

Research Article

QJantic Journal of Social Sciences (QJSS)

The Role of Support Systems in Shaping Academic Accomplishment: A Study of Secondary School Students in Pakistan

Shumaila Aqeel ¹ Azhar Mahmood ²



Abstract: This study examines the role of parental, peer, and private tutor support in shaping secondary school students' academic achievement in Rawalpindi and Islamabad. It was a quantitative study with a survey research design. Two hundred fifty-nine secondary school students were selected through a random sampling technique from Islamabad and Rawalpindi; Structural Equation Modeling (SEM) was employed for data analysis. The findings of the study indicated that private tutor support and academic engagement significantly enhanced the students' achievement. On the other hand, parental and peer support have relatively weaker or mixed effects. Academic participation plays a crucial role as a mediator between the support system and students' performance, especially in the subjects of Urdu and Math, where learning differences are prevalent. The study highlights the significance of structured academic support and students' engagement in improving educational outcomes. Additionally, the findings indicate a wide range of study motivations, suggesting that different scholarly techniques could potentially contribute to ameliorating the issue. In order to achieve equitable and meaningful learning, recommendations encourage better teacher preparation, parental involvement, and effective study plans for students.

Key Words: Academic Participation, Private Teacher, Academic Accomplishment, Peers, Pakistan

Introduction

The community of researchers has long been interested in academic achievement because it has been shown to be a predictor of students' success in the future and how well they would adjust to school, particularly in developing nations. Students who execute well in the classroom tend to have optimistic schooling, like promoting school-related expertise and mental resilience (Boonk et al., 2018), developing social skills, and participating in prosocial behaviour, for instance, creating productive connections with parents, teachers, and peers. These favourable results, in turn, support kids' learning and mental health. Conversely, disruptive or violent conduct is linked to academic failure (Desforges & Abouchaar, 2003; Hanushek & Woessmann, 2011; Hallinger et al., 1996). The precise factors that influence academic achievement are up for debate despite the widespread agreement that academic success plays a significant role in determining how well students acclimate to school and their future results. Academics have found a constellation of factors that contribute to achievement, guided by a variety of empirical paradigms and theoretical frameworks. These factors can be broadly classified under two parameters: both external and internal. Students' academic self-concept and achievement motivation (Sengul et al., 2019), as well as their beliefs about ability and effort (Hoover-Dempsey et al., 2001; Kao & Tienda, 2022; LaRocque et al., 2011), are examples of intra-psychological processes that are internally adjustable and flexible. In general, sociological and ecological environments like culture, school, and family are referred to as external influences, which are not under one's control (Hill & Tyson, 2009). It has been increasingly supported by

¹ Postdoctoral Research Fellow, Department of Educational Leadership and Management, International Islamic University, Islamabad, Pakistan. ✉ sabhutto@hotmail.com

² Associate Professor/Chairperson, Department of Educational Leadership and Management, International Islamic University, Islamabad, Pakistan. ✉ azhar.mahmood@iiu.edu.pk

- **Corresponding Author:** Shumaila Aqeel (✉ sabhutto@hotmail.com)
- **To Cite:** Aqeel, S., & Mahmood, A. (2025). The Role of Support Systems in Shaping Academic Accomplishment: A Study of Secondary School Students in Pakistan. *QJantic Journal of Social Sciences*, 6(1), 193–203. <https://doi.org/10.55737/qjss.vi-i.25308>



developmental assumptions (Vitaro et al., 2005; Wentzel, 2002) and empirical findings (Desforges & Abouchaar, 2003) that human development takes place in relation to significant social settings and that children's growth experiences are influenced by their relationships with important individuals in these scenarios.

Academic achievement is recognized as an essential instrument for developing oneself and society because it helps individuals address the limitations they face in this environment by improving their potential (Liu & Nie, 2023; Matin, 2016; Schmoker, 2006). Society needs critical thinking, wisdom and discernment to drive societal transformation (Hamka et al., 2024; Li et al., 2024; Faria, 2024). Critical thinking has been focused on different recent studies in the Pakistani context (Iqbal & Omeodu, 2023; Naseer et al., 2022). Academic achievement is the foundation of a nation as it helps in character formation, professionalism and personal growth (Jamil et al., 2024; Sterpetti et al., 2024; Dumciuviene, 2015). In the past, when we thought of academic achievement and assessing what students knew academically (as opposed to intellectually). It is heavily related to school-based systems such as school percentiles or aggregation marks. However, formal schooling, the new educational form, still cannot meet all education demands (Bozzano et al., 2024).

