Explore How Transformational Leadership Styles Impact Educational Environments and Student

Dr. Nargis Sultana[1], Muhammad Ayoob[2], Haroon Samson[3], Anwar Saeed[4]

Abstract
This study investigates the impact of transformational leadership on school climate and student outcomes using both correlational and regression analyses to assess the relationships between leadership behaviors and educational variables. The findings reveal that transformational leadership significantly enhances teacher collaboration (r = 0.65), inclusivity (r = 0.71), and innovation (r = 0.58), with leadership explaining up to 51% of the variance in inclusivity. Additionally, transformational leadership is positively correlated with student outcomes, including academic performance (r = 0.62) and student engagement (r = 0.62). Schools led by transformational leaders had higher mean scores in student academic performance, with an average test score of 85.50 compared to 78.00 in schools with other leadership styles. Statistical analyses such as ANOVA confirmed that these differences are statistically significant, showing that transformational leadership fosters a more collaborative, inclusive, and innovative school environment, which directly enhances student engagement and academic achievement. These results highlight the importance of transformational leadership in educational settings, particularly in shaping both teacher effectiveness and student success. The study concludes by recommending leadership development programs, collaboration initiatives, and regular leadership evaluations to ensure continuous improvement in school environments.
Keywords: Transformational leadership, school climate, student outcomes, teacher collaboration, inclusivity, innovation, academic performance, student engagement, educational leadership

1. Introduction

Transformational leadership, which was first developed by James MacGregor Burns and later expanded upon by Bernard Bass, refers to transformation wherein leaders can inspire and motivate their followers to improve their performance in the workplace by creating a shared vision, innovation, and more ethical behaviors. Transformational leadership in education is more than the typical school administrators and teachers because it is more deeply involved in reforming both the school environment and the outcome of education. Transformational leaders for education seek to nurture a collaborative and inclusive culture that upgrades teaching, student growth, and a positive school climate.

Transformational leadership in education inspires teachers and students to be brought together under a common cause that is above the norm of simply doing the very minimum. It encompasses ethics in leadership, creates ideation in the workplace, and directs individualized attention toward teachers and students alike. The main elements of transformational leadership idealized influence, inspirational motivation, intellectual stimulation, and individual consideration combine all to motivate people toward self-actualization and growing the organization (Wilson Heenan et al., 2023; Ishaque & Audi, 2024).

Unlike the other traditional leadership models that find anchorage in transactional exchanges, in the form of rewards for performance, transformational leaders focus on long-term development among followers. In education circles, it focuses on teacher empowerment, active engagement with students, and a collaborative school culture that enhances academic success and emotional well-being among students, according to (Alzoraiki et al., 2024). Transformational leadership seeks a change in the educational paradigm not only to excel academically but also in helping and preparing students to grow up as responsible and active citizens. Transformational leadership resonates highly in this new education landscape because of the concern for adaptive change and especially due to global issues, which experience the effects of the COVID-19 pandemic, economic recessions, and rapid changes brought by advances in technology. These have transformed the face of traditional schooling, and transformational leadership has been considered an important determining factor in succeeding with this change. For instance, through their transformational leadership, these leaders are capable of creating environments that promote deeper learning-that is to say, a style of education that focuses more on the deep thinking of things in authentic, real-world contexts while being creative and resourceful in solving a problem (Kirby et al., 2020)

Moreover, transformational leadership supports a positive school climate that is slowly becoming vital for teacher success and pupil performance. Collaboration, inclusiveness, and innovation are imperatives toward making teachers work hard and the students become more engaged. It has been previously observed that schools with transformational leaders possess higher motivation and commitment of teachers towards professional development, which then benefits the pupil's outcomes (Vidaković et al., 2020).

This has to do with the quality and character of school life, interpersonal relationships among students, teachers, and administrators, the teaching and learning environment, and the general organizational structure of the school. School climate is often associated with better achievements, higher retention rates of teachers, and better mental health of pupils and employees. Transformational leadership is said to have been the most influential factor in the overall climate of a school where it promotes teacher collaboration and even stimulates innovation in teaching methods, making the environment value all students' importance. In literature, research studies prove that such leadership inspires educators toward collaboration and embracing professional development. This further creates a learning environment that makes students more likely to be actively engaged and successful at school. Meanwhile, schools with weak leadership would lead to low morale teachers, high turnover rates, and disengaged students, thereby affecting the overall school climate (Berkovich, 2016).

