



# Gender Disparities in Education: Structural Barriers and the Pursuit of Equality in Indonesia

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## Abstract

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Gender disparities in education in Indonesia reflect persistent inequalities in access, participation, and academic achievement resulting from social, cultural, and economic factors. This article aims to analyze various academic studies to understand the root causes and manifestations of educational inequality based on gender perspectives. The literature review reveals that women continue to face significant challenges in pursuing higher education due to patriarchal culture, social role stereotypes, and the lack of gender-sensitive educational facilities. Female representation in Science, Technology, Engineering, and Mathematics fields remains limited, influenced by curricular bias and social pressures that define these disciplines as masculine. Meanwhile, educational policies designed to promote gender equality have not been fully effective, largely due to disparities in regional resources and institutional capacities. Therefore, strengthening gender equality in Indonesia's education system requires a comprehensive approach that integrates curriculum reform, teacher capacity building, and transformative social paradigms that recognize and support women's roles across all educational levels.

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## 1. Introduction

The gender gap in education is a structural problem that remains a challenge in many developing countries, including Indonesia. Although the principle of equality in education has been integrated into the national development agenda since the reform era, the reality is that women still face barriers in accessing, participating, and achieving outcomes on par with men. This form of inequality is evident across various dimensions, such as access to basic and higher education, representation in STEM (Science, Technology, Engineering, and Mathematics) fields, and the presence of bias in the curriculum and learning environment. Social and cultural factors, such as poverty, patriarchal values, and perceptions of gender roles, play a significant role in reinforcing this disparity (Heise et al., 2019). This condition affirms that the gender issue is not only related to economics but is also a reflection of social structures and cultural values deeply embedded in the community's life.

One of the greatest and most deep-rooted obstacles is the patriarchal culture that confines women to the domestic sphere, while men are regarded as the primary breadwinners. This mindset implies a difference in educational priorities within families, where boys are often prioritized to continue schooling when economic resources are limited (Siagian et al., 2019). This disparity becomes more pronounced in rural areas that suffer from limited educational facilities, lack of access to technology, and inadequate social support. Consequently, many girls must halt their education early due to economic pressure, early marriage, or household responsibilities that restrict learning opportunities. This situation reinforces the cycle

of poverty and diminishes women's chances to contribute equally to social and economic development.

Beyond access issues, the gender gap is also visible in the low participation of women in STEM fields. Research by Huang et al. (2020) shows that although women's interest in science and technology is relatively high, they are still hindered by social stereotypes that deem these fields a "masculine domain." This perception reduces women's self-confidence and impedes their steps toward developing careers in scientific and technological sectors. Imaduddin (2020) adds that increasing women's involvement in STEM not only encourages innovation and economic growth but also strengthens social and political stability, as educated women possess greater critical thinking skills and social roles. Therefore, boosting women's participation in the STEM sector is a strategic step toward strengthening national competitiveness.

Furthermore, gender bias in teaching materials and the curriculum deepens educational inequality. According to Hamidah (2017), some university textbooks in Indonesia still display traditional role divisions between men and women. Men are portrayed as leaders and professionals, while women are more frequently represented as caregivers and domestic workers. This kind of representation shapes students social perceptions of the ideal roles for women, thereby limiting their academic and professional aspirations. Such implicit bias constitutes an unseen form of discrimination that has long-term effects on the potential development of women in education and professional careers (Foley & Williamson, 2019).

From a policy perspective, the Indonesian government has enacted several regulations to suppress the gender gap in education, but their effectiveness remains suboptimal because implementation on the ground is uneven. Onitsuka et al. (2018) argue that the disparity between urban and rural areas actually widens the gap in equality, particularly concerning educational facilities, teacher quality, and access to technology. In areas underdeveloped, frontier, outermost (*tertinggal, terdepan, terluar/3T*), girls often lack the option to continue their education due to complex geographical and economic barriers. This shows that the success of national policy heavily depends on local-level implementation. The gender gap in education in Indonesia is not merely an issue of unequal access but is the result of a complex interplay between social structure, culture, economics, and public policy.

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## **2. Methods**

This research employed a literature review method to analyze the phenomenon of the gender gap in education in Indonesia. This approach was chosen because it is considered the most relevant for identifying general patterns, causal factors, and counter-strategies that have been discussed in various academic studies. A literature review provides a comprehensive overview of the extent to which the gender equality issue has been addressed by educational policies and how its impact

is reflected in the aspects of access, participation, and academic achievement between men and women.

