



**RESEARCH PAPER**

**Exploring Multifaceted Factors Influencing Students' Academic Performance: A Sequential Mixed-Method Study**

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**ABSTRACT**

This study delves into the intricate factors shaping students' academic performance. Investigating the interplay between school-based and home-based factors, the research employs an explanatory sequential mixed-methods design, combining quantitative and qualitative data for a comprehensive understanding. The study, conducted in Lahore, Pakistan, with a sample of 535 secondary-level students, the study employs questionnaires, individual interviews, and purposive sampling. Quantitative results reveal a strong correlation between parental involvement and academic outcomes, surpassing the impact of human and physical resources. Enhanced physical facilities within schools emerge as significant contributors to academic achievement. Qualitative insights highlight authoritative parenting as a key predictor of success, addressing barriers to involvement through flexible scheduling and resource provision. Collaborative efforts between educators and parents are fundamental, overcoming obstacles like work commitments. Students stress the symbiotic relationship between physical and human resources for academic success. This study underscores the complexity of factors influencing performance, advocating a multifaceted, collaborative approach for academic excellence. Recognizing the interplay between parental involvement, resources, and human factors enables educational institutions to formulate strategies promoting student success.

**KEYWORDS** Academic Outcomes, Authoritative Parenting, Explanatory Sequential Mixed-Methods, Parental Involvement, Physical Resources

**Introduction**

Students are the invaluable assets of a nation, embodying its aspirations by selecting diverse vocations such as engineers, scientists, and doctors. Numerous obstacles obstruct students on their journey towards realizing their envisioned academic pursuits (Nguyen, Allen, & Fraccastoro, 2005). Across many regions globally, educational establishments in Pakistan employ the grade points attained in examinations as a pivotal indicator of academic excellence.

Crosnoe et al. (2004) affirmed that Researchers have dedicated decades to exploring the factors and variables linked to students' academic performance. Various elements have been discerned to exert an influence on academic achievement, encompassing the socioeconomic status of the family, institutional factors including both physical and human components, as well as demographic aspects within the family such as age, marital status, and income.

According to Byoung-suk (2012), students typically allocate five to six hours towards their studies, emphasizing the necessity of a conducive, safe, and appealing

environment for their learning and development. In the context of child development and growth, the academic institution's environment plays a crucial role.

The academic journey of a child is shaped by various encompassing environments, including the child's social, physical, cultural, and psychological milieu. A school setting that is conducive to a child's development is attractive to students, promoting their engagement in learning and overall growth of the child.

This study aims to investigate the correlation between social determinants, specifically parental involvement and the school environment, and their impact on students' academic performance. Academic achievement pertains to the educational objectives set by institutions, striving for the highest possible attainment.

Parental involvement entails active participation of parents in every aspect of their child's growth, development, and education, encompassing involvement in syllabi, meetings, and other educational endeavors. Parents, being the primary influencers in their children's lives, play a crucial role.

Therefore, this study is centered on analyzing the variables that influence students' academic performance in secondary schools across Pakistan.

### **Literature Review**

This section of the study provides an overview of factors and variables relevant to the research. It explores the impact of parental involvement in academic activities, participation in school meetings, and assistance with children's homework or test preparation. Additionally, it delves into how the school environment, encompassing both physical and human aspects, influences students' academic performance.

Students constitute vital assets for educational institutions. Their academic performance significantly influences the development of high-caliber individuals who will later emerge as exemplary leaders and contribute to a skilled workforce crucial for driving the country's economic and social progress. Students must exert the utmost effort in their academic pursuits to attain commendable grades and adequately equip themselves for prospective career prospects, aligning with the expectations of potential employers (Alos et al., 2015). Assessing the academic performance of students has garnered significant attention in prior research. It represents a challenging facet of academic literature, given that student performance is impacted by a range of social, psychological, economic, environmental, and personal factors. These elements exert a profound influence on student performance, albeit with variations from individual to individual and from one country to another (Mushtaq & Khan, 2012).

The optimal performance of students is a fundamental concern for educators, aiming to create a meaningful impact at various levels—locally, regionally, nationally, and globally. There has been a sustained interest among educators, trainers, and researchers in identifying and understanding the factors that significantly influence the quality of students' academic performance. These factors encompass both internal and external elements, shaping the educational achievement of learners. They can be categorized as elements related to the student, family, school environment, and peer interactions (Crosnoe et al., 2004). Battle & Lewis (2002) stated the grades awarded to individuals at the end of their academic pursuits are pivotal indicators of their competence and productivity as they embark on their initial career endeavors. Undoubtedly, an individual's education is intricately linked to their life prospects, financial earnings, and overall well-being.