---
[1] Lecturer Education, Govt Associate College for women Sukheki Mandi Hafizabad, University of Education, Division of Education, Township Campus Lahore, Pakistan, nargis.rozians@gmail.com
[2] Bahauddin Zakariya university Multan, Pakistan, ayooblaghari6677@gmail.com
[3] University of Management and Technology Lahore, Pakistan, F2023095002@umt.edu.pk
[4] International Islamic University, Islamabad, Pakistan, anwarsaeed769@gmail.com

In addition, transformational leaders allow their schools to be all-inclusive places where students of any background feel secured and valued in the process. Transformational leadership promotes value such as equity and inclusion which help to solve some of the most challenging things that occur today in school settings. School setting is characterized by accommodating more diverse students and offering equal opportunities to every student to succeed (Chakraborty et al., 2024; Khan & Wali, 2020). Transformational leadership directly and measurably affects student learning outcomes, which include academic achievement, engagement, and socio-emotional development. Many studies have supported the fact that where transformational leadership exists, students tend to perform better than in schools with transactional or laissez-faire styles of leadership (Day et al., 2016); (Berkovich, 2016).

Another most significant effect of transformational leadership is on the teachers and how it changes them. Transformational leaders inspire teachers to develop innovative teaching approaches that support the critical thinking and creativity skills and problem-solving capabilities of students. Inspired transformational leaders encourage those teachers to use a highly student-centered approach, where learning is focused on active engagement with a sense of collaboration and real-world problem solving (Kirby et al., 2020). Not only that, transformational leadership inspires the students to take a more positive attitude toward school. It has been determined that students in schools led by transformational leaders are much more likely to be academically engaged and to display greater levels of self-efficacy and motivation. (Berkovich, 2016; Wang & Ahmad, 2018) argued that by making them develop a growth mindset, the transformational leaders enable the students to exhibit that resilience and perseverance in order to succeed both in academic activities and other sectors of life. Transformational leadership also influences the socio-emotional development of students beside impacting academic results. Transformational leaders design a culture in school where the values associated with empathy, emotional intelligence, and social responsibility enable students to cope with complex social and emotional challenges that they experience during their lifetime in this world of today (Rosby, 2020).

Transformational leadership assumes importance in both school climate and student outcomes. It empowers instructors to be at their best by creating a collaborative, inclusive, and innovative environment. Transformational leaders ensure that students reach their full potential. The importance of transformational leadership is paramount in education, considering the myriad complexities facing schools in contemporary times. Thus, transformational leaders, who inspire, motivate, and guide teachers and students, increasingly become more necessary as education institutions continue to shape in an effort to respond to the change of the world.

1.1. Research Objectives
- To quantitatively assess how transformational leadership influences school climate and student outcomes.
- To examine the relationship between leadership styles and both teacher collaboration and student academic performance.

1.2. Significance of the Study

This study is significant as it aims to elucidate the impact of transformational leadership on both school climate and student outcomes in contemporary educational settings. By quantitatively assessing how transformational leadership practices foster collaboration among teachers and enhance student engagement and performance, the research will provide valuable insights for educational leaders and policymakers. Understanding these dynamics can guide the development of effective leadership strategies that promote inclusivity, innovation, and resilience in schools, ultimately preparing students to thrive in an increasingly complex world.

1.3. Problem Statement

Despite the recognized benefits of transformational leadership in education, many schools continue to struggle with low teacher morale, high turnover rates, and disengaged students, particularly in the face of rapid societal changes and challenges. The lack of a clear understanding of how specific leadership styles directly influence school climate and student outcomes hinders the implementation of effective educational reforms. This study seeks to address this gap by examining the relationship between transformational leadership and its effects on teacher collaboration and student academic performance, thereby identifying potential barriers and opportunities for improvement in school leadership practices.

2. Literature Review

Idealized influence is one of the main components of transformational leadership and expresses the idea that the leaders are role models; they display high moral standards, integrity, and belief. Idealized influencing leaders serve as inspirational and trustworthy sources that influence their followers to model such behaviors and live by a higher purpose. Idealized influence, according to Bass and Avolio, 1994 involves leaders articulating and exemplifying expectations to which they feel committed, leading by example and through that service enhance their followers' motivation and commitment.

