



THE ROLE OF DIGITAL AND VIRTUAL PARENTAL ENGAGEMENT IN SHAPING SECONDARY SCHOOL STUDENTS' ACADEMIC SUCCESS

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ABSTRACT

This study investigates the impact of digital and virtual parental involvement on the academic achievement of secondary school students in the Khanewal district. With the growing integration of technology into education, the role of digital platforms in fostering parental engagement has become increasingly significant. This research aimed to analyze the effects of digital parental engagement on students' academic performance from the perspectives of both teachers and students, as well as to examine the influence of such engagement on the basis of gender comparison. A quantitative approach was adopted to collect and analyze data using questionnaires. The sample consisted of 388 participants, including 64 teachers and 324 students from 16 secondary schools in Khanewal district, selected through stratified random sampling. Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS), focusing on descriptive statistics. The study highlights that digital communication tools, such as online portals, virtual meetings, and educational apps, enable parents to monitor their children's academic progress, address challenges, and support learning in real-time. The findings reveal that while digital parental involvement generally contributes to improved academic performance—through higher grades, better attendance, and more consistent completion of assignments—excessive or poorly managed digital engagement can also have detrimental effects. The study concludes that the strategic use of digital tools by parents can significantly enhance the academic success of their children, underscoring the importance of balanced and effective digital engagement in the educational process.

Keywords: motivation, education, parental involvement, hurdles, communication, integration etc.

INTRODUCTION

Over the course of educational research and practice, much attention has been paid to the value of parental involvement in the academic endeavors of students. Particularly at the secondary level, numerous studies have demonstrated a positive correlation between parental involvement and students' academic performance. Research has consistently shown that active parental participation is associated with improved grades, better attendance, and enhanced attitudes towards learning. For instance, Jeynes (2007) found that students with involved parents tend to perform better academically. Traditionally, parental involvement has been understood through direct interactions such as attending parent-teacher meetings, monitoring homework, and ensuring school attendance.

In recent years, however, there has been a shift in how parental involvement is perceived, largely due to the rise of digital tools and virtual platforms. Epstein (2011) categorized parental involvement into various forms, including academic socialization, communication, and collaboration between parents and teachers, all of which contribute to a student's academic and socio-emotional development. In the context of today's digital age, these forms of involvement

are increasingly mediated by technology, with online portals, educational apps, and virtual meetings becoming vital tools for fostering parent-teacher collaboration and monitoring student progress.

Epstein (2011) emphasized the importance of building strong connections between schools, families, and communities to improve students' academic performance. In the era of digital education, these connections have become more dynamic and accessible, allowing parents to engage in their children's education from a distance. While socioeconomic and cultural factors continue to influence the level and nature of parental involvement, the integration of technology offers new opportunities for parents to support their children's learning in innovative ways. This study explores how digital and virtual parental engagement influences students' academic achievement in secondary education, offering a contemporary perspective on the role of parental involvement in the digital age.

Research Objectives

1. To analyze the impact of digital and virtual parental involvement on students' academic performance at the secondary level from the perception of teachers.
2. To examine the impact of digital and virtual parental involvement on students' academic performance at the secondary level, with a focus on gender-based differences in engagement.

Literature Review

The evaluation of the literature in this chapter provides a comprehensive overview of research related to digital and virtual parental involvement in the academic performance of secondary school students. Understanding the various aspects, implications, and mechanisms of digital parental engagement is crucial to shaping effective educational practices and policies. Parental involvement, especially through technological means, is an influential factor in determining students' academic outcomes. In the first part of this chapter, we will explore the significance of digital and virtual parental engagement in secondary education. Following this, we will investigate the theoretical frameworks and conceptualizations that are leading research in this field. We will then examine empirical studies that have studied the connection between digital parental involvement and students' academic performance, considering factors such as socio-economic status, cultural background, and parental attitudes towards technology use. Furthermore, the chapter will explore the implications of virtual parental involvement on educational equity, school climate, and the socio-emotional development of students. This chapter will lay the foundation for the subsequent analysis of how digital and virtual parental engagement affects the academic performance of secondary school students and provide insights for developing strategies to promote technology-assisted parental engagement in education. This synthesis of the available literature will be critical in informing future research and policy development.

