Humanities and Social Sciences Communications

Article in Press

https://doi.org/10.1057/s41599-026-06616-2

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Received: 18 June 2024

Accepted: 26 January 2026

Cite this article as: Huang, Q. Identifying gender inequalities in pathways to political participation: a large-N QCA framework. *Humanit Soc Sci Commun* (2026). https://doi.org/10.1057/s41599-026-06616-2

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Identifying gender inequalities in pathways to political participation: a Large-N QCA framework

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Abstract

Do female and male youths in the United States follow different modal pathways to voting participation? If so, do these differences reflect gender inequalities? This paper seeks to answer these questions by employing a large-N Qualitative Comparative Analysis (QCA) of youth voting patterns in the 1972 presidential elections. The study specifically probes how four explanatory factors, namely family socioeconomic status, college education, political socialization, and voluntarism, combine in distinct ways to contribute to the category of politically active youths. The investigation of this category uncovers three aspects of gender inequalities in voting participation: a greater degree of difficulty in the pathways for female youths, a lack of diversity among politically active female youths, and a trend of political inactivity among socially disadvantaged female youths. The findings from the 2004 and 2012 presidential elections suggest that gender inequalities persist even today, despite female youths achieving significantly higher turnout levels than male youths. Compared to their male counterparts, contemporary female youths must and do overcome more challenges to engage in voting. This paper concludes by considering how future applications of large-N QCA could help identify inequalities in political participation for other groups and in other contexts.

INTRODUCTION

In the 1972 U.S. presidential election, the incumbent Republican Richard Nixon defeated Democratic Senator George McGovern. Youth voter turnout (ages 18 to 24) exceeded 49.6%, a historically high level that was not surpassed until the 2020 election when Joseph Biden defeated Donald Trump. Notably, the 1972 election also marked a significant milestone as the female youth turnout rate exceeded that of male youths for the first time.[1] If gender equality were assessed solely on participation levels, this reversal could suggest that gender parity was achieved starting with the 1972 election (Kostelka, Blais, and Gidengil 2019).

However, focusing exclusively on participation outcomes does not provide insight into the processes by which female and male youths arrived at the decision to vote in the 1972 election. This paper examines the main pathways followed by female and male youths to achieve voting participation, revealing gender inequalities that are concealed when considering only participation outcomes. Specifically, it suggests that female youths faced more hurdles and had to mobilize more resources than male youths to participate in the election.

The classic theory of resource mobilization explains these hurdles from structural viewpoints, such as female youths' lack of access to higher education and organizational support (McAdam 1982; McCarthy and Zald 1977; Tilly 1978). In contrast, the philosophical theory of capabilities emphasizes non-structural factors such as gender-biased culture and socialization that hinder

[1] In the 1972 election, adult male turnout rates surpassed those of adult females (64.1% versus 62%). However, in the same election, female youths had a slightly higher turnout rate than their male counterparts (50% versus 48.8%). This represents a shift from the 1968 election, where the percentage of female youths who voted was almost equivalent to that of male youths. Since 1968, female youths have consistently recorded higher turnout rates than male youths. In the 2020 election, for instance, 53.9% of female youths voted compared to 49% of male youths. These figures are derived from the Voting and Registration data provided by the United States Census Bureau.

female youths' participation (Nussbaum 2000, 2003; Sen 1992, 1995). This paper argues that favorable non-structural factors, such as empowering socialization, can also be seen as resources, especially for women, offering the first evidence-based evaluation of the interactions between structural and non-structural resources in the gendered processes of political participation. It contends that more non-structural resources need to be mobilized to foster women's political participation in addition to structural resources.

This paper revisits four of the most-studied structural and non-structural explanations of political participation: (1) socioeconomic factors (Brady, Verba, and Schlozman 1995; Lane 1959; Paulsen 1991; Rosenstone 1982); (2) educational factors (Kam and Palmer 2008; Milbrath 1965; Nie, Junn, and Stehlik-Barry 1996; Wolfinger and Rosenstone 1980); (3) political socialization factors (Andersen 1975; Campbell et al. 1960; Jennings and Niemi 1981; Sherkat and Blocker 1994); and (4) voluntarist factors (Gallego and Oberski 2012; Gerber et al. 2011; Mondak et al. 2010; Wolbrecht and Corder 2020). It seeks to understand how these four structural and non-structural explanations might interact in potentially distinctive ways for female and male youths, leading to voting participation (Dassonneville and Kostelka 2021; Stauffer and Fraga 2022).

Using a panel dataset on American youths from the late 1960s and early 1970s, this study identifies the modal pathways that led individuals to vote in the 1972 election. Regression results indicate that the effects of these four factors on political participation vary by gender (Beck and Jennings 1974, 1982), but these heterogeneous results do not directly expose potential gender inequalities that may result from high-level interactions among the variables. In response, a large-N Qualitative Comparative Analysis (QCA) has been conducted based on these four factors (Arel-Bundock 2019; Huang 2025; Oana, Schneider, and Thomann 2021; Ragin 2008; Rutten 2020; Schneider and Wagemann 2012). This configurational approach helps summarize the modal

pathways to voting participation followed by female and male youths. In turn, the differences in these pathways allow for new theoretically informed reflections on gender inequality.

Specifically, the distinct modal pathways for political engagement among female versus male youths reveal three facets of gender inequality. First, the pathways for female youths are consistently more demanding and strenuous than those for male youths. More specifically, the female youth pathways often require an extra favorable condition that is not required in the male youth pathways. Second, there is a scarcity of social contexts empowering female youths to vote; several social configurations sufficient for facilitating male youths' voting participation are unavailable to their female counterparts. Voting participation is primarily accessible to the most socially advantaged female youths, thereby highlighting a lack of diversity among *politically active female youths*. Finally, the gender gap is most pronounced among socially disadvantaged youths; socially disadvantaged female youths, in particular, have the most difficult road to voting participation due to multiple barriers stemming from both gender biases and challenges related to their unfavorable socioeconomic and educational backgrounds. These three facets of gender inequality challenge any notion that female youth's higher voter turnout in presidential elections signals the end of gender inequality in political participation in the United States.

These findings contribute to the literature on political participation and gender inequality. First, they demonstrate how research on pathways to voting participation can serve as a valuable complement to studies focused on levels of voting participation. Many projects examine the four explanatory factors considered here using quantitative methods designed to understand the individual difference-making effects of each factor for voting and other kinds of political participation (Burns, Schlozman and Verba 2001; Manza and Brooks 1998). In contrast, this paper offers a configurational-effects analysis of these four factors aimed at describing and

understanding pathways to voting and participation. It offers new ideas about how scholars should think about the role of structural and non-structural factors and their complex interactions in generating voting, by integrating resource mobilization theory with the capabilities approach (McCarthy and Zald 1977; Nussbaum 2003).

Second, this paper advances gender studies by revealing how gender inequalities persist in youth voting participation pathways, despite higher turnout rates among female youths. It uncovers that female youths face more complex and demanding pathways to political engagement compared to their male counterparts, requiring additional structural and non-structural resources. Building upon theories of gendered political socialization (Fox and Lawless 2014; Sapiro 1983) and intersectionality (Crenshaw 1989), the paper demonstrates how structural disadvantages and gender biases intersect to create significant barriers for female youths, especially those from marginalized backgrounds.

Beyond these substantive contributions, this study advances the methodological application of configurational-effects analysis through QCA. It develops new approaches to identifying differences and inequalities across gender, racial, and socioeconomic groups by examining the number of conditions in configurations, the diversity of configurations, and disparities in "consistency" levels across configurations (Ragin and Fiss 2017). Additionally, it incorporates data from the 2004 and 2012 presidential elections to provide suggestive evidence that gender inequalities in political participation have persisted over time. The paper concludes with policy recommendations for addressing these inequalities in the future.

RESOURCES AND GENDER INEQUALITIES

The classic theory of resource mobilization emphasizes the importance of resources such as money, time, and organizational support in enabling political participation. It suggests that individuals with access to these essential resources are more inclined to engage in political activity (McAdam 1982; McCarthy and Zald 1977; Tilly 1978). Structural factors such as family socioeconomic status and higher education influence youths' access to these resources. However, this approach tends to overlook the non-structural aspects of political participation, which are deeply embedded in political socialization and culture, by overemphasizing structural resource determinants.

In contrast, the capabilities approach, developed by scholars such as Amartya Sen (1992, 1995) and Martha Nussbaum (2000, 2003), focuses on non-structural resources that enable political participation. This theory highlights the importance of individuals' capabilities to form critical ideas on political issues and to develop affiliations with social groups. In her seminal work *Women and Human Development*, Nussbaum (2000) underscores the necessity of cultivating women's capabilities to participate in political life, in addition to providing them with structural resources. The cultivation process is argued to be highly gendered and should focus on the provision of non-structural resources such as social values supporting women's rights and political socialization encouraging women's participation.

