A comprehensive review of the effects of social resources on the development of qualified instructors and children's learning performance

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Abstract The academic accomplishment of students is influenced by teachers' professional development (TDP), which is greatly influenced by social capital (SC). The networks, connections, and resources that educators can access inside their educational communities are included in this complex idea. This analysis looks at the impact of SC on students' academic success and teachers' professional development. The Mixed-methods technique and the (PRISMA) Preferred Reporting Items for Systematic Reviews and Meta-Analyses Statement serve as guides as the study carefully evaluates the caliber and applicability of the gathered research. A total of 10 empirical factors were incorporated in the final review after strict qualifying requirements were satisfied. The results show that three different categories of outcomes are linked to teachers' SC: 1) consequence of changes, 2) growth of professional teachers, and 3) enhanced academic performance. Notably, the cumulative effects of these outcomes contribute to the unspecified objective of promoting equity in education. The research should concentrate on gaining a better knowledge of the complex relationship among these dimensions as well as the organizational arrangement of schools in the future. It should be done to achieve the goals connected with teacher SC.

Keywords: teacher professional development, social capital, mixed-methods, academic achievement

1. Introduction

Increasing the number of people who enroll in higher education has become a greater political priority worldwide in recent years, which has led to measures aimed at broadening access to higher education (Mishra 2020). During the past decade, research on TDP and school reform has paid much more attention as the role of teacher agency than in previous decades (Lomi and Mbato 2020). It is anticipated that, this pattern will carry on during the period; there has been a significant accumulation of empirical research literature on the topic published by (Camacho et al 2021). Professional development refers to the procedures and endeavors aimed at improving instructors' professional knowledge, abilities, and attitudes on a personal level, with the ultimate goal of improving student learning (Canaran and Mirici 2019). While school reform involves schools recreating, reorganizing, and renewing entire schools into equitable and educationally good places, improvement at schools concentrates on improving instructional methods and results at the school level (Imants and Van der Wal 2020). In the classroom, students will acquire skills, knowledge, and experience that will be invaluable. Does it involve the opportunity to pursue higher education and enhanced social outcomes as a consequence of strong academic accomplishment, but it also includes a boost in motivation and even an improvement in overall wellness (Parkhouse et al 2019). Today's educators must deal with several difficult issues, such as meeting rigorous academic requirements and goals, and implementing new pedagogical understanding in the classroom (Selvaraj et al 2021). TDP is an important strategy for addressing these issues and raising educational standards in many nations. Various methods and techniques are used to raise the standard of teacher education, such as having professionals' information or direct in-person practical instruction (Ma et al 2023).

Bano et al (2019) was to investigate whether or not utilizing WhatsApp may increase students' psychological well-being by concentrating on the position that bridging social capital (BRC) and bonding social capital (BOC) play as mediators in the process. The current investigation analyzes the dominating influence of social integration in relation to users in WhatsApp and the emotional well-being of students. (Mahtud et al 2020) was to create a structural model that could be used to build the entrepreneurial intention of polytechnic students. The model would entail the interaction of entrepreneurial attitude orientation, SC, and emotional capital. The result represents that industrial mindset direction, SC, and psychological capital all
work together and interact to impact the industrial intent of polytechnic students. (Gustems-Carnicer et al 2019) looked at stress in teacher education students with three goals in mind: defining stress and coping styles at different levels, analyzing the relationship among coping mechanisms, stress and academic performance, determining whether getting older can mitigate the effects of stress on performance in academic within 335 students (Ding and Thien 2022) Sims and Fletcher-Wood (2021) reevaluated the data supporting the consensus and contends that the evaluations that form its foundation have significant methodological flaws, including improper inclusion criteria and erroneous inference techniques. For this reason, the consensus position is not correct. Osman and Warner (2020) investigated teachers' motivation to incorporate professional growth into their practice, but it studied result of professional development. To gauge instructors' motivation to include academic growth in their lessons, they created a scale. The scale appears to be a valid means of gauging instructors' expectations regarding the significance, value, and perceived expenses of implementation as well as effective implementation. Toropova et al (2021) focused on the eighth grade mathematics teachers and explores the relationships between job satisfaction, the working environment of schools, and the characteristics of teachers. Regarding attributes of teachers, higher levels of job satisfaction were reported by female teachers, teachers with greater exposure to professional development, and more effective instructors. The motive of (Vermunt et al 2019) was to improve their knowledge of Lesson Study (LS) affects the caliber of teacher education. It uses cross-sectional and longitudinal information from 3 rounds of information collected from 215 teachers who used LS for an entire academic year (Dunn and Kennedy M 2019). The results demonstrated that LS had a negative impact on problematic learning but a favorable impact on meaning- and application-oriented teacher learning. Teachers with less experience demonstrated the greatest growth in meaning-oriented learning. (Chen and Yang 2019) was conducted a meta-analysis of the study to compile previous studies comparing the impacts of project-based learning and conventional instruction on academic performance among students (Abuhassna et al 2020) analyze and investigate potential elements that influence the educational outcomes of learners as well as the degree, which satisfied with their use of online learning platforms. Two hundred forty-four higher education students who used online learning platforms participated in the study. A quantitative research methodology was applied to the study. Eleven criteria are depicted in the research model using online learning platforms to enhance students' academic performance and happiness (Philipson et al 2019). Conducted a review of qualitative information from 15 TPD papers that specifically target online blending learning (OBL). Six distinct synthesized findings were found and combined into an illustration structure that represents the essential elements of TPD for OBL using a meta-aggregative technique (Korpershoek et al 2020) investigated the connections between secondary school students' motivation, social-emotional learning, behavioral patterns, academic performance, and their sense of school belonging. It also looks at these associations vary across various student groups, assessment tools, and geographic areas (Gustems et al 2019). The current study investigated how students' grades were affected by their emotional, cognitive, and behavioral involvement with technology-enhanced learning (TEL), as well as how different motivation levels predicted various kinds of involvement. Their findings show that external factors predict utilization, intrinsic motivations predict engagement. The main focus thorough analysis is the complex relationship that exists between SC, teacher development, and student academic accomplishment. SC has become an essential component in education, referring to the connections, networks, and social assets that people access and utilize. The rest of the paper contains the methodology for PRISMA Guidelines. The result and output performance are shown in section 3. The discussion about the entire study was conducted in section 4. The end of the paper was concluded in section 5.