## **Demographic**

The formal inquiry into the influence of demographic factors, which generally encompass age, gender, geographical belongingness, ethnicity, marital status, socioeconomic status (SES), parents' education level, parental profession, language, income, and religious affiliations (Mann, 1985).

Lipe (1989) conducted a study indicating that gender does not have a significant impact on students' academic performance. The research found that gender is a statistically insignificant factor that does not negatively affect students' success. Ballatine (1993) highlighted the comprehensive nature of demographic factors and their role in education.

Laband & Piette (1995) conducted study that also indicated that gender does not have a significant impact on students' academic performance. They found that gender is a statistically insignificant factor that does not negatively affect students' success.

Several studies, such as the one conducted by Kaighobadi and Allen (2008), demonstrate that female students generally outperform their male counterparts in Accounting and Auditing subjects in terms of academic grades. This suggests a gender-related difference in academic performance. Martha (2009) conducted a study whose findings indicated that there was no correlation or connection between a student's age or maturity level and their academic performance. In a study by Sheard (2009), the association between students' academic achievements and gender (male and female) was examined. The research revealed that performance was linked to factors related to student gender.

## **Parental Involvement**

Parental involvement is characterized by the active participation of parents in ongoing, two-way, and meaningful communication related to their child's academic learning and various school activities. This involvement goes beyond mere communication and includes a commitment to parents playing a vital role in assisting their child's learning. Furthermore, parents are actively encouraged to engage in their child's education within the school setting. Importantly, the concept of parental involvement extends to parents being recognized as full partners in their child's educational journey.

Griffith (1996) found that schools characterized by increased levels of parental involvement and empowerment tend to achieve higher student performance scores. This highlights the positive impact of parental engagement in education.

Marzano's (2003) research study investigating the correlation between the home environment and academic performance emphasized that parents with higher levels of education are better positioned to cultivate an environment conducive to their children's academic success. The study also underlined the role of schools in offering guidance and counseling to parents, enabling them to create a positive home atmosphere that enhances students' academic quality. The research findings highlighted the significant influence of the home environment on a student's academic performance.

Fullarton (2004) noted that scholars and educators have long regarded parental involvement in their children's education as a significant avenue for the success of the children. His study indicated that disparities in academic performance are influenced by parental background, with the institutional and home environment playing pivotal roles in shaping learners' academic outcomes.

Epstein (2005) also stated that the greater the level of parental engagement in their children's learning, the more positively it impacts academic achievement. This supports the idea that parental involvement is beneficial for students' academic success.

Adekola (2008) suggested that the academic success of students can be attributed to parental influences. This reinforces the notion that parents play a significant role in their children's educational outcomes.

Kapur (2018) emphasized that parents play a crucial role in overseeing a student's studies. It is essential for them to maintain a professional approach, ensuring a calm and pleasant teaching environment. Avoiding any form of harshness is important, as it can discourage and demotivate students. Kapur's insights further underscore the importance of parental involvement in fostering a positive educational atmosphere for students.

### **School Resources**

**Physical:** In the mid-1980s, Hanushek (1986) challenged the prevailing belief regarding school size and its impact on student achievement. Contrary to the common perception, he determined that the size of a school did not have a direct influence on student academic performance.

Thompson (1994) added another layer to the discourse by asserting that larger schools might indeed have a detrimental effect on the school environment. Particularly, he highlighted that this could hinder certain students, especially those classified as low achievers, from fully engaging in school activities, ultimately impacting their academic performance.

According to Ajayi and Ayodele (2001), ensuring the academic success of students necessitates the provision of ample physical resources within schools. These resources, including appropriate classrooms, well-maintained sanitary facilities, and adequate playgrounds, contribute to a more comfortable environment that enhances student performance. Conversely, the absence of these essential physical resources negatively impacts students' academic performance.

Maina (2010) emphasized the critical need for resources within educational institutions to enhance students' academic performance. These resources ranged from textbooks, educational materials, to technology, libraries, and laboratory facilities, focusing especially on comprehensive materials for science subjects. Also highlighted that providing these tools was pivotal in helping students grasp academic concepts effectively and conduct experiments proficiently. The narrative acknowledged that some students, particularly those from disadvantaged backgrounds, often faced financial burdens hindering their access to necessary learning materials. Thus, they relied on shared resources and library amenities.

