Education, Health, and Economic Factors Affecting Secondary School Participation and Dropout Rates in Indonesia

Rahcmad Budi Suharto[1], Hasanuddin[2], Jiuhardi[3], Diana Lestari[4]

[1,2,3,4] Universitas Mulawarman

ABSTRACT

This study examines the influence of education, health, and economic factors on secondary school participation and dropout rates in Indonesia. Specifically, it investigates the effects of education expenditure, health expenditure, per capita GDP, student-teacher ratio, and student-class ratio on these educational outcomes, both directly and indirectly through graduation rates. Using panel data regression analysis, this study evaluates the relationships among these variables based on data from multiple provinces over a given period. The results reveal that education expenditure significantly increases graduation rates but does not directly enhance school participation. Health expenditure negatively affects graduation rates and does not significantly impact participation rates. Per capita GDP and the student-teacher ratio do not significantly influence participation rates but contribute to lower dropout rates. Meanwhile, the student-class ratio positively affects graduation rates but has no significant effect on school participation. These findings highlight the need for policy adjustments, including optimizing education funding, improving healthcare access for students, and strengthening economic support for families to reduce dropout rates. Additionally, balancing student-teacher and student-class ratios is essential for enhancing educational outcomes.

Corresponding Author:

Name: Rahcmad Budi Suharto
Institution: Universitas Mulawarman, Jalan Kuaro Gunung Kelua, Samarinda, Kalimantan Timur
Email: rahcmad.budi.suharto@feb.unmul.ac.id

1. INTRODUCTION

Education is a fundamental pillar in the development of any nation, as it shapes the intelligence, capabilities, and character of future generations. It directly influences a country's competitiveness and its capacity to adopt and adapt to technological advancements, thereby enhancing productivity and promoting economic growth. Education, as a tool for building human capital, is pivotal in preparing the workforce to meet the challenges of an evolving global economy. Investment in education is crucial for boosting economic progress as it enhances efficiency and supports sustainable development, ultimately preparing individuals with essential skills and knowledge to thrive in an increasingly intricate world.

In Indonesia, the government has consistently demonstrated its commitment to improving the quality of education through substantial investments in human capital.

Following the mandates of Law No. 20 of 2003, the Indonesian government has allocated a minimum of 20% of its national budget to education, reflecting a strong focus on enhancing access to quality learning opportunities. This commitment aligns with both the constitutional requirement of Article 31 of the 1945 Constitution and the Constitutional Court's 2008 ruling, which mandated that the government and parliament allocate at least 20% of the state budget to education. Despite these efforts, challenges in ensuring widespread access to education, particularly at the secondary level, persist, particularly in remote and economically disadvantaged areas.

Human capital development, through education, has a significant impact on the productivity and efficiency of the labor force, and consequently, a country's economic growth. Education is widely regarded as one of the most productive forms of investment, yielding long-term benefits that transcend the immediate benefits of knowledge acquisition. It shapes a nation's workforce by improving skills and preparing individuals for the demands of the modern economy. The importance of education is not limited to individual advancement; rather, it is essential to the overall economic development and prosperity of a nation. Human capital, developed through education, is considered more valuable than material capital because it underpins long-term economic progress.

However, despite consistent increases in the education budget, challenges in access to education remain. The allocation of funds toward education has steadily risen, with the 2023 education budget reaching IDR 612.2 trillion, an increase from the previous year's allocation of IDR 574.9 trillion. Yet, data on the School Participation Rate (APS) indicates a worrying trend: in 2022, the APS for children aged 7-12 and 13-15 declined, while the APS for those aged 16-18 saw a slight increase. These statistics highlight the ongoing challenges in ensuring equal access to education at the secondary level, particularly for younger age groups. The continuing decline in participation rates at these critical educational stages underscores

the need for further research into the socio-economic, health, and educational factors that contribute to secondary school participation and dropout rates in Indonesia. This study aims to investigate how these interconnected factors—education, health, and economic conditions—affect the participation and dropout rates at the secondary school level, providing a comprehensive understanding of the challenges and opportunities for policy intervention.

