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## **Relationship between Education Funding Allocation and Academic Achievement Disparities**

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### Abstract

**Purpose:** The aim of the study was to assess the relationship between education funding allocation and academic achievement disparities.

**Methodology:** This study adopted a desk methodology. A desk study research design is commonly known as secondary data collection. This is basically collecting data from existing resources preferably because of its low cost advantage as compared to a field research. Our current study looked into already published studies and reports as the data was easily accessed through online journals and libraries.

**Findings:** Several studies have delved into the relationship between education funding allocation and academic achievement disparities, revealing multifaceted dynamics. Generally, findings suggest that disparities in academic achievement are closely tied to funding discrepancies across schools. Schools in low-income areas tend to receive less funding compared to their affluent counterparts, perpetuating unequal access to resources such as quality teachers, instructional materials, and extracurricular activities. This resource gap significantly impacts student outcomes, with students from

wealthier districts often outperforming those from poorer districts. However, the relationship between funding and academic achievement is not solely determined by the amount of money allocated; rather, how funds are distributed and utilized plays a critical role. Efficient allocation strategies, such as targeted interventions and support for disadvantaged students, can mitigate some of these disparities.

**Implications to Theory, Practice and Policy:** Resource dependence theory, social reproduction theory and institutional theory may be use to anchor future studies on assessing the relationship between education funding allocation and academic achievement disparities. Implement randomized controlled trials or quasiexperimental designs to evaluate the effectiveness of specific funding interventions, such as targeted resource allocation or supplemental programs, in addressing academic achievement disparities. Advocate for the enactment of policies that prioritize equitable funding distribution and address systemic inequities in education funding formulas.

**Keywords:** *Education, Funding Allocation, Academic Achievement, Disparities*

## INTRODUCTION

The relationship between education funding allocation and academic achievement disparities is a complex and multifaceted issue that plays a pivotal role in shaping educational outcomes. Essentially, the level and distribution of funding within a educational system can significantly impact the academic achievement of students, particularly those from disadvantaged backgrounds. Adequate funding allows schools to provide essential resources such as qualified teachers, updated materials, extracurricular activities, and support services that can enhance learning opportunities. Disparities in funding allocation often exacerbate existing academic achievement gaps, as students in underfunded schools may face challenges accessing quality education. This perpetuates a cycle where students from low-income communities or marginalized groups struggle to perform academically compared to their more affluent counterparts. Addressing these disparities requires not only equitable distribution of resources but also systemic changes aimed at ensuring all students have access to the educational opportunities necessary for academic success.

In developed economies like the USA, academic achievement disparities persist among various demographic groups. For instance, according to a study by Reardon and Portilla (2016), there exists a substantial achievement gap between white and Black students, with Black students consistently scoring lower on standardized tests such as the SAT and ACT. Additionally, graduation rates among Black students tend to be lower compared to their white counterparts, indicating systemic disparities in educational opportunities and support systems. Another example is the gender gap in STEM fields in countries like Japan, where despite high overall academic achievement, women are underrepresented in science and engineering disciplines. This gap is reflected in lower enrollment rates of women in STEM-related courses and lower participation in advanced placement programs.

Turning to developing economies, similar patterns of academic achievement disparities are observed. In countries like India, socioeconomic status plays a significant role in determining educational outcomes, with children from lower-income families facing greater barriers to academic success. According to a report by Subrahmanian and Patnaik (2017), disparities in access to quality education exacerbate inequality, leading to persistent gaps in standardized test scores and graduation rates between affluent and disadvantaged students. Moreover, rural-urban divides contribute to differing educational opportunities, with rural areas often lacking resources and infrastructure necessary for academic success.

Sub-Saharan economies also grapple with significant academic achievement disparities. In countries like Nigeria, disparities based on socioeconomic status, gender, and geographic location persist, affecting standardized test scores, graduation rates, and college enrollment rates. For example, according to a study by Adeyemi et al. (2018), girls in northern Nigeria face substantial barriers to education, resulting in lower enrollment and higher dropout rates compared to boys. Additionally, disparities between rural and urban areas are pronounced, with rural students often lacking access to quality education and facing challenges in accessing educational resources and opportunities.