Also, there is a lot of evidence that the important individuals in students' social contexts (educators, parents, and peers), as well as their intra-psychological processes (such as achievement direction), can affect their achievement outcomes (Desforges & Abouchaar, 2003). So far, shadow education has been developed in parallel with it. The shadow education system, consisting of private supplementary assistance for children between formal schooling periods, is currently gaining strength in more and more competitive educational markets worldwide — including Pakistan (Cornwell, 2024). Considering these findings, this investigation looked at two potential factors influencing student accomplishment in the current study: the impact within the locus of control (students' personal academic engagement) and the outside forces of instantaneous socializing agents (parents, private instructors, and peers). Academic engagement is typically defined in the literature as school-oriented processes that students participate in, such as instrumental as doing and learning homework (Castro et al., 2015; Caprara et al., 2006) and behavioural as demonstrating suitable classroom behaviour (Hill & Taylor, 2004). In line with previous research, this inspection also describes academic engagement as a multifaceted construct that includes a range of academically linked processes (such as behavioural, attitude, and instrumental) that students participate in during their education. By measuring how well students engage in these processes, such as behavior and feelings toward classroom conduct, schooling, seriousness about time, school spending, self-expectations, and self-examinations, This research was conducted to determine the particular levels of academic engagement among students.

In the present study, using secondary school students of Rawalpindi and Islamabad, the mediating role of academic participation on the nexus between students' accomplishment and private tutor support and the impact of parent, private instructor and peer support on this association is investigated. Islamabad, the capital city of Pakistan, is selected as a strategically convenient sample for capturing the overall status of urban education in Pakistan. Compared to rural settings, schools in the city are moderately equipped, making it possible for the researcher to monitor patterns of academic activity and support systems closely. In order to fill the existing gap in the studies that make an effort to explain the key factors that determine the success of students in the context of Islamabad's secondary schools, this research interest has been developed. The following are the research questions for the current study.

Research Questions

1. In what way does academic involvement moderate the connection between private tutor encouragement and student performance?
2. To what extent is engagement in predicting student achievement moderated by parents, private teachers, and peer support?

Literature Review

The interaction between private tutoring and educational development outcomes has received significant attention from both policy-makers and researchers who focus on education inequality (Dang & Rogers,

2013). Tutoring is widespread all over the globe, in general terms known as fee-based tutoring that adds along with mainstream education besides a long-standing proven ground of improved academic performance via private tuition (Azmat et al., 2021; Khan & Shaikh, 2013; Joshi, 2019; Suleman & Hussain, 2014; and Sahito et al., 2017). Private tuition is more prevalent in private schools of all levels across Pakistan. Private tutoring has been shown to help students do better on important tests (ASER, 2023), but this is a double-edged sword because access to tutorials is also decided by the parent's income and affluence, which in turn raises questions of educational equity. Studies have shown that private tutoring is received by 22 percent of students in the top quintile, as compared to only seven percent receiving among from PS (ASER, 2023).

Researchers commonly acknowledge that parental impact on a child's learning could last until adolescence, according to certain researchers (Caprara et al., 2011). It has been discovered that parental support had a positive impact on teenagers' academic performance, including improved grades and greater scores on math tests. Moreover, scholars have investigated that parental academic assistance reduces the probability of teenagers joining deviant social groups (Cooper et al., 2006) and quitting school (Dembo & Gibson, 1985). On the other hand, teenagers who experience conflict in their relationships with their parents and engage in problem conduct have been associated with a lack of parental support (Kao & Tienda, 2022). Given earlier studies, it is reasonable to assume that parents' academic support may have an impact on their kids' academic performance. In both Eastern and Western contexts, researchers have generally defined parental assistance as parents' active participation and contribution to their children's education, despite the fact that the term has been used loosely (Sengul et al., 2019).

Given that the majority of previous studies, Vitaro et al. (2005), have only examined the direct correlation between parental support and student achievement and do not incorporate conceptually relevant mediating variables, this line of inquiry is particularly crucial. Wentzel (2002) has recognized that formal learning takes place in a foundational framework at school, but socialization takes place primarily at home.