2. LITERATURE REVIEW

Fiscal decentralization emerges as a significant topic in economic growth discourse, with its effects varying based on institutional structures and country-specific conditions. Early studies suggested that fiscal decentralization did not always lead to higher economic growth, particularly in developing nations with weak governance structures that hindered efficient resource allocation [1]. Conversely, in more developed economies, fiscal decentralization enhanced growth by enabling local governments to deliver public services more efficiently [2]. Expanding on this perspective, Akai, Nishimura, and Sakata (2007) highlighted that the degree of fiscal autonomy and regional economic structures played a crucial role in shaping decentralization outcomes [3]. Similarly, Barankay and Lockwood (2007) emphasized the role of decentralization in enhancing accountability and efficiency, particularly in politically stable regions [4]. More recent studies corroborated these findings, indicating that fiscal decentralization fostered economic growth when local governments possessed adequate revenue-generating capacity [5]. However, the effectiveness of decentralization remained contingent on institutional quality, with strong governance mechanisms being essential for positive outcomes [6]. In the context of developing countries, fiscal decentralization stimulated regional economic development, though its success depended on governance efficiency and fiscal discipline at the local level [7]. Rodríguez-Pose and Ezcurra (2011) further supported this argument, asserting that the

benefits of fiscal decentralization were largely determined by institutional quality [8]. While some empirical evidence showed mixed results, as in the case of partial fiscal decentralization in Spain's educational sector [9], other studies linked decentralization to economic growth while cautioning against inefficiencies, as observed in China [10], [11]. Additionally, reviews of decentralization in developing countries underscored the necessity of effective governance mechanisms to maximize its benefits [12]. Other studies extended the discussion by examining the broader impact of fiscal decentralization on economic development [13].

Empirical evidence from various countries supports the claim that fiscal decentralization influences social service outcomes, particularly in education and welfare. Several studies have found that decentralization positively impacts the quality of public education, although challenges related to coordination may arise [14]. Similarly, fiscal decentralization in Ethiopia has been shown to improve education and health outcomes, reinforcing the argument that local governance plays a critical role in service delivery [15]. The relationship between decentralization and school performance further highlights the importance of local governance structures in determining educational success [16]. Additionally, decentralization has been linked to greater citizen satisfaction with welfare services [17]. However, the effectiveness of decentralization in enhancing social services depends on the design of fiscal policies and the capacity of local governments to implement them[18]. In this regard, government spending on education and health has been found to be more effective in decentralized systems, particularly in developing and transition economies [19]. Evidence from Bolivia and Colombia confirms that better educational outcomes can be achieved when local authorities have sufficient autonomy and resources to manage service provision [20]. Despite these benefits, concerns remain regarding disparities in service delivery, as fiscal decentralization in China has contributed to growing regional

inequalities in social service access [21]. Moreover, the effects of decentralization on income inequality appear to vary depending on institutional capacity and regional disparities [22].

In sub-Saharan Africa, research has indicated that fiscal decentralization can enhance educational outcomes if funding mechanisms are effectively structured [23]. From a global perspective, decentralization in education systems presents both potential benefits and challenges, depending on governance structures and policy implementation [24]. The role of governance in mediating the effects of decentralization has also been emphasized, with findings suggesting that positive social outcomes are more likely when strong institutional frameworks are in place [25]. In Indonesia, increased local control over education budgets has been associated with improvements in both access and quality of primary education [26]. However, concerns remain regarding the potential for decentralization to exacerbate regional income inequality, particularly if fiscal resources are not equitably distributed [27]. Beyond education, fiscal decentralization has also been recognized for its role in improving health outcomes across various countries, further highlighting its broader social implications [28].

Beyond its economic implications, fiscal decentralization is also associated with improvements in governance efficiency, as it allows local governments to adapt policies and services to the specific needs of their regions. Bardhan (2006) argued that decentralization enhanced governance by bringing decision-making closer to citizens, which fostered accountability and reduced bureaucratic inefficiencies [29]. This view was supported by Bjørnskov, Dreher, and Fischer (2008), who argued that decentralization could mitigate corruption by reducing rent-seeking opportunities at the national level, though this depended on the strength of local institutions [30]. Diaz-Serrano and Rodríguez-Pose (2012) provided empirical evidence suggesting that decentralized governance structures improved public

