious participation promotes voter turnout, as it contributes to building social capital and more active involvement in society (Gerber et al., 2016). SDO had the highest and most negative impact among ideological covariates, confirming its role in hampering equality (Kunst et al., 2017). The negative effect of SJ was much more modest (Osborne et al., 2019). Conservatism and RWA promoted voting, but very slightly. This latter result may be influenced by not tested moderators, such as levels of political engagement (Weiner & Federico, 2017). Additionally, the positive effects of conservatism and RWA on voting participation, which contrast with the negative impact of TGRs beliefs, underscore the conceptual differences between TGRs convictions and these two other ideological sets of beliefs (see Table S7 for additional details).

We highlight a noteworthy methodological contribution of our research. TGRs have been well-studied in Western regions (Glick et al., 2000; Luyt, 2015). Generally, in non-Western countries such beliefs do not hold the same consistency as predictors compared to their more reliable function in Western countries (Bettinsoli et al., 2020). This may be because items developed in Western countries may not meaningfully translate to non-Western cultural contexts. Gender ideology, stereotypes, and expectations also vary substantially across cultures (Cuddy et al., 2015), while still being related to political engagement (Mayer & Schmidt, 2004). In our study, we examined the cross-country measurement invariance for the TGR scale, by applying a cutting-edge method—the multiple-group confirmatory factor analysis alignment (Asparouhov & Muthén., 2014), combined with an innovative approach for estimating individual aligned scores. Thus, we were able to test the effect of TGRs beliefs cross-nationally in contexts that varied in socio-political terms, thus overcoming the

common limitations of a more classic approach to invariance testing (Byrne et al., 1989; Marsh et al., 2018). Our methodological proposal is suitable in other research contexts as well and could be easily adapted to the study of many other psychological constructs in cross-country endeavor.

Limitations and Future Directions

A number of limitations can be acknowledged in this research. While we recognize that the dataset used is not recent, both traditional gender roles and structural indicators of human development have remained stable over time (UNDP, *Human Development Reports*, 2025). The GII remains a robust and comparable measure across countries, reflecting the slow and incremental evolution of gender disparities (United Nations, 2025). Consistent GII patterns between 2015 and 2023 ($r = .93$, $p < .001$; see Table S8; UNDP, 2023) confirm the validity of the dataset for examining gendered political participation. Likewise, deeply rooted gender norms change gradually, reinforcing the relevance of data from the past decade (International Alert, 2023). Therefore, while recent contextual changes may affect descriptive indicators, they are unlikely to alter the theoretical relationships tested. The purpose of our research was not to provide an updated descriptive account of current gender inequalities across countries, but rather to examine *underlying structural and social factors* that explain how such inequalities can lead to lower political participation.

It is also common in the literature to rely on non-recent datasets when they provide a solid basis for testing theoretical relationships, rather than describing current empirical conditions (see, e.g., Lomazzi & Sedding, 2020, for the use of 2012 data on gender roles). Notwithstanding, future research could employ more recent data to test the same hypotheses or focus on country-specific developments, such as rapid social and political changes in particular contexts (e.g., conservative or populist movements, economic crises, conflicts, family policies).

Despite its relevance, the number of selected nations (18) lacks important areas of the world, like African countries. Moreover, some of the considered countries are fairly gender egalitarian according to the UN Gender Inequality Index (UN Human Development Report, 2019). Our findings are consistent with other research that has found the same debilitating effect of TGRs on political engagement even in more gender-egalitarian countries (Bhatti et al., 2019). In more unequal contexts, minorities are more likely to justify the status quo that may in turn lead to political inaction and complacency (Napier et al., 2020). For women in less egalitarian countries, structural barriers may have a greater predictive impact on political behaviors. Future research may consider additional country-level indicators, like indicators related to the democracy level, political stability, and income, that can contribute to hampering or fostering voting participation (see e.g., i Coma, 2016).

We have proposed different possible explanations for the pervasive negative effects of TGRs beliefs on voting participation, irrespective of gender. None of such mechanisms have been formally tested in literature. As already pointed out, they might be profitably addressed in future research to depict a better understanding of how TGRs beliefs reduce voting participation.

