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Women's Representation in Parliament and Gender Gap in Education: A Cross-Country Heterogeneity Analysis

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ABSTRACT

This paper examines whether the relationship between women's representation in national parliaments and gender gaps in basic education varies across countries at different stages of development. Using a 2020 cross-section of 217 countries and World Bank indicators, we analyze women's parliamentary seat shares alongside primary completion rates, disaggregating results by World Bank income groups (low, middle, high). We see that women's representation is significantly better in high and middle-income country settings, with near universal primary completion rates. The gender gap is marginally pro-girl in these countries, while pro-boy in low-income countries. In pooled data, pairwise correlations between women's seat shares and completion levels are absent, demonstrating the ceiling effects where completion rates are near perfect in high-income countries. We interpret these patterns through three mediating forces: baseline attainment and attainment ceilings, the time it takes for policy to affect stock measures like completion, and local institutional strength. Overall, our findings support a nuanced dynamic: women's political presence and girls' educational parity can reinforce one another, but observable gains depend on where countries start, how quickly education systems adjust, and the institutional pathways through which women enter parliament.

Keywords: gender gap, women in parliament, education, income classification

1. Introduction

The relationship between women's representation in parliament and gender equality in education has attracted sustained scholarly attention, yet evidence on causality and heterogeneity remains mixed. On one hand, women legislators often advocate for policies that expand girls' access to schooling and reduce education gaps. On the other hand, greater female educational attainment can strengthen women's capacity to participate in political life and increase their presence in legislative bodies. These dynamics suggest a potential "virtuous circle" between education and

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political representation. Understanding how this association unfolds across different economic contexts is central to debates on women's empowerment and human capital development.

This study provides a cross-country analysis of the bidirectional association between women in parliament and gender gaps in education, with primary completion rates as the key indicator. Unlike earlier work that treats countries as a homogeneous sample, we explicitly examine heterogeneity across World Bank income groups—low, middle, and high. This approach allows us to identify whether the link between political representation and education differs by development stage. In doing so, we contribute to both the education and political economy literatures by situating the association within diverse institutional and socioeconomic contexts. The findings offer insights for policymakers seeking to advance gender parity in both political participation and schooling.

2. Literature Review

Women's presence in parliament matters because it gives them the authority to raise a public voice. With this influence, they can advocate for policies that expand girls' access to schooling and help reduce the gender gap in education. On the other hand, when girls have equal access to education, they gain the skills and confidence needed to participate in public life. Over time, this can increase women's representation in parliament.

Building on Sen's (2005) capabilities framework and Pitkin's (2023) notion of substantive representation, many scholars posit that literacy, schooling, and sustained grade progression enlarge a woman's "capacity to choose"—to interpret civic information, articulate political preferences and opinions, and mobilize support for those preferences in formal political arenas. Through this perspective, a legislature that only seats women without first expanding their opportunities to procure and utilize knowledge is at risk of symbolic and tokenistic presence; on the other hand, improvements in female education that never actually materialize into parliamentary representation leave the collective benefits of education unrealized. Recognizing the bidirectional link between education and political representation is therefore central to assessing women's empowerment across national contexts.

Early research by Knack & Bank (2000) placed women's representation on the development agenda. Using a 1975–1998 panel of roughly 180 countries, they saw a positive correlation between female literacy and women's share of parliamentary seats, even after controlling for GDP per capita, aid flows, and regional dummies. Their interpretation that educated women both enter politics and demand better schooling assisted later efforts to evaluate two-way causality. However, the study did not test whether the association varied by income level of the country, leaving considerable heterogeneity unexplored.

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Building on this macro perspective, Dutta & Maus (2021) used a dynamic panel of 118 countries for 1990–2015 and applied system-GMM techniques to address endogeneity. They found that a ten-percentage-point rise in the proportion of female legislators boosted the female tertiary-enrollment ratio by about two points within five years. Similar to Knack and Bank (2000), the study does not consider impact heterogeneity across countries of different income type.