Children's academic participation and successful outcomes are impacted by a number of context-related elements once they start school. One of these elements is the calibre of the interactions that kids have with their teachers and peers, with whom they often engage during the school day (LaRocque et al., 2011). Given their regular interactions, one may anticipate that peers and teachers would be important providers of encouragement for students' academic pursuits. Indeed, studies conducted in developed economies (Dembo & Gibson, 1985) have demonstrated that while negative interactions with peers and educators tend to make students vulnerable to behavioural issues and lower academic performance, favourable relationships with instructors and peers enhance students' psychological well-being, achievement in school, and inspiration to learn.

Hill and Taylor (2004) discovered that prosocial involvement among Hong Kong students was correlated with favourable connections with instructors, which is consistent with studies conducted in the United States. According to additional data, kids who have strained connections with their professors are negatively impacted. Boonk et al. (2018) comprehensive interview research of 63 male teenagers in China and Hong Kong, for example, demonstrated that the worse the student's academic performance, the worse the interactions between educators and pupils are, and the more probable the students are to engage in delinquent and absentee behaviour. Due to their bad connections with their professors, delinquent pupils felt that they failed to get the encouragement or help they required, which regrettably led to a vicious cycle.

Teenagers typically view instructors as a secondary source to parents and classmates, even though they are thought to be a significant source of encouragement for student accomplishment. But when peers, parents, and educators were all taken into account at the same time, Caprara et al. (2011) discovered that while peer and parental encouragement were linked to academic-related enthusiasm indirectly via students' emotional health, support from teachers actually had a direct impact.

Peers play a significant role in the development of adolescents. Forming connections with peers becomes crucial evolutionary earnings throughout the phase of transition (ages 12–18) when adolescents strive to gain autonomy and self-identity from their caregivers (Castro et al., 2015). Other theoretical (Desforges & Abouchaar, 2003) and empirical research findings (Kao & Tienda, 2022) conducted in



developing countries since Erikson's groundbreaking work on the development of adolescents have further supported the idea that peer impact peaks throughout adolescence.

Teenagers spend a lot of their time with their friends throughout the school day, so it makes sense that they would have an impact on each other's academic performance and engagement. Specifically, researchers in the United States have discovered that peers have an impact on all aspects of a student's life, particularly social and emotional development, academic goals, and daily conduct in the classroom. According to LaRocque et al. (2011), middle school pupils' academic progress was significantly predicted by their instructors' evaluations of their academic involvement. Hoover-Dempsey et al. (2001) have also demonstrated a favourable correlation between students' academic involvement and their accomplishment outcomes, which is in line with findings in developed economies.

Researchers Kao and Tienda (2022) have determined all three categories of support—parents, teachers, and peers—as essential to maximizing students' academic participation and performance in light of empirical studies carried out in advanced countries. However, when examining the factors that influence student accomplishment in Hong Kong, scholars (Vitaro et al., 2005) have mostly focused on the contribution of parents. A small number of researchers (Desforges & Abouchaar, 2003; Broh, 2002; Cooper et al., 2006) who focused on the effects of peers, teachers, and parents primarily examined the antisocial and prosocial conduct of teenagers. Therefore, it is yet unknown how peer, teacher, and family support relate to academic interest and accomplishment in Hong Kong pupils.

Bronfenbrenner's (1979) socioecological principle, which holds that human growth takes place in an intricate network of interdependent circumstances, served as the conceptual foundation for this investigation. These contexts range from the mesosystems (the link between two microsystems), the most outer macrosystems (society and culture), and the most intimate microsystems (family at home, teachers and classmates at school) (Hanushek & Woessmann, 2011; Kao & Tienda, 2022). A comprehensive method for comprehending the intricacy of human development as influenced by contextual factors is provided by Bronfenbrenner's theory. Bronfenbrenner asserts that since they offer direct and instantaneous interactions, the innermost contexts—such as home and school—tend to have the most impact on a person.

Method

The information was taken from the self-assessment of secondary school students in Rawalpindi, Islamabad, who completed a questionnaire using four scales and a demographic profile. The data was gathered with assistance from the participating school's head and teachers. This feedback questionnaire was created in English Language. In order to gather background data on students (such as grade level, gender, and age) and their guardians (such as the parents' educational history and profession), a demographics profile was created. Four scales, for instance, "the Perceived Private Teacher Academic Support Scale (PPASS), the Perceived Parental Academic Support Scale (PPAS), the Perceived Academic Participation Scale (PAPS), the Perceived Peer Academic Support Scale (PASS)" were created because there were no socially appropriate methods to gauge academic support from parents, peers and private teachers in the Pakistan context. Students' opinions of the level of peer, teacher, and family support, as well as their academic involvement, were evaluated using these scales. In order to make sure they experienced secure participation, students were provided with information about their legal obligations as participants and given the chance to ask questions and receive answers.