Our analyses focused only on one form of political behavior—voting. People engage with politics in myriad ways such as participating in collective actions, discussing politics with family and friends, as well as canvassing and campaigning for their political parties. Many of these political behaviors are also gendered (Huddy et al., 2008; Kittilson, 2016). Voting is arguably easy relative to more time-consuming and effortful behaviors such as canvassing and campaigning (Clark & Clark, 1986). Nonetheless, it is likely that gender ideology would also predict other forms of political engagement. Women who perceive there to be greater gender inequality in American society are more politically engaged in such acts as regularly discussing politics and following political campaigns (Bernstein, 2005). Women exposed to benevolent sexism, a paternalistic form of sexist ideology that assumes women to be moral and pure yet helpless, are less likely to engage in collective action on behalf of their gender, such as signing petitions and distributing flyers (Becker & Wright, 2011). As such, we believe TGRs can extend their (negative) impact beyond voting to other forms of political (in)actions.

Furthermore, we focused on general voting behavior, but voting is multifaceted and more complex than the likelihood of voting participation. People vote on various policies as well as candidates of different political orientations. In terms of policies, men and women may vote differently based on issues that align with their gender roles (Eagly et al., 2004; Schneider & Bos, 2019). For instance, women are more likely than men to support policies that promote provisions and social rights for the disadvantaged, whereas men are more likely than women to support military actions (Eagly et al., 2004; Huddy et al., 2008). This gendered division in voting patterns aligns with the social role expectation of women to be more communal and other-oriented while men are expected to be more agentic, and this may be particularly accentuated for those who conform to TGRs (Diekman & Schneider, 2010; Eagly et al., 2004). In terms of voting choice, women tend to vote for more liberal candidates than men nowadays (Kittilson, 2016; Wolbrecht & Corder, 2020). However, we believe that TGRs for both men and women would likely predict voting for more conservative candidates given the established association between traditional gender ideology and conservatism (Larsen & Long, 1988; Sudkämper et al., 2020; Twenge, 1997).

Also, there may be issues with self-reported voting. Contrary to other data, here men self-reported greater voting likelihood than women, particularly in countries with medium–low levels of structural gender inequality, like Germany, Japan, Poland, UK and USA. Over-reporting is context-dependent (Brown-Iannuzzi et al., 2019; Karp & Brockington, 2005). In elections and countries where higher voter turnout is a norm, people are more likely to over-report due to social desirability. Specifically, men have a stronger motivation to appear politically engaged and knowledgeable, while women are willing to admit to less knowledge and less participation. This issue has been highlighted by Stockemer and Sundstrom (2023), who found no gender differences when using validated voter turnout data compared to surveys using self-reported measures of voting participation.

In our study, we focused on prioritizing gender-based variables such as gender itself, gender attitudes, and country gender inequality in predicting voting participation. Despite considering various demographic and ideological factors as covariates, we overlooked other essential determinants of voting participation, such as some

other specific sociodemographic factors and political attitudes (see e.g., Smets & Van Ham's meta-analysis, 2013, on the predictors of voter turnout). Considering the omitted demographic variables, some of them are relevant to the resource model which emphasizes that political participation is motivated by different resources, especially time, money, and skills (e.g., Verba et al., 1979). In the present study, we did not include factors such as income, occupational status, and having children, which could be examined in future research. However, Smets and Van Ham found in their meta-analysis that only income had an impact on voter turnout. Here, we use a proxy for income, socio-economic status, which did indeed positively predict voting participation.

Other variables not included in the study are political attitudes, like political interest, efficacy, and knowledge, which generally tend to increase voter turnout (Smets & Van Ham, 2013). The existing literature points to a gender gap in these political-related variables. According to cross-country research by Kittilson and Schwindt-Bayer (2012), men tend to exhibit higher levels of political interest, engagement in political discussions, political knowledge, and attention to political news. Wolak (2020) attributes this gap to differences in individuals' self-confidence. Women, due to early socialization perceptions of politics being male dominated (Bos et al., 2022), may have lower confidence in political domains. These political attitudes, along with directly influencing voting turnout, as found by Smets and Van Ham, could potentially interact with gender-related beliefs like TGRs. Future research could explore this relationship further.