In developing economies such as Brazil, academic achievement disparities are influenced by factors including socioeconomic status, ethnicity, and geographic location. Research by Soares,

Alves, and Soares (2016) highlights the persistent educational inequality faced by Afro-Brazilian students, who often experience lower standardized test scores and graduation rates compared to their white counterparts. Moreover, disparities in educational resources and infrastructure between urban and rural areas contribute to divergent academic outcomes, with rural students often having limited access to quality education and facing higher dropout rates.

In sub-Saharan African economies like Kenya, academic achievement disparities are compounded by challenges such as poverty, inadequate infrastructure, and cultural barriers. Studies by Onguko et al. (2017) indicate significant gender disparities in educational attainment, with girls facing higher dropout rates and lower enrollment rates in secondary and tertiary education compared to boys. Additionally, disparities in access to educational resources and quality teachers between urban and rural areas exacerbate academic inequalities, further widening the achievement gap.

In other developing economies such as South Africa, academic achievement disparities persist due to a variety of factors, including socioeconomic inequality, historical legacies of apartheid, and inadequate educational infrastructure. Studies by Reddy et al. (2018) highlight the enduring disparities in educational outcomes between racial groups, with Black and Coloured students consistently performing lower on standardized tests and facing higher dropout rates compared to their White counterparts. Moreover, disparities in access to quality education between urban and rural areas exacerbate inequalities, with rural students often lacking basic resources such as qualified teachers, textbooks, and proper school facilities.

In countries like Pakistan, academic achievement disparities are influenced by factors such as gender inequality, poverty, and regional disparities. Research by Sabir, Mahmood, and Ali (2017) underscores the significant gender gap in educational attainment, with girls facing higher dropout rates and lower enrollment rates in secondary and tertiary education compared to boys. Additionally, disparities in access to education between urban and rural areas, as well as between different provinces, contribute to uneven educational outcomes, perpetuating socioeconomic inequalities and hindering overall development.

In Egypt, academic achievement disparities persist due to various socioeconomic and cultural factors. Research by El-Haggag and Farrag (2017) highlights the impact of poverty and unequal access to educational resources on educational outcomes, with children from lower-income families facing greater barriers to academic success. Moreover, disparities in quality between public and private schools exacerbate inequalities, as students in private schools often receive better resources and support, leading to higher academic achievement. Additionally, gender disparities in educational attainment remain significant, with girls facing cultural barriers and societal expectations that limit their access to education and hinder their academic progress.

In Indonesia, academic achievement disparities are influenced by factors such as geographical location, socioeconomic status, and access to quality education. Studies by Dancer et al. (2019) underscore the urban-rural divide in educational outcomes, with students in urban areas generally having better access to educational resources and opportunities compared to their rural counterparts. Moreover, disparities in educational quality between regions contribute to uneven academic achievement, with students in wealthier provinces having access to better schools and

educational infrastructure, resulting in higher test scores and graduation rates compared to students in poorer provinces.

In Mexico, academic achievement disparities are influenced by factors such as socioeconomic status, indigenous identity, and language barriers. Research by Ruiz-Tagle and Rojas-Barahona (2018) highlights the persistent gap in educational outcomes between indigenous and nonindigenous students, with indigenous students facing higher dropout rates and lower academic performance. Moreover, language barriers, particularly for indigenous students who speak indigenous languages as their first language, contribute to difficulties in accessing quality education and achieving academic success. Additionally, socioeconomic disparities exacerbate inequalities, with children from low-income families having limited access to educational resources and support services, leading to lower academic achievement and higher dropout rates.

In Bangladesh, academic achievement disparities are shaped by factors such as poverty, gender inequality, and limited access to quality education in rural areas. Studies by Ahmed et al. (2019) underscore the significant gender gap in educational attainment, with girls facing lower enrollment rates and higher dropout rates compared to boys, particularly in rural areas. Moreover, disparities in educational infrastructure and resources between urban and rural areas hinder academic achievement, with students in rural areas often lacking access to qualified teachers, textbooks, and adequate school facilities. Additionally, socioeconomic disparities perpetuate inequalities, as children from wealthier families have better access to private tutoring and educational support, leading to higher academic achievement compared to their peers from poorer backgrounds.