The first stage of this research was the identification and selection of literature. Scientific articles were collected through the Google Scholar or Elsevier database using keywords such as gender gap education Indonesia, patriarchy in education, STEM participation women Indonesia, educational inequality, and gender bias curriculum. The search results were then selected based on inclusion criteria: (1) published within the last five years, (2) relevant to the Indonesian educational context, (3) possessing verifiable empirical data or theoretical analysis, and (4) discussing at least one aspect of the gender gap, such as access, participation, achievement, or educational policy. Meanwhile, non-academic articles or opinions unsupported by empirical data were excluded from the analysis.

The second stage was content analysis of the selected literature. The analysis process was conducted by systematically reading each article to find the main themes and variables contributing to the emergence of the gender gap, such as the dominance of patriarchal culture, economic factors, curriculum bias, and disparities in educational facilities. Each finding was categorized based on research focus similarity to yield a comprehensive and structured thematic synthesis. To maintain the validity of the analysis results, a triangulation technique was used, comparing findings from various sources to strengthen the interpretation and minimize subjective bias.

The third stage was narrative synthesis, which involves integrating various research findings into a more complete and in-depth understanding. Through this

approach, an overview was obtained of how socio-cultural factors and public policies interact to create or reduce the gender gap across different educational levels. This synthesis also highlights the contextual differences between urban and rural areas, which often determine the level of gender inequality in the school environment.

By using the literature review approach, this research aims not only to identify the patterns of inequality but also to provide strategic directions for policies supporting the improvement of gender equality in Indonesia's education sector. The final findings are expected to serve as an empirical basis for policymakers, academics, and educational institutions in designing interventions that are more effective, fair, and sustainable in narrowing the gender gap in education.

### **3. Results**

Based on the literature review of a number of scientific articles published within the last five years, it was found that the gender gap in education in Indonesia remains a complex and layered structural issue. This inequality is evident in various dimensions such as access, participation, academic achievement, and representation in strategic fields like STEM (Science, Technology, Engineering, and Mathematics). In general, women have shown a significant increase in participation rates in primary and secondary education, but the gap still emerges at the level of higher education, especially in rural and remote areas. Patriarchal cultural factors, family economic conditions, and social perceptions of women's roles are the main factors reinforcing this inequality (Heise et al., 2019).

Patriarchal culture in Indonesia still places women in a subordinate position with the assumption that their primary responsibility lies in the domestic sphere. This view directly impacts family decisions that tend to prioritize the education of boys over girls when economic resources are limited. In many cases, impoverished families deem education for girls less important because they will eventually “transfer responsibility” to their husbands after marriage (Hamidah, 2017). Consequently, many girls must end their education early due to economic or social pressure for early marriage. The phenomenon of early marriage has been proven to be closely related to the low participation rate of women in higher education, especially in areas with high poverty levels.

Besides cultural and economic obstacles, women also face constraints from educational facilities that are not yet gender-friendly. Onitsuka et al. (2018) note that in some remote areas, schools still lack basic facilities such as separate toilets for female students or safe transportation access to school. These conditions lower the attendance rate of female students, especially after they enter puberty, when the need for privacy increases. The lack of inclusive educational infrastructure causes schools not to be a completely safe space for girls, thus leading to increased absenteeism and dropout rates.

Although educational access for women at the primary and secondary levels continues to improve, another gap emerges in the choice of study fields. Women’s representation in STEM fields still lags significantly behind men. According to research by Huang et al. (2020), women tend to avoid majors such as engineering, informatics, or physics due to social stereotypes that categorize these fields as “men’s

territory.” Furthermore, biases occurring in the campus environment and the workplace reinforce psychological barriers for women pursuing careers in science and technology. Imaduddin (2020) suggests that women in STEM often face veiled discrimination in the form of low expectations from lecturers or male colleagues, as well as minimal support for developing academic leadership potential.

Gender differences are also apparent in learning achievement outcomes. Women tend to excel in literacy and language, while men show superiority in numeracy. However, this difference is not solely caused by biological factors but rather by social expectations and different pedagogical approaches toward each gender. Teachers, consciously or unconsciously, often treat male and female students differently in the classroom. Male students are considered more active and rational, while females are perceived as more compliant and emotional. This situation creates an unbalanced participation space in the learning environment and impacts the self-confidence of female students, particularly in fields requiring analytical skills such as mathematics and physics (Siagian et al., 2019; Imaduddin, 2020).