service delivery and citizen satisfaction, particularly in regions with strong institutions [31]. Further research by Diaz-Serrano and Rodríguez-Pose (2015) demonstrated that decentralization enhanced government efficiency by promoting competition among local governments, which drove better policy implementation [17]. However, Diaz-Serrano and Meix-Llop (2019) cautioned that excessive fragmentation of authority could result in coordination failures [14]. Delgado, Demirbaş, and Aysan (2022) also showed that fiscal decentralization improved governance performance when it was accompanied by transparency and institutional checks and balances [32]. In conclusion, while fiscal decentralization could improve governance efficiency, its success was largely contingent upon institutional quality, political stability, and the capacity of local governments to effectively manage resources.

Fiscal decentralization also plays a critical role in shaping social outcomes, particularly in sectors such as education, healthcare, and welfare, by enabling local governments to allocate resources more efficiently in response to regional needs. Akpan and Author (2011) argued that decentralization could enhance education and healthcare services by giving local authorities greater control over budget allocation, thereby improving service delivery [33]. Similarly, Cantarero and Pascual (2008) found that fiscal decentralization positively influenced health outcomes by increasing local public health spending, which led to better access to healthcare services [34]. Brutti (2020) suggested that decentralized fiscal systems contributed to improved social welfare by reducing inequality and fostering inclusive economic growth, as local governments were better positioned to address region-specific challenges than centralized administrations [35]. Moreover, Ashfahany, Djuuna, and Rofiq (2020) provided evidence from Indonesia, showing that fiscal decentralization had significantly improved education and healthcare infrastructure, particularly in rural areas [36]. While decentralization held promise for improving social outcomes, its success

depended on the capacity, transparency, and equitable distribution of fiscal resources at the local level.

Health plays a crucial role in the development of human capital, as access to quality healthcare services is directly linked to productivity and long-term economic growth. Baltag, Pachyna, and Hall (2015) emphasized that investments in adolescent healthcare enhanced cognitive and physical development, which in turn contributed to a more skilled and productive workforce [37]. Bezem et al. (2017) further highlighted that preventive healthcare measures and early interventions could reduce long-term medical costs while improving overall productivity [38]. Au, Altman, and Roussel (2008) argued that equitable access to healthcare services not only improved individual well-being but also enhanced labor market outcomes, as healthier individuals were more likely to participate actively in economic activities [39]. These findings suggested that integrating healthcare policies with broader human capital development strategies was crucial for ensuring sustainable economic progress. Furthermore, Langi et al. (2023) and Anwar et al. (2024) demonstrated that social assistance programs during the COVID-19 pandemic played a role in reducing poverty and economic inequality in Indonesia [40][41].

Income distribution, social insurance, and welfare remain key issues in economic policy, with implications for both economic growth and social stability. Alesina and Rodrik (1994) argued that income inequality hindered economic growth by reducing investments in human capital and creating social tensions [42]. Arimah (2004) showed that income inequality was closely linked to urban poverty, exacerbated by inadequate social welfare programs [43]. Chetty and Looney (2006) highlighted the role of social insurance programs in mitigating economic shocks, demonstrating that well-designed welfare policies could stabilize economies by providing a safety net for vulnerable populations [44]. Collectively, these studies suggested that addressing income inequality through targeted social insurance mechanisms was essential for fostering

inclusive growth and improving overall welfare.

Investments in education are central to both economic and social development, with numerous studies linking education spending to improved learning outcomes and long-term growth. Al-Samarrai (2006) found that increased public expenditure on education led to better access and quality of education, especially in developing countries [45]. Anyanwu and Erhijakpor (2007) found a strong correlation between education spending and literacy rates, underscoring the importance of targeted investments in human capital [46]. Baldacci, Guin-Siu, and de Mello (2003) argued that higher government spending on education led to greater economic growth by enhancing workforce productivity [47]. Lestari et al. (2022) found that financial development and corruption play a crucial role in supporting economic growth in developing countries [48]. A more advanced financial system can improve access to education by providing funding for scholarships and school infrastructure, while high levels of corruption can hinder the effective allocation of education budgets [48]. Barro and Lee (2001) emphasized that the quality of schooling, rather than just enrollment rates, was a key determinant of economic performance [49]. Boissiere (2004) and Burney and Irfan (1995) further argued that education funding had to be efficiently allocated to maximize learning outcomes, particularly for disadvantaged populations [50], [51]. Finally, Card and Krueger (1996) highlighted that equitable funding could reduce disparities in educational attainment [52], while Dissou, Didic, and Yakautsava (2016) demonstrated the long-term benefits of education spending on labor market efficiency [53]. These studies highlighted the importance of sustained and well-targeted education investments in promoting economic development and reducing inequality.