Therefore, this paper adopts an integrated theory of resources by examining the effects of both structural and non-structural resources in fostering youth's political participation, combining both the classic theory of resources with the capabilities approach. Specifically, it aims to provide data-driven evidence by examining the interplay between structural resources, such as family socioeconomic background and educational attainment, and non-structural resources, such as

strong political opinions and socialization. By doing so, the study develops a three-faceted framework of gender inequalities in voting participation, providing fresh evidence that the development of capabilities in the political realm is a gendered process, as Nussbaum (2000) suggests.

Structural Resources

Political scientists have identified high family socioeconomic status and college education as important structural resources facilitating individuals' voting participation (Mohai 1992; Paulsen 1991; Welch 1977). Family socioeconomic status can affect youth voting participation in two primary ways. First, the economic theory of democracy suggests that individuals, being rational entities, weigh the costs and benefits of political participation (Downs 1957). Higher socioeconomic status individuals are more likely to engage in politics as they have a larger stake in the economy and society, and meanwhile the costs of voting and small campaign contributions do not impose significant financial burdens. Consequently, individuals from higher socioeconomic backgrounds, facing low costs and high benefits, are more likely to participate (Cho 1999). Second, the values and norms associated with social classes matter. Individuals from higher socioeconomic backgrounds, possessing rich social capital, tend to have a higher level of political efficacy, believing they can comprehend and influence social and political issues (Paulsen 1991). This belief encourages their political participation.

Education-based theories assert that higher education is a crucial resource that facilitates youth voting participation for three primary reasons. First, it equips youths with the cognitive skills needed to understand political and social issues and provides them with communication and

organizational skills necessary for political participation (Campbell et al.1960; Kam and Palmer 2008; Verba, Schlozman, and Brady 1995; Wolfinger and Rosenstone 1980). Second, colleges typically weave students into vast and close social networks where peers' opinions and behaviors influence each other. The propensity for political participation can spread through these social networks (Biggs 2005; Granovatter 1978), compelling students to vote or protest when their peers are expected to do the same. Lastly, higher education indirectly impacts political participation by enabling individuals to secure jobs, earn a stable income, and maintain or improve their socioeconomic status (Nie, Junn, and Stehlik-Barry 1996). In this respect, higher education influences voting participation in a similar manner to family socioeconomic backgrounds.

Non-Structural Resources

In the face of social injustice, self-determination becomes a crucial non-structural resource for female youths to engage politically. Confronted with systemic barriers and discrimination, a strong sense of self-determination can enable female youths to overcome obstacles and persist in their political engagement pursuits. This self-determination might be expressed in various ways, such as forming strong opinions on social issues and engaging in activism. Evidence suggests a positive correlation between holding strong opinions and voting participation (Gerber et al. 2011; Mondak and Halperin 2008). This effect might be more potent for female youths, as male participation in politics is often seen as a given, with males facing fewer social and cultural challenges to political participation than females.

Political socialization scholars suggest that female youths are often socialized to be less politically active than their male counterparts (Andersen, 1975; Campbell et al. 1960;

Dassonneville and McAllister 2018; Jennings and Niemi 1981; Mohai 1992; Sherkat and Blocker 1994; Stoker and Bass 2011). These scholars hypothesize that female youths participate less due to the prevailing gender biases and stereotypes in primary socialization arenas, such as family, peer groups, schools, and churches. Comprehensive studies on youth political socialization highlight that family and peer groups are among the most influential factors in the political socialization process (Jennings and Niemi 1974). Consequently, a supportive family and peer network are vital in fostering female youth voting participation, though these resources can be challenging to secure.

A family supportive of female youths often involves a politically interested mother. The socialization roles of mothers and fathers have been debated extensively in literature. Some studies treat mothers and fathers as a single parental unit and examine the cumulative influence on youths' political participation (Janoski and Wilson 1995; Sherkat and Blocker 1994). However, other studies suggest mothers and fathers exert diverse influences, with different intergenerational effects depending on the parent-child gender combination (Beck and Jennings 1975; Trevor 1999). This heterogeneity might stem from the varying political values and participation levels of fathers and mothers, or the tendency of youths to adopt different family members as role models. For instance, politically active mothers might inspire and empower female youths more than politically active fathers.

Supportive peer networks for political engagement are not as readily available for female youths as for male youths. Existing literature demonstrates that peer groups significantly influence youth political orientations and behaviors (Jennings and Niemi 1974). Higher levels of socialization with friends during adolescence correlate positively with increased political participation in adulthood (Jennings and Niemi 1974). However, limited literature explores

whether this influence varies between female and male youths. It is plausible that female and male youths have distinct socialization experiences within their peer groups, given that gender biases and stereotypes originating at home can pervade peer groups (Witt 2006). Female youths might often be excluded from political discussions, reflected in their lesser frequency of political conversations with friends compared to male youths. Even when included, these discussions might reinforce gender biases and assert male dominance in politics. Consequently, female youths face greater challenges in accessing supportive peer networks that encourage political participation.

Three Facets of Gender Inequality in Voting Participation

Combining structural and non-structural resources into an integrated theory allows for an analysis of how their interaction influences youths' political participation, leading to the theorization of three facets of gender inequality discussed in this section. This integrated theory of resources is also an integrated theory of structure and agency: while structural resources often constrain human behaviors, they do not fully determine them; at times, human agency can enable individuals to overcome structural disadvantages (Mahoney and Snyder 1999).[2] A configurational effect is therefore expected: some youths who lack high family socioeconomic status or have not attended college can still be politically active if non-structural resources, such as socialization among friends, are favorable to them. Under which contexts do these configurational effects operate? Do these effects vary across genders?

[2] A typical thesis of structuralism suggests that human behaviors are determined by economic factors and social status, which cannot be easily changed by individuals (Janos 1986). The non-structural antithesis, on the contrary, emphasizes the role of agency in guiding human behaviors. There is significant analytical space for an integrated theory of structure and agency suggested by this paper (Mahoney and Snyder 1999).

This paper examines the interactions between structural and non-structural resources in the gendered process of political participation. It suggests that female youths' voting participation typically requires more resources than male youths' participation, especially non-structural resources. Female youths often need additional non-structural resources to surmount structural barriers that discourage them from engaging in politics. Thus, gender provides an important context to understand the interplay between structural and non-structural resources in shaping political participation. In other words, gender conditions the configurational effects of agentic factors when structural factors are lacking.

Specifically, as summarized in Figure 1, this article argues that the interplay between structural and non-structural resources implies three aspects of gender inequalities in voting participation. The first facet concerns the more strenuous pathway to voting for female youths. This aspect of gender inequalities suggests that female youths often need more resources, whether structural or non-structural, to become politically active, owing to additional challenges they may encounter when exercising their right to vote, such as insufficient access to transportation or childcare (Stoker and Jennings 1995). These hurdles can make voting more challenging for females compared to males. Consequently, females frequently need extra resources and support to match the political activity levels of males. Hence, *politically active female youths* are often those who have mobilized more resources and successfully navigated more demanding pathways than their counterparts.

This first aspect results in a lack of diversity in the social contexts where female youths can become politically active, constituting the second facet of gender inequalities in voting participation. Some social contexts that provide different structural and non-structural resources

are conducive to male youths' voting but not to female youths. This can engender a perception that *politically active female youths* are largely similar. As female youths require more propitious social conditions to participate in politics, *politically active female youths* are likely a homogenous group of socially advantaged individuals, such as well-educated females. Conversely, *politically active male youths* are not as homogenous as females, given that they do not require as many resources. They encompass a broad spectrum of politically active males, including socially disadvantaged males, such as those less educated male youths, who can also find a way to become politically active (Schlozman, Burns, and Verba 1994).

The third facet of gender inequality refers to the most pronounced gender gap among socially disadvantaged youths, whose structural and non-structural resources are most limited. The most disadvantaged female youths grapple with multiple forms of marginalization and discrimination, due to both their gender and additional socioeconomic disadvantages such as low family income and limited education. These hurdles restrict their access to resources and opportunities, making them the least likely group to be politically active. This facet is inherently linked to intersectional disadvantages in political participation, which posits that women with multiple marginalized identities, such as black women, confront the most significant challenges in their political experiences (Crenshaw 1989). Although this article cannot test these intersectional effects among female youths in political participation due to data limitations, it underscores the significance of studying the amalgamation of multiple unfavorable conditions leading to the political inactivity of disadvantaged female youths.

Figure 1 about here

DATA AND METHODS

This paper uses the Youth-Parent Socialization Panel Data (1965-1973) to explain American youths' voting participation in the 1972 presidential election. This survey data was collected by Jennings and Niemi (1982) in two waves. In 1965, 1,669 high school senior students were interviewed. This dataset is ideal for our research design for three reasons. First, unlike other datasets, the Youth-Parent Socialization Panel Data is among the very few datasets that provide information for all four major explanatory factors and the outcome: family socioeconomic backgrounds, educational attainment, socialization, personality, and voting participation. Second, the panel data were collected at two points in time, with explanatory variables gathered first and outcome variables collected years later. As a result, the data are not subject to problems of reverse causality that can arise from single-wave data collection (Morgan and Winship 2007). Third, these 1,669 senior students were randomly selected from a national probability sample of 97 public and non-public high schools in the U.S. With such a representative national sample, the analysis and results presented in this article are likely to have broad implications for understanding gender disparities in voting participation among American youths in the 1960s and 1970s.