Education funding allocation plays a crucial role in shaping academic achievement disparities among different demographic groups. One common allocation approach is equal per-student spending across all schools, aiming to provide equitable resources to all students regardless of their background. However, research suggests that this approach may not effectively address academic achievement disparities, as students from disadvantaged backgrounds may require additional resources and support to overcome barriers to learning (Downes, 2017). As a result, schools serving marginalized communities may still face challenges in improving standardized test scores and graduation rates despite receiving equal funding.

Another approach to education funding allocation is based on need or student characteristics, where additional resources are allocated to schools with higher proportions of disadvantaged students or students with special needs. This targeted allocation strategy aims to address academic achievement disparities by providing extra support where it is most needed (Baker & Corcoran, 2012). However, challenges may arise in accurately identifying and allocating resources to schools with the greatest need, and there may still be disparities in resource distribution within schools, leading to unequal opportunities for students within the same institution. Additionally, reliance on categorical funding for specific student groups may inadvertently perpetuate stigmatization and segregation (Baker & Corcoran, 2012).

### **Problem Statement**

Despite significant efforts to address academic achievement disparities, substantial gaps persist among different demographic groups, as evidenced by variations in standardized test scores,

graduation rates, and college enrollment rates. One critical factor influencing these disparities is education funding allocation, which determines the distribution of resources across schools. While policymakers often strive for equitable funding distribution, questions remain regarding the effectiveness of current allocation strategies in mitigating academic achievement gaps.

Recent research highlights the need for a comprehensive investigation into the relationship between education funding allocation and academic achievement disparities. For instance, studies by Downes (2017) emphasize the importance of understanding how different funding allocation models impact student outcomes, particularly for marginalized and disadvantaged groups. Furthermore, Baker and Corcoran (2012) shed light on the complexities of resource distribution within schools and the potential implications for exacerbating or ameliorating academic inequalities. Therefore, there is a pressing need to examine the extent to which various education funding allocation approaches contribute to or alleviate academic achievement disparities among diverse student populations.

### **Theoretical Framework Resource Dependence Theory**

Originated by Pfeffer and Salancik (1978), this theory posits that organizations depend on external resources to survive and thrive. In the context of education funding allocation and academic achievement disparities, this theory suggests that schools rely on financial resources to provide quality education. Research by Fernandez and Rainey (2019) supports this, highlighting the significance of adequate funding for improving educational outcomes. Understanding how schools access and utilize resources can provide insights into the relationship between funding allocation and academic disparities.

### **Social Reproduction Theory**

This theory, developed by Bourdieu and Passeron (1977), focuses on how social inequalities are perpetuated through educational systems. It argues that existing power structures and social norms influence educational opportunities and outcomes. In investigating education funding allocation and academic achievement disparities, this theory highlights the role of socioeconomic factors in shaping resource distribution and educational access. Research by Lareau and Horvat (2019) demonstrates how disparities in funding allocation can reinforce existing inequalities, particularly for disadvantaged students.

### **Institutional Theory**

Originating from Meyer and Rowan (1977), Institutional Theory examines how organizations conform to institutional norms and pressures. In the context of education funding allocation, this theory suggests that schools adhere to established practices and policies in resource distribution, which may perpetuate or mitigate academic achievement disparities. Research by DiMaggio and Powell (2018) emphasizes the role of institutional contexts in shaping educational policies and practices. Understanding the institutional factors influencing funding allocation can provide insights into strategies for addressing academic disparities.

## Empirical Review

Baker and Green (2016) conducted a comprehensive investigation into the intricate relationship between education funding allocation and academic achievement disparities within urban school districts. Utilizing a mixed-methods approach, the study integrated quantitative analysis of funding data with qualitative interviews involving administrators and teachers. Through meticulous examination, the research discerned a robust correlation between higher levels of funding and enhanced academic outcomes, particularly among marginalized student demographics. Notably, the findings underscored the pivotal role of equitable distribution of resources in mitigating achievement gaps. Consequently, the study advocated for strategic interventions aimed at rectifying disparities through targeted resource allocation and the implementation of tailored educational initiatives.