Theoretical Frameworks of Digital Parental Involvement

Various theoretical frameworks offer insights into the dynamics of family-school interactions in the context of digital engagement and their impact on students' academic performance. This section examines several key theories, such as the Ecological Systems Theory, the Social Capital Theory, the Family Systems Theory, the Cultural-Ecological Model, and the Academic Socialization Theory, in relation to digital parental involvement. These theories provide unique perspectives on the role of digital tools and platforms in fostering parental engagement.

The Ecological Systems Theory, proposed by Urie Bronfenbrenner, emphasizes the interactions between individuals and their environments across multiple ecological levels. These levels range from the microsystem, which includes immediate environments like the family and school, to the macrosystem, encompassing broader cultural and societal contexts. Recent studies, such as those by Hill and Tyson (2009) and Hoover and Sandler (2018), have explored

how digital technologies at different ecological levels can influence parental involvement in education, taking into account family dynamics, socio-economic status, and cultural contexts. The Social Capital Theory, developed by Pierre Bourdieu and James Coleman, focuses on the importance of social networks and relationships in providing access to resources and support. Recent studies by Coleman (1988) and Putnam (2020) have explored how parents' social capital, including their digital connectivity and online communities, impacts their ability to engage with schools and support their children's academic success through digital means. According to Bryk and Schneider (2022), the foundation of Social Capital Theory in the digital age is the establishment of trustful and effective online communication between educational institutions and parents, facilitating virtual support for student achievement.

Family Systems Theory, developed by Murray Bowen and others, examines the interactions and dynamics within families and how they affect the development and behavior of individuals. Research by Minuchin (1974) and Cox and Paley (1997) has shown that family cohesion, communication patterns, and intergenerational relationships influence parental involvement in education. In the context of digital tools, this theory highlights how family dynamics, mediated through digital platforms like virtual meetings and online monitoring tools, shape the level of parental involvement in supporting students' academic journeys.

Research Methodology

The research design utilised in this study was a cross-sectional survey research design. The purpose of the study was to evaluate the relationship between the parental involvement and the academic performance of students in the Khanewal district. This design made it possible to collect data from a representative sample of participants at a particular point in time, which made it easier to investigate the relationship between variables within the context that was being studied.

Quantitative technique was utilised in order to collect and examine data through the use of questionnaires. According to Bruce (1994), this strategy centred on the collection of numerical data in order to measure the level of parental involvement and the impact that it had on the academic performance of students. According to Bruce (2019), the utilisation of a quantitative approach made it easier to apply statistical analytic techniques in order to investigate the relationships that exist between variables and to arrive at conclusions that are founded on empirical data.

Teachers and students from the Khanewal district were the participants of this study (table 3.1).

Table 3.1: Schools Statistics for District Khanewal

Category	Number	Percentage	Notes
Total Schools			
Primary Schools			
Secondary Schools			
Government Schools			
Private Schools			

(Source: Schoolportal.punjab.gov.pk/census/districts/Khanewal, 2022)

According to Punjab Education Department, total 182 public secondary school present in district Khanewal. So total population of this research was 182 schools. By using sample size calculator with 95% confidence interval, 20% error margin and 50% population proportion, 16 schools were selected as a sample.

Samples

In this research, the population of students who are currently attending public secondary schools in the Khanewal District was segmented into a number of significant categories. The researchers have decided to utilize the method of stratified random sampling in order to select a sample from this group that is representative of the whole population. Stratified random sampling is a form of sampling that involves separating the population into subgroups or strata based on particular traits or factors.

After the strata have been defined, random samples are next selected from each stratum in a manner that is independent of the other strata. In most cases, the sample from each stratum is chosen using a method known as simple random sampling, however other types of random sampling may also be used. This method helps to guarantee that the sample is diverse and captures the variety that is present within the many subgroups that make up the population.

This research makes use of a stratified random sampling approach, which has a number of benefits. In the first place, it enables a more precise and accurate estimation of the parameters of the population, which is made possible by the fact that each stratum is given a suitable representation in the sample. The second benefit is that it prevents important subgroups from being underrepresented or overrepresented, both of which could result in biased findings.

Thirdly, it enables researchers to perform comparisons and analyses that are more meaningful within each stratum that they examine. The population was divided in large strata. Therefore, stratified random sampling technique was used to select the sample of the study. There was a total of 388 individuals chosen from the population that was the focus of the study through the use of stratified random sampling. From 16 schools, 64 teachers and 324 students were selected as a sample of this study (Table 3.2).