Practical Implications

From an applied perspective, the study suggests that policymakers should take proactive measures to address the detrimental effects of TGRs in society, in line with the objectives of the Sustainable Development Goal 5—Achieve gender equality, of the United Nations (see https://www.un.org/sustainabledevelopment/gender-equality/). By promoting gender equality and challenging gender stereotypes, policymakers can contribute to fostering increased political engagement and healthier democratic systems. For instance, through educational campaigns, policymakers can raise awareness about the negative consequences of TGRs, not only for women but also for men. These campaigns can emphasize the importance of gender equality in all spheres of life, including politics and general well-being (Chen et al., 2023). Policymakers can also promote gender-sensitive policies that address gender inequalities in society and promote equal opportunities for political engagement.

Conclusions

Traditional gender role beliefs uphold male hierarchy in societies, and such ideology influences a host of behaviors that may not appear gender-neutral on the surface. This study highlights a consistent and negative association between such beliefs and voting participation, across both genders and cultural contexts (both WEIRD and non-WEIRD countries). Our findings suggest that adherence to traditional gender

ideologies discourages political engagement not only among women, but also among men.

Importantly, we observed that in countries with low to moderate structural gender inequality, individual beliefs about gender roles played a stronger role in predicting voting behavior. This indicates that even in relatively egalitarian contexts, internalized gender ideologies can meaningfully reduce political participation. Conversely, in highly unequal societies, structural factors appear to overshadow the influence of individual beliefs, suppressing voter turnout more broadly.

This pattern underscores how societal inequalities can dampen democratic engagement for all, not just the most directly disadvantaged groups. It also supports the broader literature on micro–macro interactions, showing how personal attitudes and systemic conditions intersect to shape civic behavior. By applying an advanced measurement approach that improves cross-national comparisons (Multi-Group Factor Analysis Alignment), our study also makes a methodological contribution, offering a valuable tool for future international research.

Overall, the results underscore the urgent need for policymakers to address the detrimental impact of traditional gender roles and structural inequalities in society. By fostering an environment that challenges gender norms, societies can encourage more inclusive political participation and better democratic outcomes.

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Authors' Contributions Silvia Mari, Jin Goh, Sammyh Khan, and James H. Liu contributed to the study conception and design. Material preparation, data collection were performed by all authors. Formal analysis and investigation were carried out by Michela Vezzoli, Silvia Mari, and Jin Goh. The first draft of the manuscript was written Silvia Mari and Jin Goh. All authors commented on previous versions of the manuscript. All authors read and approved the final manuscript. Funds have been acquired by James H. Liu.

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Data Availability The data that support the findings of this study are available at the following link: https://osf.io/26ch5/overview.

Declarations

Ethical Approval and Consent to participate. Ethical Approval has been obtained by the University of Wellington, according to the Human Ethics Policy. Informed consent was explicitly administered to participants.

Human and Animal Ethics All procedures performed in the study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards. Human Ethics Policy of the University of Wellington is available here: https://www.wgtn.ac.nz/documents/policy/research-policy/human-ethics-policy.pdf.

Consent for Publication Consent for publication was explicitly obtained from participants.

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References

Adler, N. E., Epel, E. S., Castellazzo, G., & Ickovics, J. R. (2000). Relationship of subjective and objective social status with psychological and physiological functioning: Preliminary data in healthy white women. *Health Psychology, 19*(6), 586–592.

Asparouhov, T., & Muthén, B. (2014). Multi- group factor analysis alignment. *Structural Equation Modeling: A Multidisciplinary Journal, 21*(4), 495–508. https://doi.org/10.1080/10705511.2014.919210

Barreto, M., & Ellemers, N. (2005). The burden of benevolent sexism: How it contributes to the maintenance of gender inequalities. *European Journal of Social Psychology, 35*, 633–642.