Onyara (2013) emerged as a prominent voice, emphasizing the importance of the learning environment in education. The study stressed that learning occurs when students engage with their surroundings, including classrooms, labs, libraries, and playing fields. These physical resources were not just aids but significantly contributed to creating an environment conducive to effective teaching and learning.

Denail and Felix (2014) conducted a study to investigate whether the school environment affects students' academic performance. The study's findings revealed a strong correlation between the school environment and students' academic performance, indicating a significant impact.

The academic performance of students is significantly influenced by the school environment, encompassing both its physical and human resources. Several studies emphasize that inadequate provision of proper resources to students can hinder their academic performance (Chimombe, 2011).

**Human Resource:** Aaronson (2003) highlighted the association between elevated student performance and teachers who display positive and supportive behavior, coupled with enthusiastic teaching methods. According to Aaronson, the manner in which teachers interact with students, manage the classroom, and handle student matters profoundly influences both academic progress and the psychological growth of the child. Furthermore, noted that teachers' behavior and attitude significantly impact student retention within the school environment.

Lumuli (2009) emphasized the importance of sufficient educational facilities, including equipment and human resources. He specifically pointed out that the sufficiency of teachers could be measured through the student-teacher ratio, a critical factor indicating the number of students overseen by a single teacher in a classroom during a lesson.

Kapur (2018) emphasized the critical role of teachers within a school environment. According to Kapur, teachers should maintain an approachable and professional demeanor, serving as the primary point of contact for students facing challenges or difficulties. Kapur argued that the friendly and open behavior of teachers creates an environment where students feel at ease approaching them, significantly impacting academic performance in a positive and uplifting manner.

## **Material and Methods**

The purpose of this sequential explanatory mixed-method study is to investigate the multifaceted factors that influence students' academic performance. The research aims to explore the relationships between school-based factors and students' academic achievement, as well as the impact of home-based factors.

The study employed an explanatory sequential mixed-methods design, which began by gathering quantitative data and subsequently used qualitative data to provide a more comprehensive understanding of the quantitative results. This approach goes beyond the mere collection and analysis of two different types of data, as it combines both to create a more robust and well-rounded research study, surpassing the insights obtained through purely qualitative or quantitative research (Creswell, 2014). The study was conducted in Lahore, Pakistan. The population of the study comprised boys and girls who were enrolled in the secondary level of public and private schools in Lahore at that time.

## **Quantitative Strand**

In this research, a multistage sampling technique was employed. The population comprised all secondary-level schools in Lahore, encompassing both private and public institutions. Initially, the secondary schools in Lahore District were categorized into five tehsils, forming clusters through cluster sampling. Subsequently, employing simple random sampling, two schools from the public sector and two from the private sector were selected within each tehsil. This meticulous sampling process resulted in a total of 535 participants being sampled for the study..

In this study, a structured questionnaire served as the principal instrument for data collection. The questionnaire comprised three sections: the initial section focused on

gathering demographic information about the students, while the subsequent sections were dedicated to investigating the school environment and the extent of parental involvement in students' activities. The primary objective was to scrutinize how the school environment, encompassing both its physical and human resources, along with parental involvement, influenced students' academic performance. The questionnaire utilized in this investigation featured closed-ended questions.

### **Qualitative Strand**

The researcher employed individual student and teacher interviews as the second method of data collection. For the qualitative phase, 10 teachers and 10 students were purposefully selected using purposive sampling. These interviews facilitated participants in providing nuanced qualitative insights into their experiences, perspectives, and perceptions regarding parental involvement in academic performance and the influencing factors.

All interviews were meticulously recorded for subsequent transcription and translation. The researcher personally conducted all interviews, with durations ranging from 26 to 40 minutes. To ensure interview consistency and allow for the exploration of novel issues, a semi-structured interview protocol was utilized. Various interview techniques were applied, including encouraging individual comments, avoiding leading questions, and refraining from providing commentary on responses.

### **Results and Discussion**

#### **Quantitative**

The research yields compelling conclusions regarding the predictors of academic performance. Notably, the correlation between parental involvement in their child's activities and students' academic outcomes emerges as not only statistically significant but also exhibits a more pronounced association than factors pertaining to human resources and the physical environment.

Moreover, a discernible relationship is identified between the availability of physical resources within the school and students' academic performance. The provision of enhanced physical facilities and a conducive environment correlates positively with students' comfort and heightened academic achievement.