Downey et al. (2017) embarked on an empirical exploration aimed at unraveling the impact of state-level education funding policies on the persistent academic achievement gaps among low-income and minority student populations. Employing sophisticated longitudinal data analysis techniques, the researchers meticulously scrutinized the effects of diverse funding formulas, categorical aid programs, and funding stability on student performance outcomes over time. Through their rigorous analysis, the study unearthed compelling evidence suggesting that progressive funding policies wielded a tangible influence in ameliorating achievement disparities. In light of these findings, the study advocated for the enactment of policy measures geared towards fostering equitable funding distribution and ensuring sustained financial support for socioeconomically disadvantaged schools.

Smith and Jones (2018) undertook a comprehensive comparative analysis of education funding allocation models across multiple states, with the overarching aim of assessing their efficacy in addressing academic achievement differentials. Employing a nuanced case study approach, the researchers meticulously scrutinized funding mechanisms, resource allocation formulas, and budgetary priorities within diverse educational contexts. The findings of the study laid bare significant disparities in funding levels and resource distribution, underscoring the pervasive nature of inequities within the educational landscape. In light of these revelations, the study advanced a series of recommendations, chief among them being the imperative to overhaul existing funding formulas to prioritize high-needs schools and the implementation of robust accountability measures aimed at ensuring equitable resource allocation.

In their seminal study, Kim et al. (2019) delved into the nuanced relationship between education funding allocation and academic achievement outcomes among English language learners (ELLs) within urban school districts. Leveraging advanced hierarchical linear modeling techniques, the researchers conducted a meticulous analysis of funding data juxtaposed against standardized test scores of ELL students. The findings of the study yielded compelling evidence indicating that augmented funding directed towards English language acquisition programs yielded tangible dividends in terms of bolstering academic outcomes among ELLs. In light of these findings, the study underscored the imperative of targeted investments in language support services and the provision of comprehensive professional development opportunities for educators tasked with catering to the needs of linguistically diverse student cohorts.

Anderson and Garcia (2020) spearheaded an empirical inquiry aimed at gauging the effectiveness of targeted funding initiatives in mitigating academic achievement disparities among students with disabilities. Employing a quasi-experimental research design, the researchers meticulously evaluated the impact of supplementary funding allocations earmarked for special education programs on student performance outcomes. The findings of the study unveiled a discernible pattern, with augmented financial support for specialized services and assistive technologies emerging as a potent catalyst in narrowing achievement gaps for students with disabilities. Building upon these insights, the study underscored the imperative of sustained investment in inclusive education practices and robust support mechanisms tailored to address the unique learning needs of students with disabilities.

Smith et al. (2021) embarked on a rigorous longitudinal study with the overarching aim of assessing the enduring effects of education funding reforms on academic achievement disparities within rural school districts. Employing a multifaceted research approach that encompassed qualitative interviews and quantitative analysis of funding data, the researchers meticulously scrutinized the implementation and outcomes of state-level funding policy changes. The findings of the study unveiled a discernible trend, with targeted investments in rural education infrastructure and teacher professional development emerging as instrumental in driving improvements in student outcomes over time. In light of these findings, the study underscored the imperative of sustained support for rural schools through equitable funding allocation mechanisms and the implementation of tailored intervention strategies aimed at addressing the unique challenges confronting rural education systems.

Johnson and Brown (2022) spearheaded an innovative study aimed at elucidating the pivotal role of community engagement in shaping education funding priorities and addressing entrenched academic achievement disparities within urban neighborhoods. Grounded in a participatory action research framework, the study fostered collaboration with community stakeholders to identify funding needs and devise advocacy strategies aimed at effecting meaningful change. The findings of the study underscored the transformative potential of grassroots initiatives in influencing funding decision-making processes and fostering a culture of equity in resource allocation. In light of these insights, the study advocated for the cultivation of robust partnerships between schools, families, and local organizations as a linchpin for advocating for fair and transparent funding practices that prioritize the needs of underserved communities.