A multitude of studies in India leveraged the country's decentralized electoral environment. Clots-Figueras (2007) used state assembly contests from 1967–2001 and showed that a ten-point increase in female political representation raised primary-school completion in urban districts by six percentage points, with less impacts in rural areas. She also uncovered stronger impacts when the elected women were drawn from Scheduled-Caste or Scheduled-Tribe groups, demonstrating the intersection of gender and caste hierarchy. Revisiting the question with newer National Sample Survey rounds, Burchi & Singh (2020) confirmed the positive school-completion effect but found larger gains in rural areas and an eleven-point boost specific to girls. Their mechanism analysis pointed to the strong roll-out of the Mid-Day Meal Scheme. While these studies from India have a lot of analytical rigour, the reservation rules and federal context may limit external validity for other settings.

Further, analysing South Africa and Lesotho, Mojapelo & Faku (2019) demonstrate that higher female seat shares correlate with narrower gender gaps in tertiary educational enrollment, labour-force participation, and mean earnings. They trace these outcomes to advocacy for equity legislation and gender-responsive budgeting. A complementary global study by Dimitrova-Grajzl & Obasanjo (2019) compares quota designs in 134 developing economies (1980–2015). They observe that candidate-list quotas, unlike reserved seats, are associated with lower scores on the UNDP Gender Inequality Index, driven by declines in maternal mortality and gains in female secondary completion. Their explanation hinges on legitimacy: women who win under open-list quotas command greater agenda-setting power than those assigned reserved seats, enabling them to advance policies that narrow gender disparities for both women.

While the preceding literature looks at political representation as the driver of educational change, Bellani & Hidalgo (2025) study the impact of compulsory education reforms across nine European countries on women representation in parliament. They find that a one-percentage-point increase in the share of women completing at least secondary school raises the regional female-seat share by roughly 0.21 percentage points by enabling greater political interest and more egalitarian gender norms among women. However, even if women are educated, structural barriers may hinder their entry into parliament. Shvedova (2005) highlights the 'double burden' of work and care, exclusion from party networks, biased media, and chronic underfunding of female candidates. Without reforms such as public campaign funding, family-friendly schedules,

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and gender-balanced party lists, educational gains alone rarely yield proportional parliamentary representation, especially in patriarchal settings.

In summary, the literature points to a virtuous circle between schooling and parliamentary seats: better-educated women are more likely to mobilize, enter, and win office, while women in office tend to steer resources towards human capital and services that raise girls' enrolment, completion, and long-run capabilities. Against this backdrop, our study examines the bidirectional association between women's parliamentary representation and female education—measured by primary completion rates—in a cross-country setting. We analyze heterogeneity across World Bank income groups (low, middle, and high), allowing us to assess how these relationships vary across different stages of development.

3. Results

Our 2020 analytic sample contains 217 countries regrouped into three World Bank income tiers by collapsing lower and upper middle income into a single "middle" category (World Bank, 2020). The distribution is tilted towards middle-income economies (49.8%), followed by high-income (36.9%) and low-income (13.4%).

Two broad regularities were observed when we study women's representation in parliament and primary completion rate in education. First, women's representation is higher on average in higher-income settings: the mean share of seats held by women is 26.88% in high-income countries, 22.68% in middle-income, and 21.32% in low-income economies. Second, primary completion rates are also significantly greater in high and middle-income countries as compared to low-income countries: mean female completion rates are 97.86% (high), 93.99% (middle), and 65.68% (low), while the corresponding male completion rates are 96.79%, 93.08%, and 66.30%. Interestingly, the gender gap in completion (girls minus boys) is positive in high-income (+1.07 percentage points) and middle-income contexts (+0.91), but turns negative in low-income settings (−0.63), indicating that girls lag behind boys. These patterns are mirrored in the scatter plots: at higher income levels, observations cluster near universal completion for both males and females with little dispersion (Figure 1), whereas for low-income countries, many of them are below 80% completion. The completion-gap plot reinforces this income gradient: differences hover near zero in high- and middle-income samples but are more variable, and often negative, in low-income economies.