2. Materials and Methods

The investigation was carried out under the “Preferred Reporting Items for Systematic Reviews and Meta-Analyses” (PRISMA) statement. The PRISMA Statement comprises a 4 phase flow diagram as well as a format for gathering, evaluating, and also present information from the studies that are part of the review. These tools are used to find, choose, and evaluate pertinent research. To avoid bias and maintain rigor throughout the review process, the PRISMA approach was selected. In order to highlight important components and direct the author towards research outputs that addressed the research questions directly, the quality and significance of the included items were assessed using the Mixed-methods (MM) methodology. A detailed explanation of this technique is represented below.

2.1. Finding the appropriate search phrases

In educational research, SC's significance for students' learning is examined. The search phrases used for the assessment encompass the importance of SC in teacher learning. An online dictionary was used to find equivalents for the following terms: growth for teachers, teacher learning, TDP, and teacher learning. Since SC is a well determined theoretical idea, the search term SC has no additional synonyms. Research on directly connected concepts such as guidance, trust, and social network are acceptable for this study because they most likely make reference to SC, which is a foundational element of these studies.

2.2. Method of searching
A Boolean search query is utilized to gather investigate provisions and obtain pertinent investigation results. Google Scholar and Web of Science databases were selected because they were relevant to the subject; 250 entries were found. There were 45 records left out of the original 250 after inclusion criteria were applied and duplicate studies were eliminated. Following the application of a suppression technique, five records were excluded due to two primary reasons: 1) incomplete texts in three cases and 2) articles written in languages other than English in two cases. As a result, 200 studies were eligible. Following additional review, 185 of these papers were rejected. This review contained fifteen studies. A variety of synonyms were used, allowing each to appear either alone or in conjunction with other terms associated with SC and teacher learning. The procedure for choosing studies is shown in Figure 1.

2.3. Qualifications for eligibility

Only empirical papers that underwent peer review were eligible for publishing. Snowballing was done using conceptual articles and reviews that fit the search parameters. Brief conference papers that needed a detailed explanation of the study methodology were disqualified. Pieces pertaining to SC among K12 teachers were considered. K12 refers to children in grades 5 through 16 having to attend school. Student teachers participate in-school placements with in-service teachers as part of their masters or Teacher training programs. Academics pursuing degrees at universities and teaching institutions who are student instructors were not included. According to the topic criterion, studies without an obvious focus on searching terms were disqualified. The criteria for inclusion and exclusion are shown in Figure 2.

3. Results

3.1. Surface Properties of Associated Factors

In accordance with the recommendations provided by PRISMA, information regarding the residents, levels of grade, topic substance, methodology, as well as model size was gathered for each of the included factors. The studies that were considered are outlined in Table 1.