Table 3.2: Sample Size

School	Total School	Total Sample from Each School		Total Sample
		Teachers	Students	

Data Collection Tool

The data were obtained quantitatively through the use of self-developed questionnaires that had a content validity index (CVI) of 0.84, which was higher than the recommended criterion of 0.50 (Amin, 2018; Kothari & Palls, 1994). The questionnaires utilised a Likert scale with five points, ranging from 1 (strongly disagree) to 5 (strongly agree), in order to gain an understanding of the respondents' perspectives regarding the involvement of their parents and their academic performance.

RESULTS AND DISCUSSION

In this chapter, a complete analysis of the data acquired through surveys and questionnaires is presented. Within this chapter, a complete analysis of the data acquired from the questionnaires that were distributed to the participants is presented. The interpretation and findings that were derived from the data that was collected are discussed in depth in this chapter. The purpose of this chapter is to provide important insights into the study objectives. This analysis provides a

more in-depth comprehension of the research issue and the implications that it carries by means of a careful examination and interpretation of the data. In order to lay the groundwork for a comprehensive discussion of the findings, consequences, and prospective routes for future research, this chapter will first investigate the most important themes, patterns, and relationships that have been revealed by the data.

Results

Communication

Table 4.1 emphasises the significance of addressing the fundamental requirements of students and encouraging communication between parents and teachers in order to improve academic success. A total of 46.9% of teachers (n=30) demonstrated agreement (DA) with this statement, while 28.1% of teachers (n=18) indicated that they partly agreed (A). 33.0% of students (n=107) agreed (DA), and 21.4% (n=69) strongly agreed (SA), demonstrating that a sizeable proportion of students acknowledge the influence that these factors have on academic performance.

Table 4.1: Students who miss some basic needs and lacking the parental communication are likely to underperform in their academics.

rs						
tage						6%
ts						
tage						6%

According to Table 4.2, both teachers and students place a high importance on interactions with students. 75.0% of teachers (n=48) and forty-seven% of students (n=153) are in agreement (A) that these encounters are significant. On top of that, 32.4% of students (n=105) strongly agreed (SA), highlighting the significance of follow-ups whenever they are required.

Table 4.2: Meetings with students with follow-ups as needed.

rs						
tage						6%
ts						
tage						6%

Table 4.3, we examine the ways in which both teachers and students respond to the questions and concerns raised by students. While over half of the teachers (48.8%, n=31) strongly agreed (SA) that it was important to respond in an appropriate and effective manner, 42.3% of the students (n=137) reached the same conclusion.

Table 4.3: Responding properly and effectively to the students' problems/ queries.

rs						
tage						6%
ts						
tage						6%

With regard to contact with schools and teachers, as shown in Table 4.6, 67.2% of the respondents strongly agreed that parents should effectively connect with the school in order to check their child's weekly or monthly reports, pick up report cards, and stay informed about

helpful notices. This was the consensus of 43 out of 64 respondents. The fact that this is the case implies that a sizeable majority of educators have the perception that parents are actively engaged in contact with the school setting. This remark was also strongly agreed upon by 166 out of 324 students who responded to the survey, which is 51.2% of the total. This would imply that, from the point of view of the children, a sizeable proportion of them recognise the efforts that their parents have made to keep an open line of communication with the school. On the other hand, a lesser percentage of teachers (6.3%) and students (12.0%) expressed agreement with this statement, which indicates that a minority of individuals believe that contact with the school is not constant or effective. In terms of the appropriateness of parental communication with the school, a sizeable majority of respondents, including both teachers (26.6%) and students (16.4%), indicated a neutral view or uncertainty (NA/D).