To examine gender inequalities in voting participation, the sample of American youths is split into two sub-samples: female youths and male youths. Regression analysis is conducted using both structural and non-structural factors to predict youths' voting in the two sub-samples. By comparing their results, this paper aims to reveal how these factors affect female and male youths' voting differently. However, regression analysis cannot provide insights into the pathways to voting for female and male youths, let alone gender inequalities embedded in these pathways. Therefore, the main analytical tool used in this paper is QCA, which has been used by Ragin and Fiss (2017) to study racial inequalities in avoiding poverty.

Robustness tests and cluster diagnostics are also conducted (Dusa 2019; Oana and Schneider 2021; Skaaning 2011). When conducting QCA analysis, scholars must decide on the calibration crossover point, the consistency threshold, and the frequency cut-off. One might wonder whether the conclusions would change if slight adjustments were made to these thresholds. Two sets of robustness tests were conducted: one for the consistency threshold and one for the frequency cut-off. This paper also assesses whether the results are robust when the threshold and cut-off simultaneously change by calculating the robustness fit parameters developed by Oana and Schneider (2021).

No robustness tests on calibration crossover points are conducted because most of the original variables used in this paper are binary or ordinal with fewer than three possible outcomes. For example, youths reported that they attended college or not. Two sets of robustness tests are conducted: for the threshold of consistency and the frequency cut-off. These scholars also provide tools for performing cluster diagnostics. American youths in this project were randomly selected from their high schools. For this reason, cluster diagnostics are conducted to check whether the results hold across different high schools.

In the regression analysis, the language of variable measurement and correlations is used to present empirical information. For QCA analysis, the language of set calibration and set relationship is used to describe the research design and results (Goertz and Mahoney 2012). To calibrate sets for QCA, each case is categorized as in or out of the boundary of the concepts under study. If a case is fully in the boundary, it receives a set-membership value of 1; otherwise, it receives a value of 0. Partial membership is possible with the analysis of fuzzy sets (Ragin 2008; Schneider and Wagemann 2012). However, crisp sets are adopted in this project because the

original variables in the survey had fewer than three outcomes, which makes fuzzy set calibration almost impossible. Details on set calibration can be found in Appendix 1.

QCA researchers are always concerned when a calibrated set does not reflect the heterogeneity of the cases (Oana, Schneider, and Thomann 2021; Schneider and Wagemann 2012). Additionally, if a condition is highly skewed (for example, if it is present in 99% of the cases), its empirical importance is trivial. It is difficult to interpret the set-theoretic relationship between a trivial condition and the outcome because this condition is surely necessary to the outcome. Specifically, it is not desirable to have fewer than 20% of the cases either in or out of the sets (Oana, Schneider, and Thomann 2021). Therefore, a test for skewness on the calibrated sets is conducted on the calibrated sets. None of the seven calibrated sets are skewed according to this standard. Additionally, a series of necessity tests were conducted to determine the set relationship between these explanatory conditions and the outcome. These tests revealed that none of these conditions achieve a consistency parameter of fit higher than 0.80, let alone the 0.90 threshold of being a necessary condition (see Appendix 2 for detailed results).

RESULTS AND ANALYSIS

In this section, the regression results are presented first, indicating that the net-effects of structural and non-structural resources on voting participation vary across genders. Next, the QCA results show how the configurational effects of these structural and non-structural resources are embedded in the gendered process of participation, revealing various facets of gender inequalities. Specifically, the truth table results outline all possible configurations leading to politically active youths and highlight the second facet of gender inequalities. Finally, the QCA final pathways derived from the logical minimization of the truth table results shed light on the first facet of gender

inequalities. The third facet of gender inequalities is examined by analyzing the gender consistency gap in becoming politically active youths.

Heterogeneity in the Net-Effects

To examine whether structural and non-structural factors (specifically, socialization and voluntarist factors) have different net effects across genders, a series of logistic regressions are conducted to explain youths' voting in the 1972 presidential election. In each subsample by gender, the first model uses only non-structural factors as predictors, while the second model adds two structural factors: family socioeconomic status and college attendance. Based on existing literature and data availability, the third model incorporates as many background control variables as possible, including race, religion, number of siblings, parents' divorce, high school GPA, and political knowledge (Delli Carpini and Keeter 1996; Jennings, Stoker, and Bowers 2009; Nie, Junn, and Stehlik-Barry 1996; Tate 1991; Verba, Schlozman, and Brady 1995).

To reveal the potential heterogeneity of these factors' effects across genders, the results in female and male youth samples are compared. The regression results are presented in Table 1. In the subsample of male youths, only one out of four non-structural factors, namely socialization with friends, significantly influences whether male youths voted or not in Model 1. When adding two structural factors in Model 2 and six additional background control variables in Model 3, the initial significant effects of non-structural factors disappear. In other words, when controlling for structural factors, none of the non-structural factors are significantly correlated with male youths' voting. The initial correlation between non-structural factors and male youths' voting is spurious. College attendance remains the only significant predictor in Models 2 and 3, suggesting that male

youths who attended college are more likely to vote than their counterparts. Therefore, it appears that the socioeconomic structure, rather than socialization or voluntarism, primarily supplies resources and shapes the incentives, opportunities, and constraints that influence male youths' voting behavior.

Table 1. Logistic Regression Predicting Youths' Voting in 1972

	Male			Female		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Socialization Factors						
Socialization with Friends	0.19 **	0.12	0.14	-0.08	-0.14	-0.17*
Socialization in Family	0.09	-0.02	-0.05	0.60***	0.52**	0.55**
Voluntarist Factors						
Political Efficacy	0.12*	0.07	0.07	0.07	0.04	0.02
Strong Opinions	0.02	0.04	0.02	0.12	0.12	0.05
Structural Factors						
Family Socioeconomic Status		0.01	0.01		0.00	0.00
College Attendance		1.07***	1.16***		0.82***	0.67**
Other Control Variables	No	No	Yes	No	No	Yes
N	526	526	526	538	538	538
AIC	590.87	565.77	572.13	641.83	626.26	618.09
***** p ≤ .001, ** p ≤ .01, * p ≤ .05**						

In contrast, the net effects of socialization and voluntarist factors on female youths' voting remain statistically significant even after controlling for the structural factors and other background variables. Female youths' voting is positively correlated with the level of socialization in the family in both Models 2 and 3, while it is negatively correlated with the level of socialization with friends in Model 3. This evidence suggests that parents have generally encouraged their daughters to vote, while political conversations with friends might be discouraging for them. As the effect is only significant in Model 3 and not in Model 2, generalizations about socialization

should be made cautiously. Meanwhile, college attendance is a significant predictor of female youths' voting, just as it is for their male counterparts.

In summary, the results from the subsample analysis suggest that the effects of structural and non-structural factors on voting participation display substantial variation across genders. It appears that structural factors supply resources for male youths, whereas female youths require additional socialization and voluntarist factors to mobilize resources for voting participation. A regression analysis on the entire sample is also conducted, consisting of 1,064 female and male youths. The same six factors and their interactions with gender are employed to examine the statistical significance of these interactions. The results mirrored the subsample analysis: the interactions between being female and the non-structural factors significantly influenced the youths' likelihood of voting. (Please refer to Appendix 3 for more details.)

These net-effects regression analyses provide compelling empirical evidence that non-structural factors are more crucial for female youths than for male youths, despite the importance of structural factors for both. In other words, the results suggest that while favorable structural factors may be sufficient for predicting male youths' voting, they are not enough to predict female youths' voting unless paired with socialization and voluntarist factors. However, it is important to note that regression analysis primarily reveals correlational relationships between independent and dependent variables. To gain a deeper understanding of the interplay between structural and non-structural factors, a configurational-effects analysis using QCA is needed to identify potential gender inequalities embedded in different configurations and pathways.

Gender Inequalities Embedded in Configurations

QCA is a method of configurational-effects analysis that identifies conjunctural causation with the interaction of three to seven conditions in explaining an outcome (Ragin 2008). Causation in conjunctural settings, which differs from that in quantitative causal inference, implies that the presence of specific conditions in particular configurations produces an outcome. A single factor may not be sufficient or necessary to cause an outcome. Instead, it is the specific combination of factors that leads to the result. This approach acknowledges that the net effect of a particular factor, as used in typical (quasi-)experimental designs, may depend on the presence or absence of other factors. QCA has been famously used by Ragin and Fiss (2017) to identify racial inequalities in poverty avoidance. Similarly, this paper adopts QCA to examine gender inequalities in voting participation.