In Rawalpindi, Islamabad, 266 students from secondary schools (151 boys and 115 girls; age range = 13–17 years) participated. Based on availability, secondary classes were represented among the participants. Classes had between 30 and 50 students per instructor, which was thought to be normal for secondary schools in Islamabad. Participating respondents were given the questionnaires during routine class periods by the principals of the schools and instructors who were knowledgeable about the research methodology. Within 40 minutes, the participants finished the questionnaires. The questionnaire's instructions ensured that the students understood the intended referents: "private teachers" refer to the students' instructors, and "peers" refer to friends who might also be close associates. This study did not distinguish between moms and fathers since it considered both parents as a single entity.

Since kids are extremely concerned about their marks, the selected schools were not permitted to give out assessments to researchers directly to protect confidentiality. Alternatively, the school gave everyone in attendance a printed copy of their own end-of-exam report card (using grades awarded on a numerical basis) at the moment the questionnaire was administered. According to their assessments, the students were then requested to truthfully record on the survey their own scores in the three main academic areas (Urdu, Math, and English).

Academic engagement was measured in this research using phrases such as “I enjoy going to school because I want to learn,” “I work hard to complete my homework,” and “the average amount of hours participants reported working on studying and homework over a normal week.” Students self-reported data of their scores in the three main academic subjects—Urdu, English, and Math—as displayed on the printed assessments that were given to them throughout the administration of the questionnaire served as a gauge of their academic accomplishment.

On a 5-point Likert-type scale, with one denoting “strongly disagree” and 5 denoting “strongly agree,” the participants scored the degree of agreement with the items measuring PPASS, PPASS, and PASS. The support scales were related because the items used to measure the three structures of support were similar and had a similar rating range. Regarding PAPS, the participants used a 5-point Likert-type scale, with one denoting never and five denoting often, to rate how frequently they participated in each of the educational endeavours listed. To ensure the accuracy of each assessment scale, this research performed an item analysis by removing items that had the weakest 197 correlations with the total scale because they represented weaker measures, which tended to diminish the scale’s entire reliability. There were only a limited number of such things. After seven cases were eliminated because of this procedure, the final sample for further analysis was 259.

Results and Discussion

Table 1

R² for Variables

Variables	R ²
PPASS	89
Urdu Grade	57
PPAS	90
Math Grade	61
PASS	87
Study duration (hours per week)	34
English Grade	43
PAPS	87

Note: "PPASS denotes the Perceived Private Teacher Academic Support Scale, PPAS signifies the Perceived Parental Academic Support Scale, PAPS refers to the Perceived Academic Participation Scale, and PASS is used for the Perceived Peer Academic Support Scale."

Table 2

Descriptive Statistics

Variables	Mean	SD	Min	Max
PPASS	3.69	0.51	2.06	4.98
Urdu Grade	52.49	10.96	10.00	79.08
PPAS	3.68	0.49	1.52	4.68
Math Grade	63.9	21.3	0.00	99.71
PASS	3.28	0.53	1.19	4.68
Study duration (hours per week)	14.63	10.39	0.00	66.07
English Grade	58.09	13.98	12.01	86.91
PAPS	3.91	0.63	1.92	5.02



According to the descriptive analysis of the variables, PPASS, PPAS and PAPS mean was 3.69, 3.68 and 3.91, respectively, supportive with earlier research indicating that private tuition significantly enhances student performance (Khan & Shaikh, 2013; Sahito et al., 2017) and the SD values were reasonably low, suggesting there was not much variation in the answers given by the respondents. Since academic participation is the variable of central interest in this study, student's mean scores in Urdu Grade (Mean = 52.49), Math Grade (Mean = 63.9) suggest inequities in subject-specific learning (ASER, 2023), and English Grade (Mean = 58.09) make out for larger variance mainly in Math (SD = 21.3). Furthermore, the mean study duration is equal to 14.63 hours per week with potential variance starting from 0 and up to 66.07, which indicates that students spend a great deal of time on their studies.