Fiscal decentralization in education emerges as a significant factor in improving educational outcomes by empowering local authorities to make decisions and allocate resources effectively. Singh et al. (2024)

argued that gradual fiscal decentralization in India led to sustainable and localized improvements in education delivery [54]. the study by Musviyanti et al. (2022) highlighted the importance of local government budget structures in supporting fiscal autonomy, which had implications for the availability of education and healthcare services [55]. Better access to healthcare facilities improved student well-being and reduced dropout rates due to health-related issues Elacqua et al. (2021) supported this by highlighting the positive impact of decentralization on student outcomes and teacher quality in Colombia, showing that local control could drive educational success [56]. In Korea, Jeong et al. (2017) found that decentralizing education, alongside adequate school resources, improved student performance [57]. However, Kameshwara et al. (2020) cautioned that decentralization did not always deliver the expected benefits, as seen in some global cases [24]. Ahlin and Mörk (2008) noted that decentralization could affect school resources, which significantly influenced educational outcomes [58]. In Europe, Jacqmin and Lefebvre (2021) observed mixed results in the performance of higher education institutions following fiscal decentralization, emphasizing the need for a well-structured framework [59]. Anam and Plaček (2023) argued that fiscal decentralization contributed to overall economic growth, suggesting its positive effects extended beyond education [60]. Lastly, Sumintono et al. (2023) discussed Indonesia's experience with educational decentralization, noting local authorities' critical role in shaping policies, despite challenges related to authority and resource distribution[61]. Sakhiyya and Wijaya Mulya (2023) further examined Indonesia's evolving educational decentralization, highlighting both successes and challenges in achieving educational equity and quality [62]. These studies collectively indicated that fiscal decentralization in education could significantly enhance outcomes when implemented thoughtfully and supported by appropriate resources and frameworks.

The aim of this study is to analyze the education, health, and economic factors that influence secondary school participation and dropout rates in Indonesia. This research seeks to identify the relationships between access to education, the quality of healthcare services, and family economic conditions with students' decisions to remain in school or drop out. To accomplish this goal, the study will evaluate the following hypotheses:

H1: Education expenditure positively affects the secondary school participation rate, both directly and indirectly through the secondary school graduation rate.

H2: Health expenditure positively affects the secondary school participation rate, both directly and indirectly through the secondary school graduation rate.

H3: Per capita GDP positively affects the secondary school participation rate, both directly and indirectly through the secondary school graduation rate.

H4: The student-teacher ratio positively affects the secondary school participation rate, both directly and indirectly through the secondary school graduation rate.

H5: The student-class ratio positively affects the secondary school participation rate, both directly and indirectly through the secondary school graduation rate.

H6: Education expenditure negatively affects the secondary school dropout rate, both directly and indirectly through the secondary school graduation rate

H7: Health expenditure negatively affects the secondary school dropout rate, both directly and indirectly through the secondary school graduation rate.

H8: Per capita GDP negatively affects the secondary school dropout rate, both directly and indirectly through the secondary school graduation rate.

H9: The student-teacher ratio negatively affects the secondary school dropout rate, both directly and indirectly through the secondary school graduation rate.

H10: The student-class ratio negatively affects the secondary school dropout rate, both directly and indirectly through the secondary school graduation rate.

3. METHODS

This research aims to investigate how fiscal decentralization influences access to secondary education, both directly and indirectly, by affecting graduation rates. It adopts a quantitative descriptive method, where descriptive analysis is used to interpret the data collected, while quantitative analysis employs statistical tools to conduct hypothesis testing [63]. This study follows an explanatory research approach, aiming to explain the relationships between various interrelated variables. It seeks to test the hypothesis that education spending, health expenditure, per capita GDP, student-teacher ratios, and student-class ratios affect school participation and dropout rates, as well as graduation rates at the secondary level. The study focuses on all 34 provinces in Indonesia.