Becker, J. C. (2020). Ideology and the promotion of social change. *Current Opinion in Behavioral Sciences, 34*, 6–11. https://doi.org/10.1016/j.cobeha.2019.10.005

Becker, J. C., & Wright, S. C. (2011). Yet another dark side of chivalry: Benevolent sexism undermines and hostile sexism motivates collective action for social change. *Journal of Personality and Social Psychology, 101*(1), 62–77. https://doi.org/10.1037/a0022615

Behling, O., & Law, K. S. (2000). Translating questionnaires and other research instruments: Problems and solutions. *Sage*. https://doi.org/10.4135/9781412986373

Bennett, L. L. M., & Bennett, S. E. (1989). Enduring gender differences in political interest: The impact of socialization and political dispositions. *American Politics Quarterly, 17*(1), 105–122. https://doi.org/10.1177/1532673X8901700106

Bennett, S. E., & Bennett, L. L. M. (1993). Out of sight, out of mind: Americans' knowledge of party control of the house of representatives, 1960–1984. *Political Research Quarterly, 46*(1), 67–80. https://doi.org/10.1177/106591299304600106

Bernstein, M. (2005). Identity politics. *Annual Review of Sociology, 31*, 47–74. https://doi.org/10.1146/annurev.soc.29.010202.100054

Bettinsoli, M. L., Suppes, A., & Napier, J. L. (2020). Predictors of attitudes toward gay men and lesbian women in 23 countries. *Social Psychological and Personality Science, 11*(5), 697–708. https://doi.org/10.1177/1948550619887785

Bhatti, Y., Hansen, K. M., Naurin, E., Stolle, D., & Wass, H. (2019). Can you deliver a baby and vote? The effect of the first stages of parenthood on voter turnout. *Journal of Elections, Public Opinion and Parties, 29*(1), 61–81. https://doi.org/10.1080/17457289.2018.1454452

Birch, S. (2010). Perceptions of electoral fairness and voter turnout. *Comparative Political Studies, 43*(12), 1601–1622. https://doi.org/10.1177/0010414010374021

Bos, A., Greenlee, J., Holman, M., Oxley, Z., & Lay, J. (2022). This one's for the boys: How gendered political socialization limits girls' political ambition and interest. *American Political Science Review, 116*(2), 484–501. https://doi.org/10.1017/S0003055421001027

Brislin, R. W. (1980). Cross-cultural research methods. In I. Altman, A. Rapoport, & J. F. Wohlwill (Eds.), *Environment and culture: Human Behavior and Environment* (pp. 47–82). Boston: Springer. https://doi.org/10.1007/978-1-4899-0451-5_3

Brown-Iannuzzi, J. L., Najle, M. B., & Gervais, W. M. (2019). The illusion of political tolerance: Social desirability and self-reported voting preferences. *Social Psychological and Personality Science, 10*(3), 364–373. https://doi.org/10.1177/1948550618760147

Burns, N. (2007). Gender in the aggregate, gender in the individual, gender and political action. *Politics & Gender, 3*(1), 104–123. https://doi.org/10.1017/S1743923X07221014

Byrne, B. M., Shavelson, R. J., & Muthén, B. (1989). Testing for the equivalence of factor covariance and mean structures: The issue of partial measurement invariance. *Psychological Bulletin, 105*(3), 456–466. https://doi.org/10.1037/0033-2909.105.3.456

Cassese, E. C., & Holman, M. R. (2016). Religious beliefs, gender consciousness, and women's political participation. *Sex Roles, 75*, 514–527. https://doi.org/10.1007/s11199-016-0635-9

Chen, L., Wu, K., Du, H., King, R. B., Chen, A., Li, T., & Chi, P. (2023). Less equal, less satisfied? Gender inequality hampers adults' subjective well-being via gender-role attitudes. *Sex Roles*. https://doi.org/10.1007/s11199-023-01392-8

Cieciuch, J., Davidov, E., Algesheimer, R., & Schmidt, P. (2018). Testing for approximate measurement invariance of human values in the European social survey. *Sociological Methods & Research, 47*(4), 665–686. https://doi.org/10.1177/0049124117701478

Clark, C., & Clark, J. (1986). Models of gender and political participation in the United States. *Women & Politics, 6*(1), 5–25. https://doi.org/10.1300/J014v06n01_02

Coma, I. F. M. (2016). Turnout determinants in democracies and in non-democracies. *Electoral Studies, 41*, 50–59. https://doi.org/10.1016/j.electstud.2015.11.002