Furthermore, the study underscores a strong interconnection between various variables encompassing human resources within educational institutions. This encompasses the adequacy of teachers to effectively manage students' academic needs, the presence of well-trained school personnel, the motivation instilled by teachers in their students, the judicious use of teaching and learning aids during lessons, and the active involvement of educators in assisting students in achieving commendable academic results. These multifaceted aspects collectively contribute to the overarching influence on students' academic performance.

#### **Qualitative**

The qualitative phase of this study unequivocally affirms that parental involvement stands as the paramount factor influencing students' academic performance. Through in-depth analysis and rich narratives gathered from diverse sources, it became evident that the level of engagement parents exhibit in their children's educational journey significantly shapes the outcomes. Participants suggested that there should be proactive efforts to establish transparent lines of communication with parents

through regular updates, newsletters, and parent-teacher conferences. Additionally, organizing workshops on effective communication strategies and providing resources that aid parents in understanding the curriculum can enhance their engagement. The interviews revealed that numerous obstacles impede parental participation, including demanding work commitments, socioeconomic constraints, and a lack of awareness regarding the tangible benefits of active involvement. Addressing these barriers necessitates the implementation of flexible scheduling for parent-teacher meetings, offering digital communication options, and fostering a welcoming school environment. Moreover, research underscores the pivotal role of parenting styles in shaping a student's academic trajectory.

Authoritative parenting, characterized by warmth, clear expectations, and open communication, emerges as a significant predictor of academic success in secondary school students. By promoting such parenting styles and addressing impediments to involvement, educators can create a conducive environment that empowers parents to play an active role in their children's educational journey. This collaborative approach is fundamental to fostering an enriching academic experience for secondary school students.

Students, in expressing their perspectives, have consistently underscored the profound impact of the interplay between physical resources and academic performance within educational institutions. They emphasize that a school's commitment to providing adequate physical facilities creates an environment that not only enhances comfort but also fosters a conducive atmosphere for learning, ultimately resulting in improved academic outcomes. The undeniable correlation between physical resources, such as well-equipped classrooms, libraries, laboratories, and recreational spaces, and students' academic success resonates strongly with their experiences. Simultaneously, students highlight the critical role of human resources in shaping their educational journey. The presence of qualified teachers, well-trained school staff, and a motivated teaching cadre is deemed essential for establishing a supportive educational ecosystem. The deployment of teaching and learning aids, coupled with personalized attention and a dedicated commitment to students' academic progress, further reinforces the symbiotic relationship between human resources and academic achievement. In essence, students emphasize the paramount importance of a holistic approach, considering both physical and human resources, in creating an educational environment where they can thrive academically and realize their full educational potential.

## **Conclusion**

In conclusion, the comprehensive mixed-method study undertaken to investigate the predictors of academic performance has yielded profound insights into the intricate dynamics shaping the educational landscape. The quantitative findings establish a strong correlation between parental involvement and students' academic outcomes, surpassing the impact of human and physical resources. Notably, the availability of enhanced physical facilities within schools emerges as a significant contributor to students' comfort and heightened academic achievement. Moreover, the qualitative phase reinforces the centrality of parental engagement, shedding light on obstacles and proposing strategies to enhance collaboration between educators and parents.

The qualitative narratives underscore the pivotal role of parenting styles, with authoritative parenting standing out as a key predictor of academic success. Overcoming barriers to parental involvement, such as demanding work commitments and socioeconomic constraints, requires a multifaceted approach, including flexible scheduling for interactions and the provision of resources to aid parents in

understanding the curriculum. The collaborative efforts between educators and parents, as suggested by participants, are fundamental to fostering an enriching academic experience for secondary school students.

The perspectives of students further emphasize the intertwined nature of physical and human resources in shaping their educational journey. Adequate physical facilities, coupled with the presence of qualified teachers and a motivated teaching cadre, create a supportive educational ecosystem that fosters academic success. Students highlight the need for a holistic approach, acknowledging the symbiotic relationship between physical and human resources in creating an environment where they can thrive academically and realize their full educational potential.

In essence, this mixed-method study underscores the complexity of factors influencing academic performance and emphasizes the necessity of a multifaceted, collaborative approach involving parents, educators, and the provision of resources. By recognizing the interplay between parental involvement, physical resources, and human factors, educational institutions can formulate comprehensive strategies that pave the way for students to excel academically and flourish in their educational journey.



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