The independent variables in this research include fiscal decentralization, which encompasses government spending on education, government spending on health, per capita GDP as a representation of average income levels, student-teacher ratios, and student-class ratios. These variables are expected to influence school participation and dropout rates through graduation rates at the secondary level. The data will be collected over a 10-year period from 2014 to 2023, with a focus on senior high school (SMA/SMK) education to determine the comparative impact of fiscal decentralization on secondary education access.

Secondary data from various government agencies will be utilized in this study. These data sources include the Indonesian Central Statistics Agency (BPS) of each province, the Directorate General of Fiscal Balance, the Ministry of Education and Culture, and the Regional Data Management Information System (Simreg Bappenas). To illustrate the relationship between decentralization and school participation rates, the study will apply the model developed by [9], which integrates decentralization variables and education resources [9]. The equations in this model will help measure the influence of intervening or

mediating variables, such as graduation rates, on educational outcomes.

To assess the relationships between independent and dependent variables, this study will use the Structural Equation Model (SEM) with a path analysis approach that incorporates intervening variables. Structural Equation Modeling (SEM) integrates regression analysis, factor analysis, and path analysis to test theoretical models with multiple dependent and independent variables (Fornell & Larcker, 1981; Hair et al., 2019). It consists of two components: the outer model, which evaluates the relationship between latent variables and their indicators, and the inner model, which assesses structural relationships among latent variables. SEM's validity and reliability are ensured through Convergent Validity (AVE > 0.5), Discriminant Validity (Fornell-Larcker Criterion), and reliability measures (CR or Cronbach's Alpha > 0.7). The model's explanatory power is assessed with R-Square (R^2), while predictive relevance is tested with Q^2 (Stone-Geisser Criterion).

4. RESULTS AND DISCUSSION

This research examines the correlation between various fiscal decentralization indicators—such as government spending on education and healthcare, per capita GDP, student-to-teacher ratio, and student-to-class ratio—and secondary school participation and dropout rates across 34 provinces in Indonesia. To assess the strength and reliability of the relationships between fiscal decentralization indicators and education outcomes, the model's goodness-of-fit evaluation was conducted. The model's goodness-of-fit evaluation shows strong support for its validity, with all key indices meeting the required thresholds. The Chi-square value was 0.000, indicating a well-fitting model, as lower Chi-square values suggest better overall fit, especially with a sample size under 200. Additionally, the RMSEA value of 0.000 is well below the 0.08 threshold, confirming a close fit. The Goodness of Fit Index (GFI) achieved a value of 1.000, signifying a perfect fit, while the Adjusted Goodness of Fit Index (AGFI) also recorded 1.000, exceeding the recommended threshold of 0.90. Other indices, including CMIN, TLI, and CFI, further supported the model's adequacy. With all goodness-of-fit criteria met, the model is deemed to have a strong alignment with the data, confirming its suitability for analysis.