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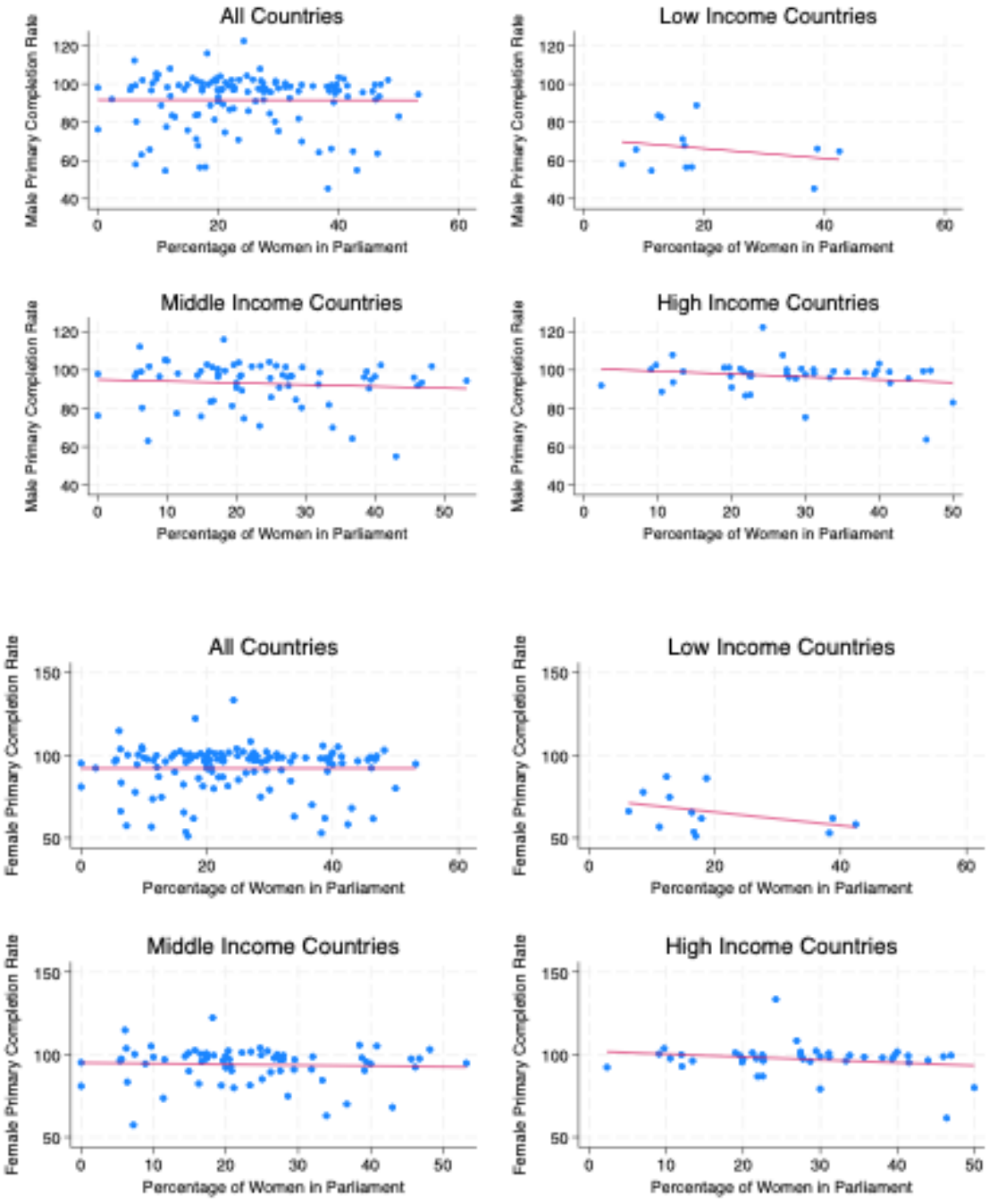
Figure 1: Primary Completion Rates vs Women Representation in Parliament



Turning from levels to associations, the unconditional correlation between women's parliamentary share and the levels of primary completion for either gender is near zero in the