This study uses four-condition QCA models instead of including all six explanatory factors from the regression model, based on two considerations. First, a four-condition model is ideal for analyzing the subsamples, resulting in sixteen (2*2*2*2) logical configurations for around 500 cases. Each condition has two possible values, leading to 16 ways of combining these conditions. Adopting a five-condition model would produce 32 logical configurations, resulting in many configurations with no cases and leading to limited diversity issues, as discussed below. Too many rows in the truth table and too many conditions in the pathways also make interpreting the results challenging. Second, the paper aims to study the interplay between structural and non-structural conditions. Therefore, it is reasonable to consider two conditions from each category. Two methodologically operationalizable and theoretically meaningful structural conditions are identified from the 1972 dataset and are used throughout the regression and QCA analysis. Four non-structural conditions are identified: two for socialization and two for voluntarist factors. Consequently, adopting one from each group in the four-condition QCA models is appropriate.

In the main analysis that follows, the QCA model includes two structural resources—college attendance and high family socioeconomic status—and two non-structural resources—socialization with friends and strong opinions. QCA models incorporating the other two non-structural resources, socialization with family and political efficacy, produce results consistent with the main analysis and are presented in Appendices 4 and 6. This and the following sections offer evidence examining how the interplay between structural and non-structural resources reveals three facets of gender inequalities in political participation.

Table 2. Truth Table Analyses for *Politically Active Youths* (1972)

	Explanatory Conditions				Male Results		Female Results	
Rows	Family	College	Socialization	Opinions	Outcome	Consistency	Outcome	Consistency
1	0	0	0	0	0	0.53	0	0.57
2	0	0	0	1	0	0.54	0	0.58
3	0	0	1	0	0	0.60	0	0.50
4	0	0	1	1	0	0.54	0	0.45
5	0	1	0	0	0	0.71	0	0.72
6	0	1	0	1	0	0.78	0	0.75
7	0	1	1	0	1	0.92	0	0.53
8	0	1	1	1	1	0.83	0	0.67
9	1	0	0	0	?	0.86	?	0.75
10	1	0	0	1	?	0.75	0	0.75
11	1	0	1	0	?	0.50	?	1.00
12	1	0	1	1	?	0.50	?	1.00
13	1	1	0	0	1	0.84	1	0.85
14	1	1	0	1	1	0.85	1	0.91
15	1	1	1	0	1	0.95	?	0.71
16	1	1	1	1	1	0.93	1	0.84

The truth table analyses are presented in Table 2. Each row refers to a specific configuration of these four conditions, representing a particular type of American youths. For example, Configuration 1 represents American youths who come from a low socioeconomic family background, do not attend college, have a low level of socialization with friends, and do not hold strong opinions over political and social issues. Meanwhile, each configuration corresponds with

a consistency level of becoming *politically active youths*. Unsurprisingly, youths who belong to Configuration 1 have a very low consistency level and are not very likely to vote, regardless of gender. A configuration is identified as a sufficient combination for the positive outcome of 1 when its consistency level surpasses the threshold of 0.8 (Ragin, 2008). Therefore, there are six such configurations for male youths and only three for female youths. For configurations with an insufficient number of represented cases (less than 10% of total cases), their outcomes remain unclear, highlighted with a question mark in the table (Oana, Schneider, and Thomann, 2021). As suggested above, if five explanatory conditions were chosen for the QCA model, the number of rows would double, resulting in more rows with insufficient cases. Thus, four conditions instead of five or more are used.

Figure 2 about here

The two Venn diagrams in Figure 2 help visualize the truth tables. Each intersection of the four conditions in the diagrams represents one of the sixteen configurations in the truth tables. The numbering system is consistent, with Configuration 16 in Table 2, for example, corresponding to Intersection 16 in Figure 2. Therefore, Intersections 9, 10, 11, and 12, in the male Venn diagram, are left white because they represent too few youths to be reliably interpreted (the rows with a question mark in the truth table). Intersections 13, 14, and 16, in the female diagram, are shaded black because their scores pass the 0.80 threshold for being a sufficient configuration. The darkness of the shading reflects the extent to which a configuration is consistently sufficient for leading to *politically active youths*. For example, Intersection 16, in the male diagram, refers to

the situation when all four conditions are present. This configuration is consistent with being sufficient for membership in *politically active male youths* at the level of 0.90.

Figure 2 presents compelling evidence supporting the second aspect of gender inequalities discussed in Section 2. Compared to male youths, *politically active female youths* exhibit a higher level of homogeneity, evidenced by their three fewer configurations leading to political activity (Intersections 7, 8, and 15). In other words, in these three scenarios, female youths do not engage in voting activity as much as male youths, suggesting the presence of systemic barriers that limit the political participation of female youths to the same extent as their male counterparts. A plausible explanation could be the lack of support for female youths within peer networks, especially considering that all three configurations are subsets of the *socialization with friends* set. When socialization with friends is high, male youths often become politically active, a trend not mirrored by female youths. This finding underscores the necessity of scrutinizing gender inequalities inherent in socialization processes and peer networks.

Two crucial set-membership causal regularities emerge from this analysis (Mahoney and Acosta 2022).[3] First, the *college education* category (represented by the bottom left ellipse in each diagram) plays a significant role in all configurations leading to both politically active female and male youths. This finding underscores the pivotal role of higher education in explaining youth voting participation. Similarly, a high family socioeconomic status is a prevalent factor in all configurations leading to *politically active female youths* and in three out of five configurations

[3] This article refrains from making counterfactual causal claims in the manner of most (quasi-)experimental studies. Instead, it adopts the regularity theory of causality, which most QCA scholars implicitly endorse. As Mahoney and Acosta (2022) suggest, regularity causality relies on temporal order and constant conjunction. In this article, temporal order is established by the fact that voting behavior occurred several years after the background factors were measured. Constant conjunction is demonstrated by the QCA pathways passing the thresholds in the parameters of fit.

leading to *politically active male youths*. This reaffirms the importance of favorable structural conditions in fostering voting participation among both female and male youths, consistent with the regression results presented earlier.

Second, Configurations 7 and 8 consistently result in *politically active male youths* but not in *politically active female youths.* Intriguingly, these two configurations do not necessitate a high family socioeconomic status, which is a favorable structural condition. This evidence indicates that while male youths can engage politically without a high socioeconomic family background, female youths cannot. It further implies that the configurations leading to voting participation for female youths are more demanding than those for male youths, necessitating an additional favorable structural factor. This evidence reveals the gender inequalities inherent in these configurational effects of structural and non-structural resources.

Gender Inequalities Embedded in Final Pathways

The QCA analysis proceeds by logically minimizing the 16 sufficient configurations to produce final pathways for becoming *politically active youths*.[4] As shown in the truth tables and Venn diagrams, some sufficient configurations differ by just one category. For instance, Configurations 15 and 16 in the male diagram both lead to *politically active male youths*, but they vary based on the *strong opinions* condition. Configuration 16 implies that male youths become politically active when all four conditions coexist, while Configuration 15 suggests that political activity can still occur even when *strong opinions* is absent, provided the other three conditions

[4] This paper adopts the conservative approach of minimization instead of parsimonious or intermediate methods (See explanations in Appendix 10).

are met. Hence, *strong opinions* can be considered extraneous information and eliminated from this pair of configurations. This reduction process, known as logical minimization, generates combined rows and streamlined configurations that serve as the final pathways. These final pathways offer a more succinct understanding of the configurational relationships among the four explanatory factors and the major outcomes by providing evidence to reveal the three facets of gender inequalities in political participation that follow.

Table 3 Pathways for Becoming *Politically Active Youths* (1972)

Gender	Pathways	Conditions				Outcome Coverage	Unique Coverage
		High Family Socioeconomic Status	College Education	Socialization with Friends	Strong Opinions		
Male	M1	●	●			0.37	0.21
	M2		●	●		0.29	0.13
Female	F1	●	●	○		0.30	0.13
	F2	●	●		●	0.25	0.08

● condition
○ the negation of the condition

The four final pathways in Table 3 are produced by logically minimizing the above truth table results. Each pathway takes one row in the tables. The "Conditions" section in each row specifies the ingredients of the particular pathway. Adopting the classic QCA presentation, black circles indicate the presence of a condition, while white circles represent its absence (Claude 2019). Each pathway is assigned a unique code. A consistency threshold of 0.80 is used to identify sufficiency relationships (Oana, Schneider, and Thomann 2021; Ragin 2008; Schneider and Wagemann 2012). The coverage parameters of fit help to specify the empirical trivialness of the sufficiency relationship.

Table 3 provides two pieces of evidence that resonate with the previous truth table analysis. First, the condition of *socialization with friends* appears in Pathway M2 for male youths, while the

negation of this condition appears in Pathway F1 for female youths. This evidence might suggest that frequent conversations in high school were an important factor leading to *politically active male youths*, while frequent conversations hindered the development of *politically active female youths*. The result might imply that political socialization with friends had an enabling effect on voting participation among male youths, while it had a blocking effect among female youths. This result aligns with the regression analysis showing that frequent conversations with friends in high school tend to be negatively associated with female youths' participation.