This study analyzes the influence of various factors on school participation rates, school dropout rates, and graduation rates, based on the proposed hypotheses. Direct and indirect influences are presented in Figure 1, Table 1 and 2. The findings support the first hypothesis (H1), which posits that education spending has a positive effect on graduation rates, with a coefficient of 7.467 and p = 0.000. However, there is no significant direct effect on school participation through graduation rates (coefficient 3.639, CR = 1.352, p > 0.05). In contrast, the second hypothesis (H2), suggesting that health spending positively affects school participation through graduation rates, is rejected because health spending has a significant negative effect on graduation rates (coefficient -3.356, p = 0.000) and does not significantly affect school participation through graduation (coefficient -1.636, CR = 0.199, p > 0.05). Similarly, the third hypothesis (H3), which assumes that per capita GDP positively affects school participation through graduation, is also rejected, as per capita GDP does not have a significant effect on graduation rates (coefficient 0.097, p = 0.248) or school participation (coefficient 0.047, CR = 0.378, p > 0.05).
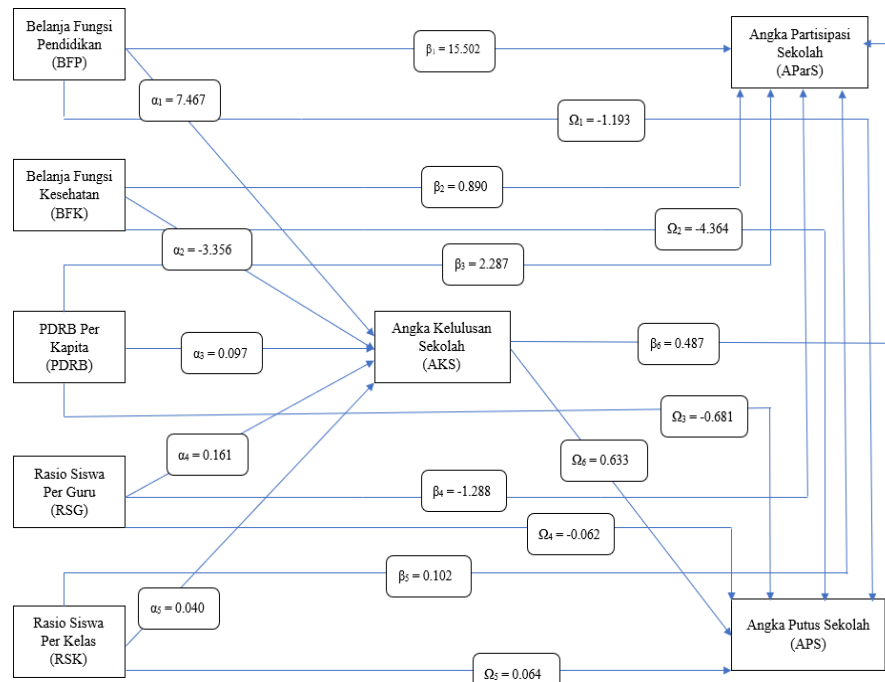
Figure 1. Results of the Analysis of Direct and Indirect Influences Between Variables

Table 1. The Indirect Effect of Education Function Expenditure, Health Function Expenditure, Per Capita GRDP, Student-Teacher Ratio, and Student-Class Ratio on School Participation Rate Through School Graduation Rate

Influence Between Variables			Coefficient	Critical Ratio (z-value)	p-value	Description
Exogen Variable	à	Endogen Variable				
Education expenditure			3.639	1.352	0.176	Reject
Health expenditure			-1.636	-1.285	0.199	Reject
Per capita GDP	à	The secondary school dropout rate	0.047	0.882	0.378	Reject
The student-teacher ratio			0.079	1.342	0.18	Reject
The student-class ratio			0.019	1.177	0.239	Reject

Table 2. The Indirect Effect of Education Function Expenditure, Health Function Expenditure, Per Capita GRDP, Student-Teacher Ratio, and Student-Class Ratio on School Dropout Rate Through School Graduation Rate

Influence Between Variables			Coefficient	Critical Ratio (z-value)	p-value	Description
Exogen Variable	à	Endogen Variable				
Education expenditure			4.725	6.733	0.000	Support
Health expenditure			-2.124	-3.519	0.000	Reject
Per capita GDP	à	The secondary school dropout rate	0.062	1.146	0.252	Reject
The student-teacher ratio			0.102	5.772	0.000	Support
The student-class ratio			0.025	2.253	0.024	Support

Furthermore, the study rejects the hypotheses related to the student-teacher ratio (H4) and the student-class ratio (H5), which claim that these factors positively affect school participation through graduation rates. The student-teacher ratio does have a significant positive effect on graduation rates (coefficient 0.61, p = 0.000) but has a negative impact on school participation (coefficient -1.288, p = 0.000), while the student-class ratio only has a positive effect on graduation rates (coefficient 0.040, p = 0.021), with no significant effect on school participation (coefficient 0.102, p = 0.374). The study also

finds that education spending does not have a significant effect on school dropout rates (coefficient -1.193, p = 0.267), leading to the rejection of this hypothesis. On the other hand, the seventh hypothesis (H7), suggesting that health spending negatively affects school dropout rates, is supported, as health spending has a significant negative effect on dropout rates (coefficient -2.124, CR = -3.519, p < 0.05). Additionally, the results support the eighth hypothesis (H8), which claims that per capita GDP negatively affects school dropout rates (coefficient -0.681, p = 0.000), as well as the ninth hypothesis (H9), stating that the student-teacher ratio negatively affects school dropout rates (coefficient -0.062, p = 0.032). The student-class ratio (H10) also proves to have a significant effect on school dropout rates, but with a positive influence (coefficient 0.064, p = 0.002).