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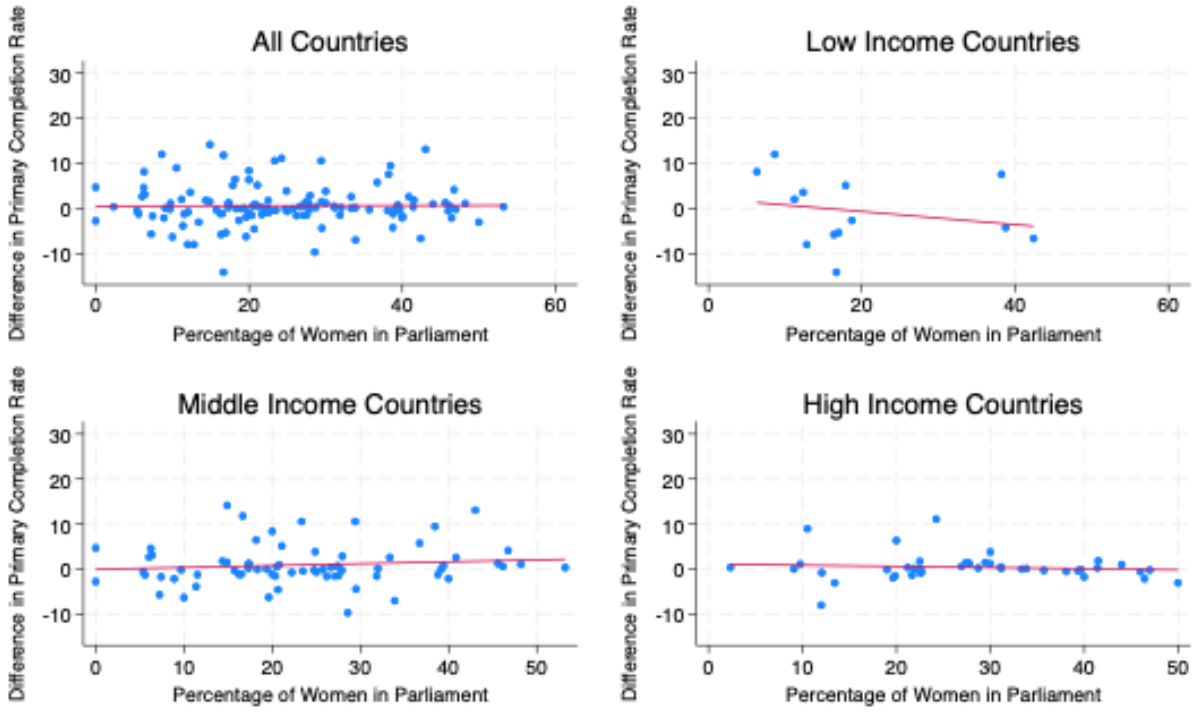
pooled sample, reflecting the ceiling effects at high income and the wide baseline dispersion at low income ($r \approx 0$; $p \gg 0.10$). To focus on parity, we correlate women's seat share with the primary completion gender gap (girls minus boys) within income groups. In low-income economies, the correlation is negative ($r = -0.228$; $p = 0.454$), suggesting that higher women's representation does not coincide with narrower completion gaps; if anything, girls' relative position can be worse where seat shares are higher. In middle-income economies, the association is small and positive ($r = 0.114$; $p = 0.351$), and in high-income economies, small and negative ($r = -0.102$; $p = 0.509$), consistent with the fact that completion is already near universal and gaps are compressed around zero. The corresponding scatterplots show a downward-sloping fit in the low-income panel for the completion difference and essentially flat fits in the middle- and high-income panels, reinforcing the correlation results.

Figure 2: Gender Gap in Primary Completion Rate vs Women in Parliament



Why might the association between women representation and primary completion rates be weak across our sample? A first explanation lies in levels and ceilings. Where completion for both genders is already 95–100% (as in many high-income and some middle-income settings), there is little mechanical room for women's increase in parliamentary seats to improve primary completion rates. Conversely, in low-income contexts, the baseline heterogeneity is large, and marginal policy gains can show up asymmetrically in the near term. When systems expand

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quickly and bring many previously lagging boys (often late entrants or repeaters) up towards completion, boys' rates can rise faster than girls' rates, temporarily widening the girls–boy gap even as access improves for both. The broad dispersion in the low-income panels of our female and male completion plots is congruent with such baseline effects.

A second, related possibility concerns timing and policy lags. Seat shares can change discretely through elections or quota adoptions, but completion and literacy are stock measures that cumulate past flows of enrollment, progression, and survival; they respond with multi-year lags to inputs such as school construction, teacher deployment, curricular reform, and social-norm progression. A cross-sectional snapshot taken soon after representational shifts may therefore understate the longer-run, pro-girl impact of women's legislative presence. The essentially flat associations at higher income and the scattered, downward-tilted fit at low income are consistent with transitional dynamics in which descriptive gains precede measurable parity gains.