Second, the results suggest that non-structural factors are more important to female youths. On one hand, the set of *strong opinions* is a significant condition in female youths' modal pathway to voting participation, but this condition does not hold the same importance in the corresponding pathways for male youths. This condition is present in Pathway F2 for female youths, while it does not appear in any of the two pathways to *politically active male youths*. On the other hand, there is no presence of any non-structural factor in Pathway M1 for male youths, while both pathways for female youths require the presence of a non-structural factor. More evidence will be presented to support this conclusion in what follows.

Importantly, these four final pathways further reveal gender inequalities in voting participation, as suggested by the first aspect of gender inequalities. Female youths engage in politics through more demanding pathways than male youths. Typically, both pathways for male youths necessitate the presence of two favorable conditions, while those for female youths require three. Specifically, Pathway M1 for male youths and Pathways F1 and F2 for female youths share two common conditions: *high family socioeconomic status* and *college education*. However, the female pathways demand an additional favorable condition: either the presence of strong opinions (F2) or limited socialization with friends (F1). These strenuous pathways for female youths

indicate a gendered political process, suggesting that female youths need to mobilize more resources, either structural or non-structural, to become politically active.

To validate these findings, two additional four-condition QCA analyses are conducted, replacing *socialization with friends* with *socialization in family*, and replacing *strong opinions* with *political efficacy*. The new Venn diagrams and final pathways demonstrate the same patterns of gender inequality as identified in the current model (see Appendix 4 and 6). In the new Venn diagrams, male youths have three additional configurations for becoming politically active, in addition to the four shared configurations with female youths.

Even if the results in Table 3 alone do not provide sufficient evidence that non-structural factors are more important for female youths and that their pathways are more demanding, the additional two models demonstrate the same pathway patterns as the current model. To illustrate, an additional model's pathway is presented in Table 4. On the one hand, the pathways for male youths require two favorable conditions, while those for female youths necessitate three across all QCA models. On the other hand, all resulting pathways for females require additional non-structural factors, whereas some pathways for males do not. These results also align with the regression analysis, where none of the non-structural factors have significant effects on male youths' participation, but two of them do on female youths' participation.

Table 4 Pathways for Becoming *Politically Active Youths* (Socialization in the Family)

Gender	Pathways	Conditions				Outcome Coverage	Unique Coverage
		High Family Socioeconomic Status	College Education	Socialization in the Family	Strong Opinions		
Male	M2	●	●			0.37	-
Female	F1	●	●	●		0.13	0.04
	F2	●	●		●	0.25	0.16

● condition
○ the negation of the condition

When studying racial inequalities in poverty avoidance, Ragin and Fiss (2017) proposed an innovative method to reveal inequalities using the racial consistency gap in poverty avoidance. Mirroring their approach, Table 4 displays the gender consistency gap in becoming *politically active youths*. The results suggest a positive gender consistency gap in the first five configurations, while a negative gap exists in the last two. Upon averaging the gender gaps for two, three, and four advantages, the results show that the more favorable conditions in a configuration, the smaller the gender gap. When few favorable conditions are available, male youths can become politically active, but female youths cannot. Conversely, when both female and male youths have all four favorable conditions, female youths can even surpass male youths in political activity.

These findings reveal a third facet of gender inequalities, suggesting that socially disadvantaged female youths are the least politically active as they confront multiple layers of social barriers hindering their political participation. These barriers are not only gender-based but also related to other social disadvantages, such as low socioeconomic status. As evident in Table 5, among youths who possess only two to three social advantages, the consistency of female youths becoming politically active can dip as low as 0.65, while the consistency level for male youths never falls below 0.79. However, among the most socially advantaged youths, female youths can

exhibit greater political activity than their male counterparts. This supports the existing literature arguing that if women were provided with the same quantity of political resources as men, their overall levels of participation would be comparable (Schlozman, Burns, and Verba 1994).

Table 5 Gender Consistency Gap in Becoming *Politically Active Youths* (1972)

Family Background	College Education	Socialization In the Family	Being Opinionated	Male Youths Who Voted	Female Youths Who Voted	Gender Gap
Two Advantages						**(0.24)**
0	1	1	0	0.80	0.67	0.13
0	1	0	1	0.79	0.74	0.05
1	1	0	0	0.86	0.81	0.06
Three Advantages						**(0.10)**
0	1	1	1	0.80	0.65	0.15
1	1	0	1	0.87	0.86	0.01
1	1	1	0	0.88	0.93	-0.06
Four Advantages						**(-0.01)**
1	1	1	1	0.93	0.94	-0.01

In summary, the findings based on the interplay between structural and non-structural resources provide significant evidence of gender inequalities in the prevalent pathways to becoming *politically active youths*. Robustness tests suggest that these conclusions remain stable against reasonable alterations in the consistency threshold and frequency cut-off (see Appendix 5). Additionally, the cluster diagnostics test indicates that the results are consistent across the different high schools from which the respondents were selected (see Appendix 7 for more details).

GENDER INEQUALITIES IN THE 2000s AND 2010s

The Youth-Parent Socialization Panel Data (1965–1973) offers valuable insights into gender inequalities among American youths during the 1972 presidential election. While this election

warrants a dedicated analysis due to its historical significance as the first in which female youths participated at a higher level than male youths, examining recent developments in gender inequalities in the U.S. remains valuable for several reasons. On one hand, *politically active female youths* in the 1970s have been pillars of women's empowerment over the past five decades. Although this article lacks data to study their legacies, they are believed to have helped narrow gender disparities, at least through their influence on their offspring (Beck and Jennings 1975; Trevor 1999). On the other hand, in the past decade, Hillary Clinton secured the Democratic Party nomination for president in 2016, and Kamala Harris became the first female Vice President in 2020. This reflects that gender equity in American politics is improving to some extent. Thus, one might wonder whether gender inequalities in political participation remain as salient as in the 1970s.

Therefore, this article offers some reflections on gender inequalities in the recent political landscape in the U.S. While no datasets can exactly replicate the statistical and QCA analyses of American youths' voting participation in the 2016 or 2020 presidential elections, substantial analysis can be conducted using two recent datasets: the Commission on Youth Voting and Civic Knowledge Youth Post-Election Survey 2012, and the Civic Cohort: Parent-Youth Dyad Interviews conducted during the 2002-2004 Election Cycles in Arizona, Colorado, and Florida. In this section, the statistical and QCA results for youth voting participation in the 2012 presidential election are presented. For results pertaining to the 2004 presidential election, please see Appendix 8.

Before presenting the results, it is important to note that some variable measurements in the 2004 and 2012 datasets differ from those used in 1972. Specifically, the 2012 dataset lacks extensive information on youths' socioeconomic background and voluntarism compared to the

1972 dataset. Its only variable relating to youths' voluntarism is *high school activism*, which represents youths' volunteering experiences and social services during high school. Additionally, the number of books in their parents' homes is used to assess family socioeconomic status, instead of more direct indicators such as parents' education and occupation social-economic status (SES) index.

These measurement differences suggest that neither direct statistical synthesis nor a detailed comparison between the two datasets' results is ideal. Instead, this section only tests whether gender inequalities exist in 2012, independently of the 1972 analysis. If evidence of such inequalities is found, combining these two separate analyses would indicate that gender inequalities existed in 1972 and persisted in later contexts.

Two principles guide the analysis to avoid detailed cross-dataset comparisons. First, quantitative parameters are only compared within, but not across, datasets, since they are believed to be sensitive to measurement errors and inconsistencies. For example, the regression analysis below seeks only to determine whether heterogeneity in the effects of these factors on youth voting across genders persists in the 2012 dataset, without directly comparing coefficients to those from 1972.

Second, the detailed compositions of explanatory pathways are examined within, but not across, datasets. In other words, there is no direct comparison of 1972 pathways to their 2012 counterparts. For instance, this paper does not assess whether each factor plays similar or different roles across the two datasets' pathways. Instead, the 2012 pathways are compared only across genders to test whether gender inequalities are embedded in the 2012 pathways. Consequently, the primary conclusion this section aims to draw is whether gender inequalities existed in 2012.

Table 6. Logistic Regression Predicting Youths' Voting in 2012				
	Male		Female	
	Model 1	Model 2	Model 1	Model 2
Socialization Factors				
Socialization with Friends	0.09	0.10	0.19*	0.19
Socialization in Family	0.13	0.10	0.30**	0.30**
Friends' Voting	0.37***	0.37***	0.30***	0.29***
Voluntarist Factors				
High School Activism	-0.14	-0.16	0.02	0.05
Structural Factors				
College Attendance	0.27***	0.31***	0.38***	0.37***
Family Socioeconomic Status	-0.20	-0.11	0.17	0.23*
Other Control Variables	No	Yes	No	Yes
N	624	545	600	540
AIC	738.81	649.10	638.77	580.75
*** p ≤ .001, ** p ≤ .01, * p ≤ .05				

Table 6 presents the logistic regression results for youth voting in 2012. The results share an important feature with the 1972 model: the heterogeneity in the net-effects of these structural, socialization, and voluntarist factors on youth voting across genders. After controlling for structural factors and other background control variables including race, religion, immigrant history, and political knowledge, only one out of four non-structural factors significantly correlates with male youths' voting. In contrast, two out of four non-structural factors significantly influence female youths' voting. This implies that non-structural factors are more critical for female than male youths, mirroring the pattern observed in the 1972 data.