3.2. Finding concepts

Three categories of outcomes regarding teachers' SC emerged from a close reading of the included items: one identified SC as helpful for the growth of professional teachers; another highlighted its positive impact when the consequence of change; a third highlighted its role for enhanced academic performance. Even though there are situations in which SC acts as a mediating variable, SC is thought of quantified, as an independent variable in research. Research indicates that SC improves the three categories of characteristics, which are linked to higher student accomplishment. The third category indicates a clear association among increased achievement of student as the variable that depends and the SC of teachers. The relationship of these variables is depicted in Figure 3. The first category, professional growth has the highest frequency of recurrence,
accounting for about 35% of the review’s elements. The next theme, roughly 20% of all the research, is the consequence of change. The two themes are about equal in size. These will be discussed, that they relate to one another. The final topic, which makes up roughly 15% of the research that shows a connection among increased student accomplishment and Teacher SC. Although it is present in other subjects as well, the inherent result of equity in education is the most noticeable in this area. Figure 3 shows the relationship among three categories of variables to SC and student achievement.

**Figure 2 Flow for inclusion and exclusion standards**

**Table 1 Factor classifications of teacher SC outcomes.**

<table>
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<tr>
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<tbody>
<tr>
<td>3.</td>
<td>Ding &amp; Thien (2022)</td>
<td>Greater</td>
<td>Greater</td>
<td>Greater</td>
</tr>
<tr>
<td>5.</td>
<td>Spillane et al. (2018)</td>
<td>NR</td>
<td>Average</td>
<td>NR</td>
</tr>
<tr>
<td>7.</td>
<td>Lane &amp; Sweeny (2018)</td>
<td>NR</td>
<td>Average</td>
<td>NR</td>
</tr>
<tr>
<td>8.</td>
<td>Tumasheva et al (2021)</td>
<td>NR</td>
<td>Average</td>
<td>NR</td>
</tr>
<tr>
<td>9.</td>
<td>Woodland &amp; Mazur (2019a)</td>
<td>NR</td>
<td>Greater</td>
<td>NR</td>
</tr>
<tr>
<td>10.</td>
<td>Woodland &amp; Mazur (2019b)</td>
<td>NR</td>
<td>Greater</td>
<td>NR</td>
</tr>
</tbody>
</table>

3.3. Thematic examination of teacher SC outcomes

The types of SC outcomes that have been identified to be described as well as illustrated in further depth in the section. The MM framework has served as the analysis’s guide in identifying and prioritizing important components. Articles in each category are listed in Table 1 and ranked as greater or average based on regular MM.

3.3.1. Growth of professional teachers and SC

The results of 6 studies indicate the advantages of SC for the growth of experienced teachers. According to the findings of multiple studies, teachers obtain information from one-time professional growth workshops. However, their unofficial social
networks that enable the interpretation, sharing, compilation, contextualization, and maintenance information. The research also revealed that over half of network possibilities are formalized, despite the fact that teachers appreciate and engage in a variety of formal and informal networks, both inside and outside of the classroom. The Teacher's school is two-thirds of them are found. Results from other high MM research also suggest that organized networking among instructors has an impact on informal relationships. Teachers are more likely to engage in informal networks outside of the classroom if they value and have access to strong formal networks in the school (Woodland & Mazur, 2019a). The inverted orientation and observed the efficiency of teachers impacted interactions. Rather than examining how teachers’ social contacts affect their efficacy, the researchers examined how teacher performance predicted communications. It’s interesting to notice that excellent educators sought out support rather than to be asked for assistance. To put it another way, the individuals who posed the most questions appeared to acquire the most knowledge, which increased their overall achievement.

![Diagram](https://www.jabbnet.com)

**Figure 3** Direct and indirect relationship of the variables.

### 3.3.2. Enhanced academic performance and SC

Only one area of outcomes in this research indicates an association among enhanced student and teacher SC outcomes, despite the fact that all categories of outcomes highlight the value of SC for various aspects of school reform. The majority of studies in this category used a quantitative research design; with the outcome variable in association analyses test scores or student grades. This group of studies also highlights the implicit effect of SC on educational inequalities. A further study examined how teachers' social and human capital, affected students' academic performance. The study found that the arrangement and topic of connections between teachers predicted school-level student’s performance, using the technique on an example of additional 1000 teachers in over 250 evaluation groups.

### 3.3.3. Consequence of changes and SC

The following category, which consists of ten articles, is related to professional development as it examines the connection between SC and consequence change. When teachers' social and human capital was compared for their effect on instructional modifications, it was discovered that SC is a greater forecaster than human capital. It suggests that a teacher ability to access SC affects to reform implemented in the classroom. A subset of studies in this category focused on ITC policy into practice in response to growing government initiatives aimed at integrating technology into education. Their results contradict the conventional wisdom, which holds that change begins with a shift in teachers’ perspectives on an individual basis is communicated to other teachers. Figure 4 and Table 2 demonstrate the general output graph for the student engagement report by the Teacher.