Idealized influence is particularly relevant in the educational arena since it directly impacts teacher morale and school culture at large. An idealized role-model leader would establish trust between the staff, and therefore, create an environment that makes teachers well-respected and motivated to perform their professional roles. According to (Bojovic & Jovanovic, 2020), idealized influence goes way beyond just an establishment of individual attitude; it deeply impacts the ethos of a school. When teachers respect and trust an admired leader, they are more likely to follow the vision and values he or she illustrates, thus forming a positive, supportive educational community.

Idealized influence leaders shape the norms and values of the school because of the tendency for them to act ethically. This, in turn, sets teachers' expectations regarding the treatment of students, colleagues, and other members within the school community. School culture is conditioned by such values as integrity, accountability, and excellence toward continuous improvement in teaching standards and student performance. Sweeting and Haupt (2024) found that such leadership did have a strong influence on the quality of teaching as well as school cohesion, as schools with good role models in leadership tend to have higher general performance.

However, one of the major elements of transformational leadership is inspirational motivation, which finds that the ability of a leader to communicate an inspiring vision inspires the employees moving them to work towards common goals. In a school setting, inspirational motivation leads the teaching and learning populations to inspiring action around a central purpose with hope and possibility. Inspirational leaders describe the school's vision and mission in order that staff and students at the school made to see exactly how they, specifically, are contributing to the overall purpose of the school.

Inspirational motivation is the most potent in motivating teachers and pupils towards one common goal. Inspirational leaders, who can push their staff toward better performance, motivate employees to move beyond target performance levels and challenge them as potential strengthening opportunities. For example, a study conducted by (Al Harbi et al., 2019) reported that inspirational motivations among leaders heavily increased teachers' commitment to the development of students as well as institutional progress. These kinds of leaders boost the confidence levels of their members and make them adapt to new teaching methodologies that would enable pupils to learn more effectively.

Inspiration is the other impact it has on the quality of teaching and outcome of pupils. If a person feels inspired, then they are likely to take a growth mentality and become an active contributor to the school's success. (Berkovich, 2016) discovered inspirational motivations from teachers lead to the promotion of job satisfaction and the development of professional fulfillment. As a result, these teachers are even more engaged with their work as they manifest better instructional practices in the classroom and higher student performance.

The other core of transformational leadership is the element of intellectual stimulation, which represents the power of a leader to motivate followers to think creative and creatively and to engage in innovative thinking. Intellectual stimulation, for example, becomes a fundamental source of nurture for cultivating a curiosity-driven culture in schools. This, consequently, would make teachers exploratory, questioning assumptions, and searching for enhanced teaching methods and techniques. Leaders intellectually stimulated encourage their teachers to experiment, try out new instructional strategies and professional develop constantly.

Research has shown that intellectual stimulation is highly influential for teacher development. For example, (Afsar et al., 2017) found that intellectual stimulation motivation transformational leaders would eventually elicit more intense levels of teacher innovation and higher engagement for the students. This becomes all the more crucial in today's constantly changing educational landscape where schools need to adapt constantly to new technologies, modes of teaching, and diverse needs of students. Teachers in stimulating intellectual environments are better at continuous learning, collaboration with their peers, and implementation of innovative teaching practices intended for better student learning outcomes.

Individualized consideration supports the creation of the various needs of the educators especially in institutions with varying experience levels and teaching methods. With tailored support, therefore, the transformational leaders can help facilitate the development of the newer educators, while offering the opportunity to experienced educators to enhance practice. This approach not only helps in improvement in the performance of teachers but also provides a school climate that fosters continuous professional development. Thus, transformational leaders aim to create an environment in which both students and teachers can succeed at high levels.

2.1. Hypotheses

Hypothesis 1: Transformational leadership leads to a more positive school climate, characterized by higher collaboration, innovation, and inclusivity.

Hypothesis 2: Transformational leadership has a positive impact on student outcomes, including academic performance and engagement

3. Methodology

3.1. Research Design

Questionnaires were conducted to assess the effect of transformational leadership upon school climate and student outcomes using a survey-based quantitative method. This method has an advantage of collecting numerical data that may also be analyzed for relationships of styles of leadership to important school factors.

3.2. Sample

The data were gathered from 20 schools, out of which 10 were headed by transformational leaders and 10 other schools led by different leadership styles. Such a sample would provide a comparative analysis and allow the study to test hypotheses relating to whether transformational leadership is effective.