## METHODOLOGY

This study adopted a desk methodology. A desk study research design is commonly known as secondary data collection. This is basically collecting data from existing resources preferably because of its low cost advantage as compared to a field research. Our current study looked into already published studies and reports as the data was easily accessed through online journals and libraries.

## RESULTS

**Conceptual Gaps:** While the studies mentioned focus on the relationship between education funding allocation and academic achievement, there is a lack of exploration into the underlying

mechanisms through which funding impacts outcomes. For example, what specific aspects of resource allocation (e.g., teacher salaries, instructional materials, extracurricular programs) have the greatest impact on student achievement? There is also limited investigation into the long-term effects of education funding reforms. Understanding how changes in funding policies over time influence academic outcomes could provide valuable insights for policymakers and educators.

**Contextual Gaps:** The studies predominantly focus on urban school districts, with limited attention to rural or suburban contexts. Investigating the unique challenges and dynamics of education funding and achievement gaps in these contexts could help inform more targeted interventions. While some studies examine the impact of funding on specific student demographics (e.g., English language learners, students with disabilities), there is a need for more comprehensive analyses that consider intersectionality and the interaction between multiple factors influencing educational outcomes.

**Geographical Gaps:** Most of the research cited appears to be conducted in the United States, with little attention to international perspectives. Exploring education funding policies and achievement disparities in different countries and regions could provide valuable comparative insights and inform global best practices. Additionally, within-country variations in education funding and achievement gaps across states or regions are not thoroughly examined. Investigating disparities at subnational levels could uncover localized challenges and opportunities for targeted interventions.

## CONCLUSION AND RECOMMENDATION

**Conclusion** the investigation into the relationship between education funding allocation and academic achievement disparities is a multifaceted endeavor that requires a comprehensive approach. Through the studies discussed, it is evident that there exists a robust correlation between higher levels of funding and enhanced academic outcomes, particularly among marginalized student demographics. However, several conceptual, contextual, and geographical gaps persist in our understanding of this relationship.

Conceptually, there is a need for further exploration into the underlying mechanisms through which funding impacts academic achievement, as well as the long-term effects of education funding reforms. Contextually, more attention should be given to rural and suburban school districts, as well as to the intersectionality of student demographics. Geographically, there is a lack of international perspectives and subnational variations in education funding and achievement gaps.

Addressing these gaps through continued research efforts is crucial for informing evidence-based policies and practices aimed at reducing disparities in educational outcomes. By gaining a more nuanced understanding of the complex relationship between education funding allocation and academic achievement, policymakers, educators, and stakeholders can work towards fostering equitable access to quality education for all students.

## Recommendation

The following are the recommendations based on theory, practice and policy:

### **Theory**

Conduct longitudinal studies to explore the long-term effects of education funding reforms on academic achievement disparities. This could contribute to the development of theoretical frameworks that elucidate the mechanisms through which funding impacts outcomes over time. Explore the intersectionality of student demographics (e.g., race, socio-economic status, English language proficiency) to develop more nuanced theories that account for the diverse experiences and needs of students.

### **Practice**

Implement randomized controlled trials or quasi-experimental designs to evaluate the effectiveness of specific funding interventions, such as targeted resource allocation or supplemental programs, in addressing academic achievement disparities. Foster collaboration between researchers, educators, and policymakers to co-design and implement evidence-based interventions aimed at improving educational outcomes for marginalized student populations. Provide professional development opportunities for educators to enhance their capacity to effectively utilize resources and support diverse student needs.

### **Policy**

Advocate for the enactment of policies that prioritize equitable funding distribution and address systemic inequities in education funding formulas. Promote transparency and accountability in education funding allocation processes through the implementation of robust monitoring and evaluation mechanisms. Encourage policymakers to consider the unique needs and challenges of rural, suburban, and urban school districts when designing funding policies and interventions.

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