Córdova, A., & Rangel, G. (2017). Addressing the gender gap the effect of compulsory voting on women's electoral engagement. *Comparative Political Studies, 50*(2), 264–290. https://doi.org/10.1177/0010414016655537

Cuddy, A. J. C., Wolf, E. B., Glick, P., Crotty, S., Chong, J., & Norton, M. I. (2015). Men as cultural ideals: Cultural values moderate gender stereotype content. *Journal of Personality and Social Psychology, 109*(4), 622–635. https://doi.org/10.1037/pspi0000027

Dassonneville, R., & Kostelka, F. (2021). The cultural sources of the gender gap in voter turnout. *British Journal of Political Science, 51*(3), 1040–1061. https://doi.org/10.1017/S0007123419000644

Diekman, A. B., & Schneider, M. C. (2010). A social role theory perspective on gender gaps in political attitudes. *Psychology of Women Quarterly, 34*(4), 486–497. https://doi.org/10.1111/j.1471-6402.2010.01598.x

Eagly, A. H., Wood, W., & Johannesen-Schmidt, M. C. (2004). Social role theory of sex differences and similarities: Implications for the partner preferences of women and men. In A. H. Eagly, A. E. Beall, & R. J. Sternberg (Eds.), *The psychology of gender* (pp. 269–295). The Guilford Press.

Federico, C. M., Fisher, E. L., & Deason, G. (2017). The authoritarian left withdraws from politics: Ideological asymmetry in the relationship between authoritarianism and political engagement. *The Journal of Politics, 79*(3), 1010–1023. https://doi.org/10.1086/692126

Fraile, M., & Gomez, R. (2017). Bridging the enduring gender gap in political interest in Europe: The relevance of promoting gender equality. *European Journal of Political Research, 56*(3), 601–618. https://doi.org/10.1111/1475-6765.12200

Franklin, M. N. (2004). Voter turnout and the dynamics of electoral competition in established democracies since 1945. *Cambridge University Press*. https://doi.org/10.1017/CBO9780511616884

Gerber, A. S., Gruber, J., & Hungerman, D. M. (2016). Does church attendance cause people to vote? Using blue laws' repeal to estimate the effect of religiosity on voter turnout. *British Journal of Political Science, 46*(3), 481–500. https://doi.org/10.1017/S0007123414000416

Gil de Zúñiga, H., & Liu, J. H. (2017). Second screening politics in the social media sphere: Advancing research on dual screen use in political communication with evidence from 20 countries. *Journal of Broadcasting & Electronic Media, 61*, 193–219. https://doi.org/10.1080/08838151.2017.1309420

Glick, P., Diebold, J., Bailey-Werner, B., & Zhu, L. (1997). The two faces of Adam: Ambivalent sexism and polarized attitudes toward women. *Personality and Social Psychology Bulletin, 23*(12), 1323–1334. https://doi.org/10.1177/01461672972312009

Glick, P., & Fiske, S. T. (1996). The ambivalent sexism inventory: Differentiating hostile and benevolent sexism. *Journal of Personality and Social Psychology, 70*(3), 491–512. https://doi.org/10.1037/0022-3514.70.3.491

Glick, P., & Fiske, S. T. (2001). An ambivalent alliance: Hostile and benevolent sexism as complementary justifications for gender inequality. *American Psychologist, 56*(2), 109–118. https://doi.org/10.1037/0003-066X.56.2.109

Glick, P., Fiske, S. T., Mladinic, A., Saiz, J. L., Abrams, D., Masser, B., Adetoun, B., Osagie, J. E., Akande, A., Alao, A., Annetje, B., Willemsen, T. M., Chipeta, K., Dardenne, B., Dijksterhuis, A., Wigboldus, D., Eckes, T., Six-Materna, I., Expósito, F., … López, W. L. (2000). Beyond prejudice as simple antipathy: Hostile and benevolent sexism across cultures. *Journal of Personality and Social Psychology, 79*(5), 763–775. https://doi.org/10.1037/0022-3514.79.5.763

Goh, J. X., & Tignor, S. M. (2020). Interpersonal dominance-warmth dimensions of hostile and benevolent sexism: Insights from the self and friends. *Personality and Individual Differences, 155*, Article 109753. https://doi.org/10.1016/j.paid.2019.109753

Hammond, M. D., Cross, E. J., & Overall, N. C. (2020). Relationship (in)security is central to the sources and outcomes of sexist attitudes. *Social and Personality Psychology Compass, 14*, Article e12522.