Model Selection

Two layered models, the whole mediation model, which tested indirect interactions, and the entire unmediated model, which tested direct relationships, were fitted in order to assess the proposed support-based accomplishment relationships. The "path coefficients" for all the SEM evaluations presented here were computed employing the maximum likelihood approach. The model fit was assessed using the following four parameters: (a) GFI (goodness-of-fit index), (b) RMSEA (root mean square error of approximation), (c) chi-square 2, (d) AGFI (adjusted goodness-of-fit index). This research produced modification indices with recommendations on how to improve the fit if the model did not adequately fit the information being studied. This investigation used the chi-square difference test for contrasting models (See Table 3).

Table 3

Models Comparison (N = 259)

Model	Specification	Δdf	df	AGFI	$\Delta \chi^2$	GFI	RMSEA	χ^2
1	Total unmediation	–	11	0.94	–	0.92	0.021	11.89
2	Fully mediated	1	9	0.87	31.39***	0.91	0.101	45.29

Note: *** $p < .001$

Table 3 demonstrates both models' fit indexes. The complete unmediated model's Chi-square increased significantly when compared to the full mediation model, suggesting that it was less suitable. Additionally, this unmediated model did not match the data well. The fully mediated model was supported by these findings, which also satisfied the three mediation parameters: (a) academic participation was linked to simulated academic support (from private teachers, parents and peers, parents); (b) academic participation was linked to accomplishment; and (c) the indirect effects of simulated academic encouragement from the three networks of support on success through perceived academic engagement outweighed their direct effects.

Table 4

Impacts of Variables on Predicted Paths in the System

Path	Indirect (1)	Direct (2)	Total (3)
Support from parents → Academic participation	—	.19**	.19
Support from private teachers → Academic participation	—	.29**	.29
Peer assistance → Academic participation	—	.15*	.15
Academic success → guidance from their parents	.11*	–.19*	–.08
Support from private teachers → Academic accomplishment	.13**	.33***	.46
Peer assistance → Academic accomplishment	.07*	–.08	.01
Academic participation → Academic accomplishment	—	.49***	.49

Note: *** $p < .001$; * $p < .01$; and ** $p < .005$.

The Structural Equation Modeling (SEM) analysis focuses on testing the direct, indirect, and total effects of the various forms of support, academic participation, and academic accomplishment. The analyses show

that support from parents has a direct effect on academic participation = 0.19 ($P < 0.01$) while that from private teachers has a stronger direct effect on the same = 0.29 ($P < 0.01$). The study also showed that peer assistance had a similarly positive association with AP with a direct effect of 0.15 ($P < 0.05$). Parental guidance boasts a positive indirect effect of 0.11 ($P < 0.05$) but a negative direct effect of -0.19 ($P < 0.05$), making the total effect -0.08 . Private Teacher support enhances academic attainments directly and indirectly with a total effect of 0.46, evidencing a direct impact of 0.33 ($P < 0.001$) and an indirect effect of 0.13 ($P < 0.01$). Thus, peer assistance has a minor positive correlation with academic achievement in the total 0.07 ($P < 0.05$) and indirect (0.07) effects and negligible first-order negative effect (-0.08). The skill of participation of students in classes shows a relatively significant direct relationship with academic performance 0.49 ($P < 0.001$), emphasizing this competency. In general, the study results underline the critical impact of private teachers' support and academic engagement contribution to student success; at the same time, peer support and parents' guidance occupations seem to be less effective or even contingent.

The above Structural Equation Modeling (SEM) results confirm that academic participation significantly mediates the relationship between external support and student performance, which supports the findings of Sengul et al. (2019) that for academic success, student engagement is a vital aspect. Parental involvement showed a weak or mixed influence ($\beta = -0.08$, $p < .05$), suggesting parental support is helpful based on parenting styles and socio-economic factors (Hill & Tyson, 2009; Desforges & Abouchaar, 2003).

In the same way, peer support had a smaller positive impact ($\beta = 0.07$, $p < .05$), which aligns with Wentzel (2002), that peer interactions contribute to motivation and learning outcomes. This finding focuses on the importance of teacher quality and structured tutoring having a significant role in bridging learning gaps (Caprara et al., 2006; Vitaro et al., 2005).