Figure 3 about here

A four-condition QCA analysis using the 2012 dataset has also been conducted. Four structural and non-structural factors are incorporated, *college education, family socioeconomic background, socialization with friends, and high school activism,* that bear similar significance for both female and male youths. The results suggest that gender inequalities remain prominent in the 2012 context. The truth table analysis, as depicted in Figure 3, shows that male youths have four additional methods to become politically active, besides the three common ways shared with female youths. These four additional ways are less demanding than the common ways. For example, Configuration 3 only contains one favorable condition (*socialization with friends*), while Configuration 16 is a combination of all four favorable conditions. This evidence implies that male youths have more opportunities to become politically active than their female counterparts, highlighting the second aspect of gender inequalities.

The final pathways shown in Table 7 also confirm that female youths' pathways for becoming *politically active youths* are more strenuous than male youths, reinforcing the existence of the first aspect of gender inequalities. Female pathways involve three favorable conditions, while male pathways necessitate the presence of only two conditions or their absence. The two pathways for female youths are essentially a more challenging version of Pathway 1 for male youths, necessitating an additional condition: either high family socioeconomic status or high school activism. A key distinction between these pathways is that a college education is a requirement in both female pathways, but only in one of the three male pathways. This suggests that a college education holds more significance for female than male youths in providing them with the knowledge and networks essential for political participation.

Table 7 Pathways for Being *Politically Active Youths* (2012)

Gender	Pathways	Conditions: High Family Socioeconomic Status	College Education	Socialization with Friends	High School Activism	Outcome Coverage	Unique Coverage
Male	1		●	●		0.25	0.04
	2	●		●		0.19	0.02
	3			●	○	0.23	0.04
Female	1	●	●	●		0.21	0.11
	2		●	●	●	0.15	0.05

● condition
○ the negation of the condition

Table 8 Gender Consistency Gap in Becoming *Politically Active Youth* (2012)

Family Background	College Education	Socialization With Friends	School Activism	Male Youths Who Voted	Female Youths Who Voted	Gender Gap
Two Advantages						**(0.32)**
0	1	1	0	0.87	0.62	0.25
0	1	0	1	0.55	0.47	0.07
0	0	1	1	0.63	0.71	0.01
Three Advantages						**(-0.06)**
0	1	1	1	0.89	0.79	0.10
1	1	0	1	0.63	0.71	-0.08
1	1	1	0	0.81	0.86	-0.05
Four Advantages						**(-0.01)**
1	1	1	1	0.89	0.90	-0.01

The final piece of evidence suggesting the persistence of the third aspect of gender inequalities in the 2012 context is presented in Table 8. The general trend aligns with the 1972 results, showing that the more favorable conditions in the configuration, the smaller the gender gap. In configurations with only two advantages, male youths are significantly more likely to vote than female youths. This implies that gender inequalities persist among youths living in less advantageous circumstances. However, when there are three or four advantages, female youths are

actually more likely to vote than male youths. This represents a promising sign that gender inequalities can be eliminated among youths living in favorable conditions.

CONCLUDING REMARKS

Several notable theories of gender inequalities in voting participation have examined why male adults consistently have higher turnout levels than female adults (Burns, Schlozman, and Verba 2001; Jennings 1983). However, except for the 1976 election, American females have surpassed American males in voting turnout in all presidential elections since 1972 (Baxter and Lansing 1983; Center for American Women and Politics 2019; Firebaugh and Chen 1995; Manza and Brooks 1998). This article uses longitudinal data on individuals who were young adults during the 1972 election, revealing that despite higher turnout rates among female youths compared to male youths, gender inequalities persist.

Why did female youths achieve a higher turnout rate despite encountering more obstacles in their pathways to voting compared to male youths? This paper provides some tentative answers. Crucially, the findings suggest that female youths were more motivated to leverage available non-structural resources to vote. For example, female youths might have possessed stronger political convictions, making them more eager to vote compared to their less opinionated male counterparts. It is worth noting that the 1972 general election took place at the height of the women's rights movement, a time that heightened political consciousness and fostered agency among many female youths. Over time, this increased awareness has consistently instilled democratic citizenship values more deeply in female youths than in male youths. These civic values might explain why females generally demonstrate greater political agency than males during presidential elections, leading to an even wider gender gap in turnout rates in the 2000s and 2010s.

This paper has broader implications for women's political participation in the U.S. Feminist awareness has been growing since the 1970s, and women have consistently exhibited higher turnout rates than men since the 1980 presidential election.[5] Although resistance to women's participation is diminishing, it is not yet eliminated. Structural constraints, such as limited access to political jobs and higher parental expectations, continue to hinder women's political participation. The increasing turnout among women reflects the enormous efforts they have made to mobilize non-structural resources, such as feminist awareness, to counter persistent gender biases. The still-hidden gender inequalities suggested by this paper warn society of the deeply embedded gender biases that remain.

The strenuous pathways women traverse to participate in politics highlight the importance of continued policy-making and social activism to empower women, both in the U.S. and worldwide. First, policies should focus on removing structural barriers that continue to hinder women's participation, such as promoting gender equity in the workplace through legislation that increases access to political jobs for women and encourages shared parental responsibilities. Welfare policies that support working mothers, including affordable childcare and paid family leave, would also reduce the personal burdens that disproportionately affect women's ability to engage in politics. Additionally, non-structural resources such as feminist awareness should continue to be cultivated, particularly in educational and community settings, to foster women's political agency. By expanding gender-sensitive civic education programs and community-driven political empowerment initiatives, young women can be better equipped to navigate the demanding pathways to participation, thereby helping to narrow the gender gap in political engagement.

[5] These figures are derived from the Voting and Registration data provided by the United States Census Bureau.

Furthermore, policies must actively address the intersectional barriers to participation faced by marginalized groups, such as disadvantaged women and racial minorities. This requires ensuring access to voting resources such as transportation to polling stations and assistance with absentee voting. These measures would help alleviate the compounded obstacles that limit the participation of those most affected by structural inequalities. For instance, a woman of color in an underserved neighborhood may grapple with both racial gerrymandering and childcare limitations on Election Day. To dismantle these inequities, policymakers must implement targeted measures such as expanding multilingual voter education, providing free transportation to polls, streamlining absentee ballot processes, and establishing mobile voting units in rural or high-density urban areas. These advocacy efforts must continue, regardless of the higher turnout rates among women. The strenuous pathways women have taken to achieve these victories should not be concealed, and more efforts are still needed to mitigate the deeply embedded gender biases in society.

This study's findings also raise the possibility that significant inequalities among racial groups may be obscured by overall participation levels. For example, Black people have exhibited higher turnout rates than White people in some regions in the U.S. Does this imply that racial discrimination was not an issue during these elections? This paper provides grounds for a skeptical response to this question. Black people may vote at higher levels even while confronting greater obstacles to voting than White people. A QCA analysis focused on the common pathways through which Black and White people engage in political participation offers an effective methodological approach for the empirical investigation of this issue.

Similarly, comparative and international researchers can employ this framework to compare pathways to political participation across nations and within different regime types within

countries. For instance, it would be worthwhile to examine whether the pathways to voting in competitive authoritarian regimes differ from those in democracies. A QCA study could shed light on how individuals in different political systems traverse unique pathways to participation due to differing structural and non-structural conditions.

Although this paper centers on male versus female voting in the United States during the 1972 election, its approach can be extended to explore many other questions and contexts, provided suitable data are available. The results suggest that a framework powered by large-N QCA holds considerable promise for helping researchers uncover disparities in voting participation that remain hidden when only participation levels are examined. One key priority for future research is to investigate whether the gender inequalities identified here also apply to other forms of political participation beyond voting. However, a major challenge is the lack of comprehensive longitudinal and life-course data on youth political participation for more recent elections, which restricts this paper's ability to offer a more detailed cross-time comparison or a more nuanced over-time analysis of the evolving landscape of American youth participation. This limitation underscores the importance of collecting data that allows for pathway-focused analyses, rather than solely level-focused analyses, in more recent periods.

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FIGURES

ACKNOWLEDGMENTS

I would like to thank Laura Acosta, Daniel Cao, Peer Fiss, Gary Goertz, James Mahoney, Claude Rubinson, Chan Wang, and three anonymous reviewers for their insightful comments and suggestions.

COMPETING INTERESTS

The author declares no competing interests.

AUTHOR CONTRIBUTIONS

The author is solely responsible for all aspects of the study.