Table 4.4: Properly communicate with their school to check their weekly/monthly reports, pick up report cards, schedule of useful notices, etc.

rs						
tage						b%
ts						
tage						b%

The interactions that take place between schools, parents, and teachers are evaluated in Table 4.5. Both teachers (37.5%, n=24) and students (41.4%, n=134) strongly agreed (SA) that contacts with teachers and the ease of communication with the school are essential for the development of students. This was the consensus of a considerable portion of both groups. 24 out of 64 instructors that responded to the survey answered that they strongly agree with the statement. This indicates that parents find it easy to interact with teachers and talk about their student's progress. A total of 37.5 percent of teachers responded to the survey. A similar percentage of teachers, 37.5%, indicated that they agreed with this statement, demonstrating that there is a balanced perception among teachers regarding the ease of communication. One hundred and thirty-four out of three hundred twenty-four respondents (41.4% of the total) strongly agreed that it is simple for their parents to contact with teachers and talk about their progress. Furthermore, 103 pupils, which is 31.8% of the total, concurred with this assertion. When taken as a whole, these numbers indicate that a sizeable proportion of kids have the impression that their parents have positive contacts with instructors and that they find communication to be easy. However, there is a discernible number of respondents, including teachers (25.0%) and students (14.5%), who expressed a neutral stance or uncertainty (NA/D) regarding the ease of contact with teachers and the school. This proportion is noticeable. The fact that this is the case shows that some of the respondents may not have a clear idea of how easy parents can contact with teachers or communicate about the progress of their students. It was found that a lesser percentage of respondents, including instructors (0.0%) and students (9.3%), showed disagreement (DA) with the statement. This indicates that they believe it is difficult for parents to contact with teachers or communicate about their student's progress. Furthermore, a very tiny percentage of students, specifically 3.1%, expressed a strong disagreement (SDA) with the proposed statement.

Table 4.5: Interactions with teachers and ease of communication with school and teachers for their student's progress.

rs						
tage						b%

ts						
tage						o%

4.1.3 Parenting

In accordance with Table 4.6, both teachers and students acknowledge the significance of creating an environment at home that is conducive to learning. Despite the fact that 45.3% (n=29) of teachers agreed (A) and 31.3% (n=20) strongly agreed (SA) with this statement, 33.6% (n=109) of students agreed (A) and 25.0% (n=81) strongly agreed (SA) with it. This highlights the value of having a home environment that is supportive.

Table 4.8: Provision of such home conditions that support their students in learning.

rs						
tage						o%
ts						
tage						o%

A comprehensive evaluation of the provision of health, nutrition, and other services to assist the academic performance of students is presented in Table 4.7. Despite the fact that the majority of students (41.0%, n=133) and teachers (51.6%, n=33) indicated disagreement (DA), which indicates a perceived lack of assistance in this respect, a small percentage of students (9.3%, n=30) nonetheless strongly agreed (SA) with this statement, indicating that there is a need for additional support.

Table 4.7: Assist students with health, nutrition, and other services to perform in academics energetically.

rs						
tage						o%
ts						
tage						o%

Discussion

Parents' ability to provide for their children's fundamental need and communicate effectively with them was found to be a strong predictor of their children's academic achievement, according to the findings of the study. This is in agreement with Christian et al. (2018), who say that interactions between parents and children, particularly parenting techniques that are stimulating and responsive, are significant influencers on the academic development of a kid. This viewpoint is further backed by Trina (2010), who believes that parents have the ability to teach their children how to build positive, constructive connections that do not focus around hazardous behaviours or substances. The conclusions of this study, on the other hand, contradict the findings of Bobetsky (2023), which stated that parents only visit their children's schools to check on their discipline with the teachers or administration when their children are suspended, and that they do not necessarily care about the children about their fundamental requirements.

Maslow (1943) asserts that in order for people to be able to think about higher, more aesthetic wants, they must first take steps to fulfil their lower, more fundamental needs. It is therefore a primary provision that will enhance children's academic performance through

attendance in class, active participation in class work, engagement in extracurricular activities, and ultimately assessment scores. Parenting, in the form of providing basic needs and effective communication between parents and children, is therefore a primary provision. Those students who do not meet certain fundamental requirements are likely to perform poorly in their studies.

Bude (1991), studies have shown that when parents are involved in their children's academic success, it helps youngsters comprehend their parents' attitudes and expectations, which in turn helps them perform better in school. According to the findings of the study, the level of involvement that parents have in their children's education makes a good correlation with the academic success of the children while they are attending school. According to the findings of the study, parents should encourage their children to engage in reading activities while they are at home.