Conclusion

The study conducted on 259 samples of secondary school students of Rawalpindi and Islamabad is a helpful source of understanding about the support system, study skills and performance. It has been established that parental, peer and private teacher support are constructs that are always perceived to play a very central role in academic participation and achievement among students. Nevertheless, students' variation in classroom learning pointed out that differences exist in learning in terms of average marks in Math and Urdu due to variations in student effort, teacher effectiveness, or other factors. This is supported by the variation in the number of years taken by the students to complete their studies and training. In summary, the findings emphasize the call for specific student support services and other initiatives to boost students' satisfactory academic performance in that specific area of learning and address specific course difficulties as an avenue to aid competencies in secondary education.

Further Suggestions and Future Directions

The results suggest the need to improve the practice of enhancing parental involvement functions and supporting private teachers to help them become more effective. According to this scenario, enhancing teaching effectiveness, especially as it relates to subject area content, is recommended for government intervention through curriculum reforms and teachers' professional development in Math and Urdu in particular. They should also ensure the students adhere to organizational study schedules and aspects such as study timetables and offer students academic advice on how to study effectively. Additional improvement of these already promising activities and initiatives may be made further by developing peer mentoring programs since having a friend or a peer to help students get over the deteriorated inspirational climate and re-engage in the learning process is equally encouraging. All these can help decrease disparities and improve educational achievements in secondary schools.

Future studies should also assess possible relationships between socioeconomic characteristics, school infrastructure, and teacher competency, as these factors affect academic achievement in this case. More longitudinal research could further reveal the effect that constant parental, peer, and private teacher-child support may have on learner outcomes. Furthermore, exploring the use of emerging technologies, including digital learning and the growth of after-school academic support programs in increasing student achievement, could provide useful insights, more so in schools in Rawalpindi and Islamabad.



Recommendations

The following are some recommendations based on the study's findings.

- ▶ Standardized training programs should be established for private tutors for the improvement of pedagogy specifically in Urdu and Mathematics subjects, where students face the most challenges.
- ▶ Parental education workshops may be developed to equip parents with effective methods and strategies to support the academic engagement and study habits of their children at home.
- ▶ Peer-assisted learning initiatives may be introduced with the mentorship of high-achieving students' mentors to their peers to develop a motivating collaborative learning environment.
- ▶ There should be an investment in continuous professional development for teachers to increase classroom engagement strategies.
- ▶ Schools should be encouraged to integrate study skills training into the curriculum, to help the students for the development of effective study schedules for academic success.