The results of this study offer valuable insights into how education, health, and economic factors influence school participation and dropout rates in Indonesia. In alignment with prior research, this study reaffirms that education spending plays a crucial role in improving graduation rates, thus supporting the first hypothesis (H1). However, contrary to expectations, education expenditure does not have a significant direct effect on school participation through graduation rates. This result suggests that while increased education spending improves graduation rates, it does not necessarily translate into higher participation rates, possibly due to other intervening factors such as economic constraints or regional disparities. Similarly, health expenditure was expected to positively influence school participation through graduation rates (H2), but the findings reveal a significant negative effect of health spending on graduation rates. This unexpected outcome might be attributed to inefficiencies in the allocation of health resources or the potential diversion of funds away from essential educational support services.

The study's findings align with global research on fiscal decentralization in education but also highlight unique contextual challenges in Indonesia. For instance, research in sub-Saharan Africa and India has shown that decentralization can improve educational outcomes if governance structures are robust [23]. However, other studies have emphasized the mixed effects of decentralization on student outcomes depending on institutional frameworks and resource distribution [24], [64]. In the Indonesian context, local control over education budgets has led to improved primary education access [26], yet concerns persist regarding regional inequalities [27]. This study's findings reinforce these concerns, as per capita GDP was not found to significantly affect school participation or graduation rates, suggesting that economic growth alone is insufficient to drive higher education engagement.

Another notable finding relates to the student-teacher and student-class ratios. Contrary to the expectation that a higher student-teacher ratio would positively affect school participation through graduation rates (H4), the study finds a significant negative impact on participation rates despite a positive effect on graduation rates. This suggests that while students in larger classes may still graduate, the overcrowding effect discourages new enrollments. Similarly, the student-class ratio has a positive effect on graduation rates but no significant impact on participation (H5). These findings align with previous research in Korea and Colombia, which emphasize that while school resources and teacher quality matter, structural factors such as class sizes must be optimized to ensure both access and quality improvements [56], [57].

Regarding dropout rates, the study presents mixed results. Education expenditure does not significantly affect dropout rates (H6), indicating that merely increasing education budgets may not directly reduce dropouts unless accompanied by targeted interventions. However, the significant negative effect of health expenditure on dropout rates (H7) suggests that improved healthcare access may reduce student attrition, potentially by addressing health-related barriers to school attendance. The findings also support the hypothesis that

per capita GDP negatively affects dropout rates (H8), implying that better economic conditions reduce financial pressures on families, allowing students to stay in school. Moreover, the student-teacher ratio negatively affects dropout rates (H9), while the student-class ratio positively influences dropout rates (H10), underscoring the importance of balanced class sizes to prevent school attrition.

5. CONCLUSION

This research was carried out to explore the educational, health, and economic factors that impact school attendance and dropout rates in Indonesia. Specifically, it aims to analyze the impact of education expenditure, health expenditure, per capita GDP, student-teacher ratio, and student-class ratio on school participation and dropout rates, both directly and indirectly through graduation rates. The findings indicate that education expenditure positively affects graduation rates but does not significantly increase school participation. Meanwhile, health expenditure has a negative impact on graduation rates and does not significantly influence school participation. Additionally, per capita GDP and the student-teacher ratio do not have a significant effect on school participation but negatively affect dropout rates. The student-class ratio only influences graduation rates but does not significantly affect school participation.

Based on these findings, this study recommends policies that focus on optimizing education expenditure allocation to enhance school participation and improving healthcare services to prevent negative impacts on graduation rates. Moreover, policies aimed at strengthening family economic capacity are necessary to reduce dropout rates, along with optimizing student-teacher and student-class ratios to improve learning effectiveness. However, this study has limitations in terms of the variables considered, as it does not account for factors such as teaching quality or regional education policies. Future studies should consider incorporating additional variables to gain a more holistic understanding of the factors affecting school participation and dropout rates in Indonesia.

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