Fan and Chen's (2021) findings, which also indicate that parental involvement in children's learning at home has a favourable effect on the child's performance at both primary and secondary schools, these data provide support for the findings of Fan and Chen. Melhuish et al. (2021), successful parenting is associated with increased academic achievement, increased cognitive competence, increased problem-solving skills, increased pleasure of school, improved school attendance, and a reduction in the number of behavioural issues that occur at school. The results of this study, which are in agreement with the findings of Flouri and Buchanan (2021), demonstrate that parental involvement in children's reading practices is a more potent factor than other family background variables, such as social status, family size, and the level of parental education.

The findings of this study are also in agreement with those of the Organisation for Economic Co-operation and Development (OECD) in 2022, which asserts that parents are involved in knowing what their children study in certain topics. Furthermore, parents reward their children anytime they improve academically or when they perceive that they are working hard on their studies. According to Dave (1963), who defined educational environment as "the conditions, process, and psychological stimuli" that affect the educational accomplishment of the child, the atmosphere of the home is conducive to the process of revising and completing homework.

Gottfried et al. (2018) indicate that the home environment has a statistically significant and favourable impact on the intrinsic motivation to learn in the classroom. A positive correlation was found between parents' voluntary participation in the construction of school infrastructure and decision making at the school and the academic accomplishment of their children, according to the findings of the study. In order to develop the school's infrastructure, such as classrooms, laboratories, and other areas, it was demonstrated that parents participated in fundraising activities as volunteers.

Findings

The purpose of this study was to evaluate the effects that parental involvement has on the academic achievement of pupils attending secondary schools in the Khanewal district. The results of this study indicate that the involvement of parents in their children's education can have both a beneficial and a negative impact on the academic performance of the pupils. The academic marks and cumulative grade point averages of the parents who were found to be involved in their children's studies, assignments, attendance monitoring, involvement in their homework, and encouragement of their good grades, among other things, were found to be higher.

On the other hand, the academic grades of the parents who were shown to be either not involved or only slightly involved in their children's academic progress were found to be lower. With regard to the involvement of parents, they have a negative attitude towards the contribution

that they make to the academic development of their children, despite the fact that not only the quantitative findings contradict this notion, but also the numerous activities that they carry out in accordance with the qualitative results in order to improve their children's intellectual performance. When it comes to the academic assistance that they provide, they are aware of the value of homework responsibility and independent work. This is because the majority of them simply provide instruction while the children are working on their homework. When it comes to the indirect and financial assistance that they provide to their children, the parents place the same level of emphasis on it as they do on the direct assistance that they could provide, such as assisting their children with their schoolwork.

Demographic factors such as gender, age, occupation, and level of education do not, in general, have a substantial impact on the way parents perceive their engagement in their children's lives. However, certain demographic factors may have an impact on various aspects of parental involvement. The involvement of parents in their children's academic achievement has been the exclusive focus of this research. The current research is being carried out in secondary schools run by the government in Khanewal district, where both boys and girls are enrolled. In light of the fact that earlier studies have indicated that socioeconomic status has a significant impact on parental involvement, it is possible that this research could be repeated in a variety of settings and state schools that include this variable in order to determine the extent to which socioeconomic statuses have an impact on the relationship between parental involvement and students' academic records.

Conclusion

The findings of the study indicate that the level of involvement that parents have in their children's education, which includes meeting their children's fundamental requirements and maintaining open lines of communication, has a substantial impact on the academic achievement of the children. Learners are more likely to participate in school activities when they adhere to fundamental requirements such as wearing smart school uniforms, shoes, socks, and sweaters. Therefore, it is possible to draw the conclusion that providing students with fundamental requirements at school improves their academic achievement.

Both parents and children are able to discuss the difficulties they are experiencing with their academic progress and speculate on potential solutions; communication is another important parenting action that contributes to the academic success of children. There was a positive correlation between the establishment of a conducive learning environment at home by parents and the academic success of their children. In order to enable children to review while they are at home, it is possible to draw the conclusion that all parents should be brought on board to ensure that they have access to sufficient learning resources and study conditions that are conducive to learning.

For the sake of the children's academic development, it would be excellent for parents to take an active role in learning about the subjects that their children are studying and to encourage their children to study at home. Given the fact that parents' voluntary participation in the development of infrastructure and decision making is a significant predictor of students' academic performance, it is possible to draw the conclusion that more activities involving volunteering, such as fundraising for the school, need to be initiated in order to improve infrastructure and, as a result, support teaching and learning. All of this necessitates the making of appropriate decisions, which necessitates the gathering of parents on a regular basis.

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