References

- Annual Status of Education Report (ASER), (2023). Extracted from: https://asERPakistan.org/document/2024/asERP_national_2023.pdf.
- Azmat, U., Jamil, M., & Muhammad, Y. (2021). Private tuition academies and the development of student's creative and critical skills: Perspectives of academy managers. *International Review of Social Sciences*, 9(4), 277–288
- Boonk, L., Gijssels, H. J. M., Ritzen, H., & Brand-Gruwel, S. (2018). A review of the relationship between parental involvement indicators and academic achievement. *Educational Research Review*, 24, 10–30. <https://doi.org/10.1016/j.edurev.2018.02.001>
- Bozzano, M., Cappelli, G., & Vasta, M. (2024). Whither education? The long shadow of pre-unification school systems into Italy's liberal age (1861–1911). *The Journal of Economic History*, 84(1), 149–190. <https://doi.org/10.1017/S0022050723000219>
- Broh, B. A. (2002). Linking extracurricular programming to academic achievement: Who benefits and why? *Sociology of Education*, 75(1), 69–95. <https://doi.org/10.2307/3090254>
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Caprara, G. V., Barbaranelli, C., Steca, P., & Malone, P. S. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology*, 44(6), 473–490. <https://doi.org/10.1016/j.jsp.2006.09.001>
- Caprara, G. V., Vecchione, M., Alessandri, G., Gerbino, M., & Barbaranelli, C. (2011). The contribution of personality traits and self-efficacy beliefs to academic achievement: a longitudinal study: Personality traits, self-efficacy beliefs and academic achievement. *The British Journal of Educational Psychology*, 81(Pt 1), 78–96. <https://doi.org/10.1348/2044-8279.002004>
- Castro, M., Expósito-Casas, E., López-Martín, E., Lizasoain, L., Navarro-Asencio, E., & Gaviria, J. L. (2015). Parental involvement on student academic achievement: A meta-analysis. *Educational Research Review*, 14, 33–46. <https://doi.org/10.1016/j.edurev.2015.01.002>
- Cooper, H., Robinson, J. C., & Patall, E. A. (2006). Does homework improve academic achievement? A synthesis of research, 1987–2003. *Review of Educational Research*, 76(1), 1–62. <https://doi.org/10.3102/00346543076001001>
- Cornwell, C. L. (2024). *Theorizing shadow education and academic success in East Asia: Understanding the meaning, value, and use of shadow education by East Asian students* (Y. C. Kim & J.-H. Jung, Eds.). Routledge.
- Dang, H. A., & Rogers, H. (2013). *The decision to invest in child quality over quantity: Household size and household investment in education in Vietnam*. Policy Research Working Paper, The World Bank.
- Dembo, M. H., & Gibson, S. (1985). Teachers' sense of efficacy: An important factor in school improvement. *The Elementary School Journal*, 86(2), 173–184. <https://doi.org/10.1086/461441>
- Desforges, C., & Abouchar, A. (2003). *The impact of parental involvement, parental support and family education on pupil achievement and adjustment: A literature review*, Research Report No. 433 Department for Education and Skills. London.
- Dumciuvienė, D. (2015). The impact of education policy on a country's economic development. *Procedia, Social and Behavioral Sciences*, 191, 2427–2436. <https://doi.org/10.1016/j.sbspro.2015.04.302>
- Faria, L. H. P. (2024). Education as an instrument of civilizational progress: analysis of Vicente de Carvalho's proposals for educational modernization in Santos (1889). *OBSERVATÓRIO DE LA ECONOMÍA LATINOAMERICANA*, 22(5), e4855. <https://doi.org/10.55905/oelv22n5-169>
- Fatima, K., Ullah, D. N., & Zafar, D. J. M. (2024). Identification of dropout reasons in public girls secondary schools in South Punjab Pakistan. *International Journal of Trends and Innovations in Business & Social Sciences*, 2(2), 183–192. <https://doi.org/10.48112/tibss.v2i2.806>
- Hallinger, P., Bickman, L., & Davis, K. (1996). School context, principal leadership, and student reading achievement. *The Elementary School Journal*, 96(5), 527–549. <https://doi.org/10.1086/461843>
- Hamka, M., Agusman, A., & Nur, M. A. (2024). Building civilization in the era of globalization based on knowledge through education and dakwah. *International Journal of Islamic Thought and Humanities*, 3(1), 36–48. <https://doi.org/10.54298/ijith.v3i1.181>