DATA AVAILABILITY STATEMENT

All data and replication code for this article are available at the following link:

https://github.com/qinhuang-poliecon/Identifying-Gender-Inequalities.git

ETHICAL APPROVAL

This article does not contain any studies with human participants performed by the author.

INFORMED CONSENT

This article does not contain any studies with human participants performed by the author.

Table 1. Logistic Regression Predicting Youths' Voting in 1972

	Male			Female		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Socialization Factors						
Socialization with Friends	0.19 **	0.12	0.14	-0.08	-0.14	-0.17*
Socialization in Family	0.09	-0.02	-0.05	0.60***	0.52**	0.55**
Voluntarist Factors						
Political Efficacy	0.12*	0.07	0.07	0.07	0.04	0.02
Strong Opinions	0.02	0.04	0.02	0.12	0.12	0.05
Structural Factors						
Family Socioeconomic Status		0.01	0.01		0.00	0.00
College Attendance		1.07***	1.16***		0.82***	0.67**
Other Control Variables	No	No	Yes	No	No	Yes
N	526	526	526	538	538	538
AIC	590.87	565.77	572.13	641.83	626.26	618.09
***** p ≤ .001, ** p ≤ .01, * p ≤ .05**						

Table 2. Truth Table Analyses for *Politically Active Youths* (1972)

	Explanatory Conditions				Male Results		Female Results	
Rows	Family	College	Socialization	Opinions	Outcome	Consistency	Outcome	Consistency
1	0	0	0	0	0	0.53	0	0.57
2	0	0	0	1	0	0.54	0	0.58
3	0	0	1	0	0	0.60	0	0.50
4	0	0	1	1	0	0.54	0	0.45
5	0	1	0	0	0	0.71	0	0.72
6	0	1	0	1	0	0.78	0	0.75
7	0	1	1	0	1	0.92	0	0.53
8	0	1	1	1	1	0.83	0	0.67
9	1	0	0	0	?	0.86	?	0.75
10	1	0	0	1	?	0.75	0	0.75
11	1	0	1	0	?	0.50	?	1.00
12	1	0	1	1	?	0.50	?	1.00
13	1	1	0	0	1	0.84	1	0.85
14	1	1	0	1	1	0.85	1	0.91
15	1	1	1	0	1	0.95	?	0.71
16	1	1	1	1	1	0.93	1	0.84

Table 3 Pathways for Becoming *Politically Active Youths* (1972)

Gender	Pathways	Conditions				Outcome Coverage	Unique Coverage
		High Family Socioeconomic Status	College Education	Socialization with Friends	Strong Opinions		
Male	M1	●	●			0.37	0.21
	M2		●	●		0.29	0.13
Female	F1	●	●	○		0.30	0.13
	F2	●	●		●	0.25	0.08

● condition
○ the negation of the condition

Table 4 Pathways for Becoming *Politically Active Youths* (Socialization in the Family)

		Conditions					
Gender	**Pathways**	High Family Socioeconomic Status	College Education	Socialization in the Family	Strong Opinions	Outcome Coverage	Unique Coverage
Male	M2	●	●			0.37	-
Female	F1	●	●	●		0.13	0.04
	F2	●	●		●	0.25	0.16

● condition
○ the negation of the condition

Table 5 Gender Consistency Gap in Becoming *Politically Active Youths* (1972)

Family Background	College Education	Socialization In the Family	Being Opinionated	Male Youths Who Voted	Female Youths Who Voted	Gender Gap
Two Advantages (0.24)						
0	**1**	**1**	**0**	**0.80**	**0.67**	**0.13**
0	**1**	**0**	**1**	**0.79**	**0.74**	**0.05**
1	**1**	**0**	**0**	**0.86**	**0.81**	**0.06**
Three Advantages (0.10)						
0	**1**	**1**	**1**	**0.80**	**0.65**	**0.15**
1	**1**	**0**	**1**	**0.87**	**0.86**	**0.01**
1	**1**	**1**	**0**	**0.88**	**0.93**	**-0.06**
Four Advantages (-0.01)						
1	**1**	**1**	**1**	**0.93**	**0.94**	**-0.01**

Table 6. Logistic Regression Predicting Youths' Voting in 2012				
	Male		Female	
	Model 1	Model 2	Model 1	Model 2
Socialization Factors				
Socialization with Friends	0.09	0.10	0.19*	0.19
Socialization in Family	0.13	0.10	0.30**	0.30**
Friends' Voting	0.37***	0.37***	0.30***	0.29***
Voluntarist Factors				
High School Activism	-0.14	-0.16	0.02	0.05
Structural Factors				
College Attendance	0.27***	0.31***	0.38***	0.37***
Family Socioeconomic Status	-0.20	-0.11	0.17	0.23*
Other Control Variables	No	Yes	No	Yes
N	624	545	600	540
AIC	738.81	649.10	638.77	580.75
*** p ≤ .001, ** p ≤ .01, * p ≤ .05				

Table 7 Pathways for Being *Politically Active Youths* (2012)

	Conditions

Gender	Pathways	High Family Socioeconomic Status	College Education	Socialization with Friends	High School Activism	Outcome Coverage	Unique Coverage
Male	1		●	●		0.25	0.04
	2	●		●		0.19	0.02
	3			●	○	0.23	0.04
Female	1	●	●	●		0.21	0.11
	2		●	●	●	0.15	0.05

● condition
○ the negation of the condition

Table 8 Gender Consistency Gap in Becoming *Politically Active Youth* (2012)

Family Background	College Education	Socialization With Friends	School Activism	Male Youths Who Voted	Female Youths Who Voted	Gender Gap

Two Advantages (0.32)						
0	**1**	**1**	**0**	**0.87**	**0.62**	**0.25**
0	**1**	**0**	**1**	**0.55**	**0.47**	**0.07**
0	**0**	**1**	**1**	**0.63**	**0.71**	**0.01**
Three Advantages (-0.06)						
0	**1**	**1**	**1**	**0.89**	**0.79**	**0.10**
1	**1**	**0**	**1**	**0.63**	**0.71**	**-0.08**
1	**1**	**1**	**0**	**0.81**	**0.86**	**-0.05**
Four Advantages (-0.01)						
1	**1**	**1**	**1**	**0.89**	**0.90**	**-0.01**