### 4. Discussion

The goal of this review of the literature was to synthesize empirical research on SC for professional learning that was done among 2018 and 2023. 10 studies that were found using the search databases. This section will include a summary and discussion of the review's findings, along with recommendations for future study directions. Every attempt to review research literature is inherently incomplete and constrained by sources and search keywords. Furthermore, the viewpoints of the writers and readers always affect how research is interpreted. It is impossible to honor any piece or body of work while synthesizing literature. Nonetheless, an organized approach has been used in this assessment to guarantee the rigor and relevance of the
items included while lowering the possibility of influence. The results of this review demonstrate the significance of teacher SC in fostering three categories of outcomes: enhanced academic performance of students, consequence of changes, and growth of professional teachers. The results suggest that teacher SC has an implicit effect on fostering educational fairness and lessening the disadvantage experienced by low socioeconomic status (SES) students.

4.1. Consequences of future investigations

In order to better comprehend teacher SC in connection to the organizational framework of the schools where they are employed, this paper firstly argues for empirical research. Future studies should look into the effects of various organizational structures on teachers’ SC building, including topic departments, cross-grade-level team, grade-level teams, and mixed-subject teams. This also addresses the request for studies looking into how instructors develop relationships with students in schools where organizational routines span many grades and where teachers follow predominantly grade-specific routines. The instructors in conventional topic divisions as well as instructors functioning in student-centered may be involved in this type of study in secondary school settings. Expanding the current research to involve educators of particular disciplines outside of math and science can be beneficial.

Table 2 Numerical outcomes of student participation report.

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Engagement Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher 1</td>
<td>3.23</td>
</tr>
<tr>
<td>Teacher 2</td>
<td>3.11</td>
</tr>
<tr>
<td>Teacher 3</td>
<td>2.39</td>
</tr>
<tr>
<td>Teacher 4</td>
<td>3.33</td>
</tr>
<tr>
<td>Teacher 5</td>
<td>3.1</td>
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Source: https://www.google.com/imgres?imgurl=https%3A%2F%2Fcdi71xaburhd42.cloudfront.net%2F2f2c3fad0396580f1e15f810670db7a4d438a6b121%2F66- Figure4.10.png&tbnid=xvorXysfvoZ5PM&vet=12ahUKEwjb9PL46ZgCAXvWN2jgGHVwoCWYQMygAegQIARBE..i&imgrefurl=https%3A%2F%2Fwww.semanticscholar.org %2Fpaper%2FPatterns-of-Relationships-Between-Teacher-and-Cardwell%2F2c3fad0396580f1e15f810670db7a4d438a6b121&docid=UyQGqJygXkBM&w=1208&h=704&q=Relationship between teacher engagement graph&ved=2ahUKEwjb9PL46ZgCAXvWN2jgGHVwoCWYQMygAegQIARBE

Figure 4 Student participation report.
Source: https://www.google.com/imgres?imgurl=https%3A%2F%2Fcdi71xaburhd42.cloudfront.net%2F2f2c3fad0396580f1e15f810670db7a4d438a6b121%2F66- Figure4.10.png&tbnid=xvorXysfvoZ5PM&vet=12ahUKEwjb9PL46ZgCAXvWN2jgGHVwoCWYQMygAegQIARBE..i&imgrefurl=https%3A%2F%2Fwww.semanticscholar.org %2Fpaper%2FPatterns-of-Relationships-Between-Teacher-and-Cardwell%2F2c3fad0396580f1e15f810670db7a4d438a6b121&docid=UyQGqJygXkBM&w=1208&h=704&q=Relationship between teacher engagement graph&ved=2ahUKEwjb9PL46ZgCAXvWN2jgGHVwoCWYQMygAegQIARBE
5. Final considerations

The academic success of students is influenced by the professional growth of teachers, which is impacted by SC. This intricate concept encompasses a variety of elements, including the networks, connections, and resources that educators have access to inside their respective educational communities. The study assesses the relevance and quality of the accumulated research using the Mixed-methods methodology and PRISMA Statement as guiding principles. The results show that the three categories of outcomes are linked to the teacher’s SC. The study shows the direct and indirect connections among the three categories to student achievement. Self-reported data are the primary source of information for this study, which may introduce variation in responses and subjectivity. In addition, the study is restricted to a certain period of time and demography, which may limit the potential of its findings to be generalized to broader educational environments. The possibility for further informing educational policies and practices targeted at improving instructor growth and maximizing children’s learning experiences is one of the field’s exciting future possibilities for research.

Ethical Considerations
Not Applicable.

Conflict of Interest
The authors declare no conflict of interest.

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