- Hanushek, E. A., & Woessmann, L. (2011). The economics of international differences in educational achievement. *Handbook of the Economics of Education*, 3, 89–200. <https://doi.org/10.1016/B978-0-444-53429-3.00002-8>
- Hill, N. E., & Taylor, L. C. (2004). Parental school involvement and children's academic achievement: Pragmatics and issues. *Current Directions in Psychological Science*, 13(4), 161–164. <https://psycnet.apa.org/doi/10.1111/j.0963-7214.2004.00298.x>.
- Hill, N. E., & Tyson, D. F. (2009). Parental involvement in middle school: a meta-analytic assessment of the strategies that promote achievement. *Developmental Psychology*, 45(3), 740–763. <https://doi.org/10.1037/a0015362>
- Hoover-Dempsey, K. V., Battiato, A. C., Walker, J. M. T., Reed, R. P., DeJong, J. M., & Jones, K. P. (2001). Parental involvement in homework. *Educational Psychologist*, 36(3), 195–209. https://doi.org/10.1207/s15326985ep3603_5
- Hoy, W. K., & Woolfolk, A. E. (1993). Teachers' sense of efficacy and the organizational health of schools. *The Elementary School Journal*, 93(4), 355–372. <https://doi.org/10.1086/461729>
- Iqbal, M., & Omeodu, M. (2023). Enhancing Critical Thinking Skills Through Problem-Based Learning in Physics Among Secondary School Students in Sargodha, Pakistan. *Rivers State University Journal of Science and Mathematics Education*, 1(1), 44–52.
- Jamil, M. Ain, U. Q. & Raza, A. (2024). Examining academic achievement of elementary school students: A gender-based study. *International Journal of Contemporary Issues in Social Sciences*, 3(1), 966–972. <https://ijciss.org/index.php/ijciss/article/view/385/397>
- Joshi, P. (2020). Private schooling and tutoring at scale in South Asia. In *Handbook of Education Systems in South Asia* (pp. 1–20). Springer Singapore. https://doi.org/10.1007/978-981-13-3309-5_23-1
- Kao, G., & Tienda, M. (2022). Optimism and achievement: The educational performance of immigrant youth. In *Interdisciplinary Perspectives on the New Immigration* (pp. 83–101). Routledge.
- Khan, B. H., & Shaikh, S. A. (2013). Analyzing the market for shadow education in Pakistan: Does private tuition affect the learning gap between private and public schools? *The Lahore Journal of Economics*, 118, 129–160. <http://dx.doi.org/10.35536/lje.2013.v18.isp.a6>.
- LaRocque, M., Kleiman, I., & Darling, S. M. (2011). Parental involvement: The missing link in school achievement. *Preventing School Failure: Alternative Education for Children and Youth*, 55(3), 115–122. <https://doi.org/10.1080/10459880903472876>
- Li, Y., Zhang, H., Padua, S., Zhou, X., Ma, X., & Li, X. (2024). The current status and trend analysis of the application of artificial intelligence technology in ecological civilization education for primary school students in China western regions: leading a new direction in future educational innovation. In *2024 5th International Conference on Mental Health, Education and Human Development (MHEHD 2024)* (pp. 685–692). Atlantis Press.
- Liu, Q., & Nie, Y. (2023). The shortcomings of quality evaluation of postgraduate training under the orientation of "five on" and its countermeasures. In *SHS Web of Conferences* (Vol. 168, p. 03027). EDP Sciences.
- Matin, N. (2016). The importance of involvement in education and the ways to alleviate the shortcomings. *Sociology of Education*, 1(2), 143–176. <https://doi.org/10.22034/ijes.2016.43672>
- Naseer, H., Muhammad, Y., & Jamil, M. (2022). Critical thinking skills in Pakistan studies textbook: Qualitative content analysis. *Pakistan Journal of Social Research*, 4(3), 744–755. <http://dx.doi.org/10.52567/pjsr.v4i03.764>
- Sahito, Z., Khawaja, M., Siddiqui, A., Shaheen, A., & Saeed, H. (2017). Role of tuition centers in the performance and achievement of students: A case of Hyderabad district, Sindh, Pakistan. *Journal of Education and Training Studies*, 5 (4), 90–102. <https://doi.org/10.11114/jets.v5i4.2262>
- Schmoker, M. (2006) *Results now: How we can achieve unprecedented improvements in teaching and learning. The association for super vision and curriculum development*, Alexandria.
- Sengul, O., Zhang, X., & Leroux, A. J. (2019). A multi-level analysis of students' teacher and family relationships on academic achievement in schools. *International Journal of Educational Methodology*, 5(1), 117–133. <https://doi.org/10.12973/ijem.5.1.131>
- Shuhrat o'g'li, R. A., Obidjon o'g'li, B. O., & Hamida, A. (2024). Interrelationship of civilization, development, and modernization processes. *European Journal of Innovation in Nonformal Education*, 4(5), 264–269.

- Sterpetti, A. V., Gabriele, R., Sapienza, P., Di Marzo, L., & Borrelli, V. (2024). Mortality and burden related to aortic aneurysms and dissections. The importance of information and education. *Current Problems in Cardiology*, 102384. <https://doi.org/10.1016/j.cpcardiol.2024.102384>
- Suleman, Q., & Hussain, I. (2014). Effects of private tuition on the academic achievement of secondary school students in subject of Mathematics in Kohat division, Pakistan. *Journal of Education and Learning (EduLearn)*, 8(1), 29–40. <http://dx.doi.org/10.11591/edulearn.v8i1.203>
- Vitaro, F., Brendgen, M., Larose, S., & Trembaly, R. E. (2005). Kindergarten disruptive behaviors, protective factors, and educational achievement by early adulthood. *Journal of Educational Psychology*, 97(4), 617. <https://psycnet.apa.org/doi/10.1037/0022-0663.97.4.617>
- Wentzel, K. R. (2002). Are effective teachers like good parents? Teaching styles and student adjustment in early adolescence. *Child development*, 73(1), 287–301. <https://doi.org/10.1111/1467-8624.00406>