Henderson, S., & Jeydel, A. S. (2013). *Women and politics in a global world*. Oxford University Press.

Ho, A. K., & Kteily, N. S. (2020). The role of group-based egalitarianism in collective action. *Current Opinion in Psychology, 35*, 108–113. https://doi.org/10.1016/j.copsyc.2020.05.009

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*, 1–55. https://doi.org/10.1080/10705519909540118

Huddy, L., Cassese, E., & Lizotte, M. K. (2008). Gender, public opinion, and political reasoning. In C. Wolbrecht, K. Beckwith, & L. Baldez (Eds.), *Political Women and American Democracy.* Cambridge University Press.

Inglehart, R., & Norris, P. (2000). The developmental theory of the gender gap: Women's and men's voting behavior in global perspective. *International Political Science Review, 21*(4), 441–463. https://doi.org/10.1177/0192512100214007

International Alert (2023). *Breaking the gender trap: Challenging patriarchal norms to clear pathways for peace*. Retrieved from https://www.international-alert.org/app/uploads/2023/05/Gender-Trap-Patriarchal-Norms-EN-2023.pdf

Jennings, M. K. (1983). Gender roles and inequalities in political participation: Results from an eight-nation study. *Western Political Quarterly, 36*(3), 364–385. https://doi.org/10.1177/106591298303600304

Jennings, M. K., et al. (1989). The crystallization of orientations. In M. K. Jennings & J. van Deth (Eds.), *Continuities in political action* (pp. 313–348). Walter de Gruyter.

Jennings, M. K., Stoker, L., & Bowers, J. (2009). Politics across generations: Family transmission reexamined. *The Journal of Politics, 71*, 782–799. https://doi.org/10.1017/S0022381609090719

Jost, J. T., & Kay, A. C. (2005). Exposure to benevolent sexism and complementary gender stereotypes: Consequences for specific and diffuse forms of system justification. *Journal of Personality and Social Psychology, 88*(3), 498–509. https://doi.org/10.1037/00223514.88.3.498

Karp, J. A., & Brockington, D. (2005). Social desirability and response validity: A comparative analysis of overreporting voter turnout in five countries. *The Journal of Politics, 67*(3), 825–840. https://doi.org/10.1111/j.1468-2508.2005.00341.x

Kerr, P. S., & Holden, R. R. (1996). Development of the gender role beliefs scale (GRBS). *Journal of Social Behavior and Personality, 11*(5), 3.

Kittilson, M. C. (2016). Gender and political behavior. *In Oxford Research Encyclopedia of Politics*. https://doi.org/10.1093/acrefore/9780190228637.013.71

Kittilson, M. C., & Schwindt-Bayer, L. (2012). The gendered effects of electoral institutions: Political engagement and participation. *Oxford University Press*. https://doi.org/10.1093/acprof:oso/9780199608607.001.0001

Kosakowska-Berezecka, N., Bosson, J. K., Jurek, P., Besta, T., Olech, M., Vandello, J. A., Bender, M., Dandy, J., Hoorens, V., Jasinskaja-Lahti, I., Mankowski, E., Venäläinen, S., Abuhamdeh, S., Agyemang, C. B., Akbaş, G., Albayrak-Aydemir, N., Ammirati, S., Anderson, J., Anjum, G., … Żadkowska, M. (2022). Gendered self-views across 62 countries: A test of competing models. *Social Psychological and Personality Science*. https://doi.org/10.1177/19485506221129687

Kostelka, F., & Blais, A. (2021). The generational and institutional sources of the global decline in voter turnout. *World Politics, 73*(4), 629–667. https://doi.org/10.1017/S0043887121000149

Kray, L. J., Howland, L., Russell, A. G., & Jackman, L. M. (2017). The effects of implicit gender role theories on gender system justification: Fixed beliefs strengthen masculinity to preserve the status quo. *Journal of Personality and Social Psychology, 112*(1), 98–115. https://doi.org/10.1037/pspp0000124