Figure 1: Three Facets of Gender Inequality in Voting Participation

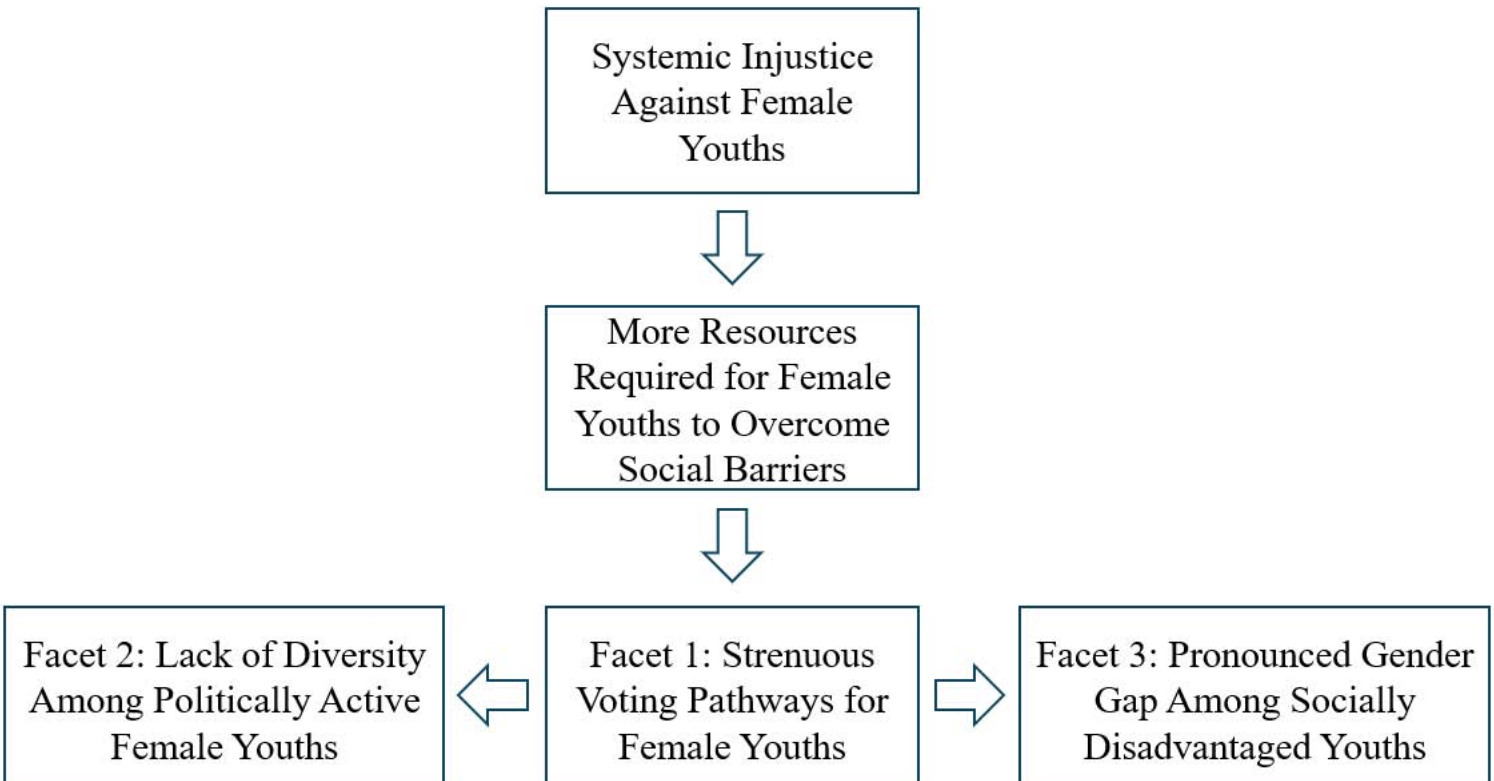
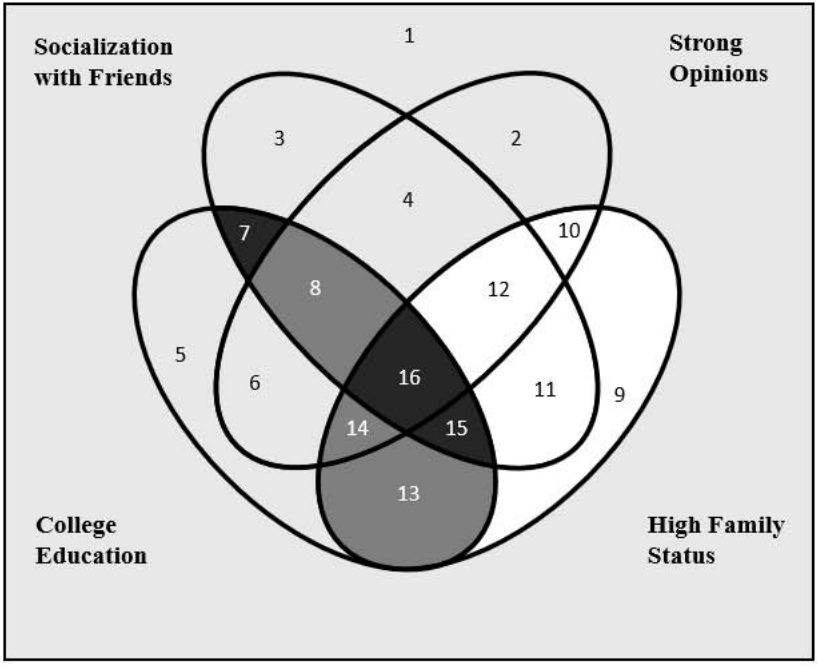
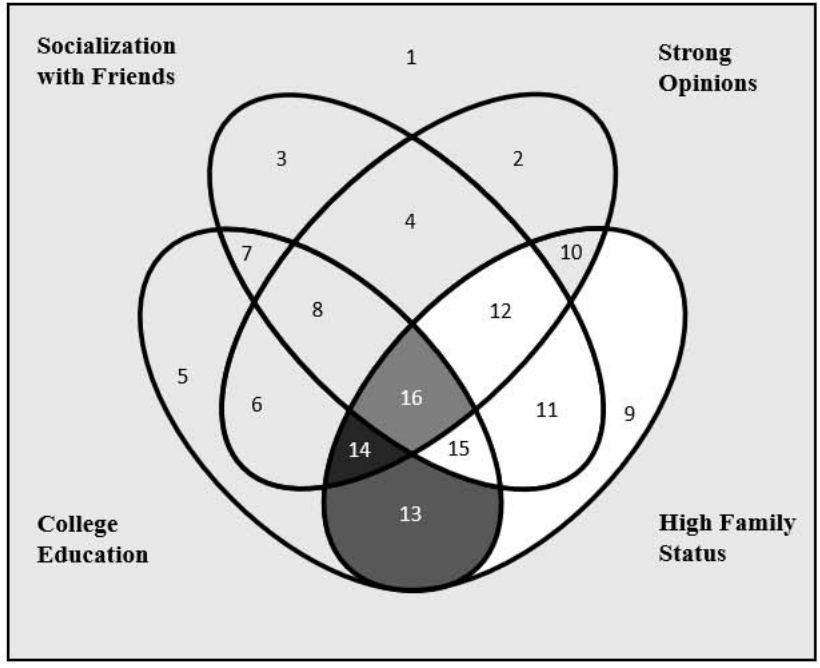


Figure 2: Venn Diagrams Showing the Configurations for *Politically Active Youths* (1972)



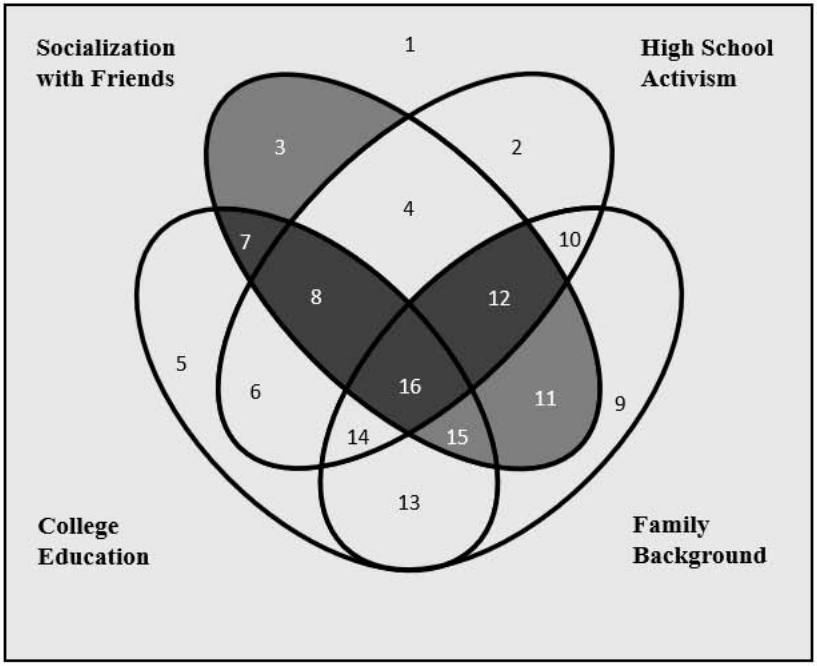
Male Youths' Configurations



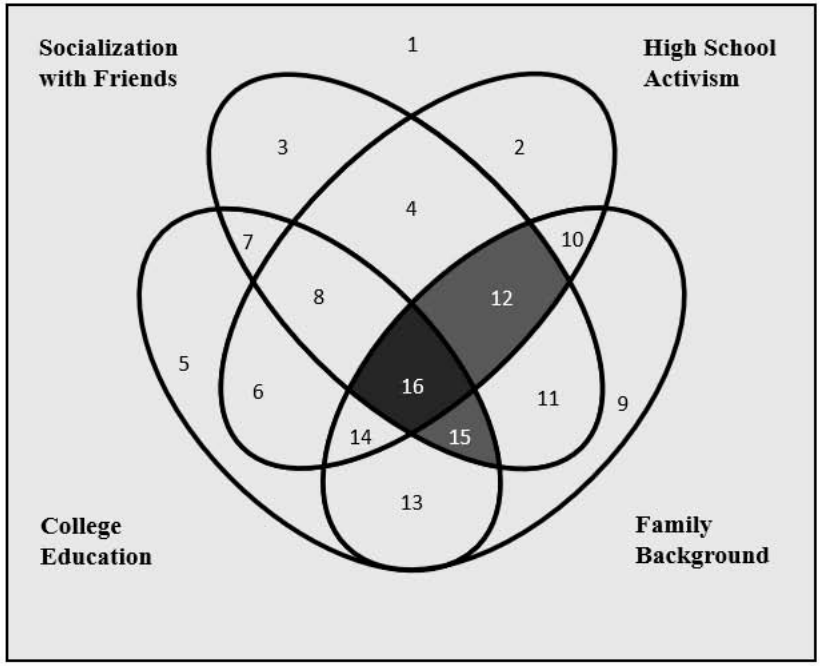
Female Youths' Configurations

■ Subset consistency ≥ 0.9; ■ Subset consistency ≥ 0.85 & <0.9 ; ■ Subset consistency ≥ 0.80 & <0.85;
■ Subset consistency <0.80; [white] below the frequency threshold of 10

Figure 3: Venn Diagrams Showing the Configurations for *Politically Active Youths* (2012)



Male Youths' Configurations



Female Youths' Configurations

■ Subset consistency ≥ 0.9; ■ Subset consistency ≥ 0.85 & <0.9 ; ■ Subset consistency ≥ 0.80 & <0.85;
■ Subset consistency <0.80; [white] below the frequency threshold of 10