Gender bias in the curriculum and teaching materials also contributes to the reproduction of this gap. Analysis of university textbook content shows that women are still often depicted in traditional roles as housewives, teachers, or administrative workers, while men are represented as scientists, leaders, and successful professionals. This kind of representation reinforces the social construct that men have a public role, while women’s role is domestic (Siagian et al., 2019). Consequently, female students are exposed from an early age to norms that limit their academic and professional aspirations. Mukminin et al. (2019) affirm that

curriculum reform with a gender perspective is urgently needed so that the learning process can be a means of empowerment, not just of reinforcing traditional social roles.

Indonesian government policies have genuinely attempted to reduce the gender gap in education through implementing the principle of gender equality in various regulations. The National Education System Law and the affirmative policies of the Ministry of Women Empowerment and Child Protection (*Kementerian Pemberdayaan Perempuan dan Perlindungan Anak* /KPPPA) assert the right of every citizen to receive education without discrimination. However, its implementation has not been optimal. Huang et al. (2020) highlight that policy implementation is still hindered by capacity gaps between regions, especially concerning human resources, the availability of female teachers, and educational infrastructure. This regional inequality causes gender equality programs not to be carried out equitably.

Moreover, many educational programs have not fully integrated the gender perspective in the planning or evaluation stages. For instance, the policy on teacher distribution has not considered the importance of the presence of female educators in remote areas, even though their presence can increase the safety and learning motivation of female students. Another challenge is the low budget allocation for teacher training on gender-responsive education. Without adequate training, teachers have the potential to reproduce social bias in the classroom. Mukminin et al. (2019) emphasize that teacher training must be a key component in the strategy to eliminate the gender gap in the education sector because teachers are crucial actors in fostering critical awareness of equality.

The gender gap in education not only impacts individuals but also the social and economic structure more broadly. Education is the primary means of achieving social and economic mobility; therefore, limited access to education for women means limited economic opportunities for them in the future. Imaduddin (2020) asserts that women's education is closely linked to improved family welfare, reduced poverty levels, and increased national productivity. Highly educated women tend to have formal jobs, stable incomes, and greater involvement in community decision-making. Conversely, limitations in women's education reinforce the cycle of poverty and economic dependence on men.

Awareness of the importance of gender equality in education is starting to increase through various local initiatives and community-based programs (Mwiti & Goulding, 2018). Several non-governmental organizations and universities have developed participatory approaches to enhance public understanding of the importance of education for women. These programs include skills training, academic mentorship, and scholarship provision for outstanding female students in underdeveloped regions. These efforts demonstrate that women's empowerment through education is not solely the responsibility of the government but also requires collective support from families, communities, and civil society.

Nevertheless, structural challenges remain significant. Patriarchal values continue to be reproduced through media, popular culture, and even the educational institutions themselves. Fundamental change can only occur if education is used as a means of social transformation that instills the values of equality from an early age (Inglehart et al., 2017). The curriculum needs to emphasize the principles of

inclusivity, tolerance, and respect for gender diversity roles. Furthermore, affirmative policies are needed to ensure women's representation in educational leadership positions at various levels.

The results of this study indicate that the gender gap in education in Indonesia is not merely a statistical issue but a reflection of a social structure that is still biased against women. Although educational access has progressed, cultural and policy changes have not been strong enough to eliminate systemic barriers. To achieve true equality, synergy between government policy, social support, and cultural transformation is required. Gender-responsive education will not only improve the quality of human resources but also reinforce social justice and the sustainability of national development.

#### **4. Conclusion**

The gender gap in education in Indonesia remains a complex challenge because it involves interconnected social, cultural, economic, and policy factors. Although the participation rate of women in primary and secondary education shows an increase, the gap is still clearly visible in higher education, particularly in STEM fields. Deep-rooted patriarchal culture, social perceptions of women's roles, limited gender-friendly educational facilities, and bias in the curriculum are the main obstacles reinforcing this inequality. The implementation of national gender equality policies has also not been optimal due to differences in resources between regions and the lack of integration of a gender perspective in educational planning.

To achieve fair and equitable education, systematic efforts are required through affirmative policies, gender-responsive curriculum reform, enhanced teacher capacity, and the provision of inclusive educational facilities. Furthermore, a shift in social paradigms within the community is essential so that women receive full support in pursuing education at all levels. Gender equality in education is not only about equal access but also about opening space for women to participate, achieve, and contribute equally to national development.

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