Kunst, J. R., Fischer, R., Sidanius, J., & Thomsen, L. (2017). Preferences for group dominance track and mediate the effects of macro-level social inequality and violence across societies. *Proceedings of the National Academy of Sciences of the United States of America, 114*(21), 5407–5412. https://doi.org/10.1073/pnas.1616572114

Larsen, K. S., & Long, E. (1988). Attitudes toward sex-roles: Traditional or egalitarian? *Sex Roles, 19*, 1–12. https://doi.org/10.1007/BF00292459

Levant, R. F., Hall, R. J., & Rankin, T. J. (2013). Male role norms inventory-short form (MRNI-SF): Development, confirmatory factor analytic investigation of structure, and measurement invariance across gender. *Journal of Counseling Psychology, 60*(2), 228–238. https://doi.org/10.1037/a0031545

Lever, A. (2010). Compulsory voting: A critical perspective. *British Journal of Political Science, 40*(4), 897–915. https://doi.org/10.1017/S0007123410000050

Lomazzi, V., & Seddig, D. (2020). Gender role attitudes in the international social survey programme: Cross-national comparability and relationships to cultural values. *Cross-Cultural Research, 54*(4), 398–431. https://doi.org/10.1177/1069397120915454

Luyt, R. (2015). Beyond traditional understanding of gender measurement: The gender (re)presentation approach. *Journal of Gender Studies, 24*, 207–226. https://doi.org/10.1080/09589236.2013.824378

Major, B., & Kaiser, C. R. (2017). Ideology and the maintenance of group inequality. *Group Processes & Intergroup Relations, 20*(5), 582–592. https://doi.org/10.1177/1368430217712051

Marsh, H. W., Guo, J., Parker, P. D., Nagengast, B., Asparouhov, T., Muthén, B., & Dicke, T. (2018). What to do when scalar invariance fails: The extended alignment method for multi-group factor analysis comparison of latent means across many groups. *Psychological Methods, 23*(3), 524–545. https://doi.org/10.1037/met0000113

Mayer, J. D., & Schmidt, H. M. (2004). Gendered political socialization in four contexts: Political interest and values among junior high school students in China, Japan, Mexico, and the United States. *The Social Science Journal, 41*(3), 393–407. https://doi.org/10.1016/j.soscij.2004.04.024

McDermott, M. L. (2016). Masculinity, femininity, and American political behavior. *Oxford University Press*. https://doi.org/10.1093/acprof:oso/9780190462802.005.0005

Mîndrilã, D. (2010). Maximum likelihood (ML) and diagonally weighted least squares (DWLS) estimation procedures: A comparison of estimation bias with ordinal and multivariate non-normal data. *International Journal of Digital Society, 1*(1), 60–66.

Napier, J. L., Suppes, A., & Bettinsoli, M. L. (2020). Denial of gender discrimination is associated with better subjective well-being among women: A system justification account. *European Journal of Social Psychology, 50*(6), 1191–1209. https://doi.org/10.1002/ejsp.2702

Noordzij, K., De Koster, W., & Van der Waal, J. (2021). The micro–macro interactive approach to political trust: Quality of representation and substantive representation across Europe. *European Journal of Political Research, 60*(4), 954–974. https://doi.org/10.1111/1475-6765.12436

Nunnally, J., & Bernstein, I. (1994). *Psychometric theory*. McGraw-Hill.

Osborne, D., Jost, J. T., Becker, J. C., Badaan, V., & Sibley, C. G. (2019). Protesting to challenge or defend the system? A system justification perspective on collective action. *European Journal of Social Psychology, 49*(2), 244–269.

Pew Research Center (2021). https://www.pewresearch.org/fact-tank/2020/11/03/in-past-elections-u-s-trailed-most-developed-countries-in-voter-turnout/

R Core Team. (2022). R: A language and environment for statistical computing (Version 4.2.2) [Computer software]. R Foundation for Statistical Computing. https://www.R-project.org

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods*. London: Sage.

Schneider, M. C., & Bos, A. L. (2019). The application of social role theory to the study of gender in politics. *Political Psychology, 40*(S1), 173–213.