Third, composition and institutions can break the link in the short run. In some low-income countries, relatively high women's seat shares arise from reserved-seat mechanisms or post-conflict settlements that improve descriptive representation without immediately easing capacity constraints in schooling systems. Fiscal volatility, weak administrative reach into rural areas, or parallel crises can depress completion rates for both genders. In these contexts, the relative gap can look stagnant—or even temporarily worse—even if women legislators are advocating for inclusive schooling. The absence of a tight positive slope for low-income countries fits this interpretation.

The rest of the indicators reinforce these themes. Pairwise correlations between women's seat shares and the levels of female and male primary completion are essentially zero in the pooled sample ($r \approx -0.0004$ for female; $r \approx -0.003$ for male), demonstrating that cross-sectional variation in representation does not map neatly onto completion levels when many countries cluster near universal completion, and others lag substantially.

Taken together, these results suggest a nuanced reading. Where education systems already deliver high completion and literacy, gender gaps are small and largely decoupled from variation in women's seat shares. Where systems are weaker, changes in women's representation do not automatically translate into immediate gains in girls' relative completion, yielding negative or weak cross-sectional associations at a point in time. However, this does not contradict the idea that women legislators can be catalysts for human-capital investments; rather, it highlights that observable parity gains depend on a country's starting point, policy lags, and the strength of local institutions.

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4. Conclusion

Altogether, we see that in a global, income-stratified sample, women's parliamentary shares are generally higher in higher-income settings, but the income gradient is far steeper for education. Primary completion rates are near saturation in high-income countries, clearly lower and more dispersed in low-income countries, and intermediate in the middle-income group. Consequently, pooled correlations between women's seats and levels of completion are near absent. High and middle-income contexts have positive completion differences, marginally favouring girls, whereas low-income countries see negative completion differences, as girls' relative position can worsen even as access rises. These patterns imply that visible parity gains are dependent on various factors, including baseline attainment and attainment ceilings, policy lags, and the strength of local institutions. Future policy should build education capacity and add support for girls in education, while also empowering women who choose to enter politics to make substantial change and cultivate parity.

References

Annan, J., Donald, A., Goldstein, M., Martinez, P. G., & Koolwal, G. (2021). Taking power: women's empowerment and household well-being in Sub-Saharan Africa. World Development, 140, 105292.

Bellani, L., & Hidalgo-Hidalgo, M. (2025). Bridging the gender gap: Women's education and political representation. Economics of Education Review, 104, 102605.

Burchi, F., & Singh, K. (2020). Women's political representation and educational attainments: A district-level analysis in India. Journal of South Asian Development, 15(1), 7-33.

Clots-Figueras, I. (2012). Are female leaders good for education? Evidence from India. American Economic Journal: Applied Economics, 4(1), 212-244.

Dimitrova-Grajzl, V., & Obasanjo, I. (2019). Do parliamentary gender quotas decrease gender inequality? The case of African countries. Constitutional Political Economy, 30(2), 149-176.

Dutta, N., & Maus, H. (2021). Share of women in parliament and health and education outcomes. Journal of Economic Development, 46(3), 85-108.

Knack, S., & Sanyal, P. (2000). Making a Difference: How Women in Politics Affect Health and Education Outcomes. http://people. brandeis. edu/~ psanyal/WB_mimeo. pdf.

ISSN: 2455-8834

Volume:10, Issue:09 "September 2025"

Mojapelo, J. T., & Faku, M. E. (2019). Bridging the gender gap and promoting representation of women in the national parliament: A comparative analysis study of South Africa and Lesotho. Gender Questions, 7(1).

Pitkin, H. F. (2023). The concept of representation. Univ of California Press.

Sen, A. (2005). Human rights and capabilities. Journal of Human Development, 6(2), 151-166.

Shvedova, N., 2005. "Obstacles to Women's Participation In Parliament." InWomen in Parliament: Beyond Numbers, by Julie Ballington and Azza Karam,33-50. Stockholm: IDEA.

World Bank Open Data. https://data.worldbank.org/