Sibley, C. G., Wilson, M. S., & Duckitt, J. (2007). Antecedents of men's hostile and benevolent sexism: The dual roles of social dominance orientation and right-wing authoritarianism. *Personality and Social Psychology Bulletin, 33*(2), 160–172. https://doi.org/10.1177/0146167206294745

Sidanius, J., & Pratto, F. (2001). Social dominance: An intergroup theory of social hierarchy and oppression. *Cambridge University Press*. https://doi.org/10.1017/CBO9781139175043

Silva-Leander, A. (2022). Gender equality and the summit for democracy. https://www.idea.int/news-media/news/gender-equality-and-summit-democracy

Smets, K., & Van Ham, C. (2013). The embarrassment of riches? A meta-analysis of individual-level research on voter turnout. *Electoral Studies, 32*(2), 344–359. https://doi.org/10.1016/j.electstud.2012.12.006

Stockemer, D., & Sundstrom, A. (2023). The gender gap in voter turnout: An artefact of men's over-reporting in survey research? *The British Journal of Politics and International Relations, 25*(1), 21–41. https://doi.org/10.1177/13691481211056850

Sudkämper, A., Ryan, M. K., Kirby, T. A., & Morgenroth, T. (2020). A comprehensive measure of attitudes and behaviour: Development of the support for gender equality among men scale. *European Journal of Social Psychology, 50*(2), 256–277. https://doi.org/10.1002/ejsp.2629

Twenge, J. M. (1997). Attitudes toward women, 1970–1995: A meta-analysis. *Psychology of Women Quarterly, 21*(1), 35–51. https://doi.org/10.1111/j.1471-6402.1997.tb00099.x

UNDP (United Nations Development Program). (2018). 2018 Statistical Update: Human Development Indices and indicators. https://hdr.undp.org/content/statistical-update-2018

UNDP (United Nations Development Programme). (2023). Gender Inequality Index. https://hdr.undp.org/data-center/thematic-composite-indices/gender-inequality-index#/indicies/GII

UNDP (United Nations Development Programme). (2025). *Human development report 2025: A matter of choice: People and possibilities in the age of AI* (Statistical Annex: HDI Trends Table). United Nations Development Programme. https://hdr.undp.org/content/human-development-report-2025

United Nations. (2025). *Gender Equality Acceleration Plan progress report 2025*. UN Women. https://www.un.org/sites/un2.un.org/files/2025/03/sg_geap_progress_report.pdf

Valentova, M. (2016). How do traditional gender roles relate to social cohesion? Focus on differences between women and men. Social Indicators Research, 127, 153–178. https://doi.org/10.1007/s11205-015-0961-2

UNDP (United Nations Development Program). (2019). Human Development Report. https://hdr.undp.org/en/content/human-development-report-2019

van de Schoot, R., Lugtig, P., & Hox, J. (2012). A checklist for testing measurement invariance. *European Journal of Developmental Psychology, 9*, 486–492. https://doi.org/10.1080/17405629.2012.686740

Verba, S., Burns, N., & Schlozman, K. L. (1997). Knowing and caring about politics: Gender and political engagement. *Journal of Politics, 59*, 1051–1072. https://doi.org/10.2307/2998592

Verba, S., Nie, N. H., & Kim, J. O. (1979). *Participation and political equality: A seven-nation comparison*. Cambridge University Press.

Weiner, E., & Federico, C. M. (2017). Authoritarianism, institutional confidence, and willingness to engage in collective action: A multinational analysis. *Personality and Social Psychology Bulletin, 43*(3), 392–406. https://doi.org/10.1177/0146167216686561

Wolak, J. (2020). Self-confidence and gender gaps in political interest, attention, and efficacy. *The Journal of Politics, 82*(4), 1490–1501. https://doi.org/10.1086/708644

Wolbrecht, C., & Campbell, D. E. (2007). Leading by example: Female members of parliament as political role models. *American Journal of Political Science, 51*(4), 921–939. https://doi.org/10.1111/j.1540-5907.2007.00289.x

Wolbrecht, C., & Corder, J. (2020). Turning rights into ballots: The uneven integration of women into electoral politics after suffrage. *Political Science and Politics, 53*(3), 479–483. https://doi.org/10.1017/S104909652000027X

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