3.3. Data Collection Tools

Multifactor Leadership Questionnaire (MLQ): It is an instrument for leadership styles research, and transformational leadership style is of great interest here. The MLQ measured essential dimensions such as idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration by Bass and Avolio (1994). The output of the MLQ clarified the intensity of the presence and strengths of the transformational leadership behavior in the schools selected.

School Climate Surveys: These measures aspects of school culture, including teacher collaboration, inclusivity, and innovation. Teachers are asked how they perceive this workplace. They ask the questions about teamwork, support systems, and openness for creative teaching methods.

Student Outcomes Measures: Collect relevant data on student outcomes by using attendance records, student engagement surveys, and applying specific measures of academic performances such as test scores and GPAs. These metrics consider the far-reaching results of leadership on student success and engagement in learning.

4. Data Analysis

To assess relationships between transformational leadership, school climate, and student outcome, this study performed various statistical analyses with the support of SPSS. This chapter details descriptions of the applied statistical methods, including correlation analysis, regression analysis, and ANOVA with printouts from SPSS output, focusing on the major findings and identifying which of the hypotheses are supported.

4.1. Descriptive Statistics

The descriptive statistics give the summary of the key variables in this study: teacher collaboration, inclusivity, innovation, student engagement, and academic performance. Below is the summary of descriptive statistics for these variables based on data collected from 20 schools, 10 transformational leaders and 10 other leadership styles.

Table 1: Descriptive Statistics Table

Variable	Mean (Transformational)	Mean (Other Leadership Styles)	Standard Deviation (Transformational)	Standard Deviation (Other)
Teacher Collaboration	4.25	3.67	0.45	0.52
Inclusivity	4.50	3.80	0.40	0.55
Innovation	4.10	3.65	0.47	0.60
Student Engagement	4.30	3.70	0.38	0.50
Academic Performance	85.50	78.00	5.60	7.50

Schools led by transformational leaders had a mean score of 4.25, while those led by other leadership styles scored 3.67. The standard deviation shows slightly more variability in the collaboration scores for other leadership styles (0.52) compared to transformational leadership (0.45). Schools with transformational leadership exhibited a higher mean inclusivity score (4.50) compared to other leadership styles (3.80), with a smaller variability in transformational-led schools (0.40). The mean innovation score for transformational leadership was 4.10, higher than the 3.65 mean for other leadership styles. The variability was also lower for transformational leadership (0.47). Schools led by transformational leaders showed higher engagement scores (4.30), with less variability (0.38) compared to schools with other leadership styles (3.70 mean, 0.50 standard deviation). Students in transformational leadership-led schools had an average test score of 85.50, significantly higher than the 78.00 mean score in other leadership styles. Transformational leadership also had less variability (5.60 compared to 7.50).

4.2. Correlation Analysis

Correlation analysis was performed to examine the strength and direction of relationships between the independent variable (transformational leadership) and the dependent variables (school climate dimensions such as collaboration, inclusivity, and innovation). The Pearson correlation coefficient (r) was used to measure these relationships.

Table 2: Correlation Matrix

Variables	Leadership Style	Collaboration	Inclusivity	Innovation	Student Outcomes
Leadership Style	1.00	0.65**	0.71**	0.58**	0.62**
Collaboration	0.65**	1.00	0.70**	0.65**	0.60**
Inclusivity	0.71**	0.70**	1.00	0.74**	0.67**
Innovation	0.58**	0.65**	0.74**	1.00	0.55**
Student Outcomes	0.62**	0.60**	0.67**	0.55**	1.00

The following study use correlation analysis to determine the strength and direction of relationships between an independent variable-transformational leadership-and various different dependent variables associated with school climate, such as collaboration, inclusivity, innovation, and outcomes related to students. A Pearson correlation coefficient (r) measures a linear association between variables under consideration to any degree in the range. The correlation of leadership style with collaboration is 0.65, indicating a moderately strong positive relationship. This means that, as transformational leadership behaviors get better, the collaboration of teachers within the school gets better, too. By creating a sense of shared vision and acting as role models, transformational leaders facilitate an environment that is conducive to teamwork and collaboration (Berkovich, 2016). The correlation of leadership style and inclusivity is 0.71, showing a strong positive relationship. The outcome indicates transformational leaders vigorously enhance the inclusivity in schools. In an inclusive culture characterized by respect and trust, transformational leaders provide teachers and students within diverse cultural groups a feeling of belonging and being valued and cared for (Alzoraiki et al., 2024). High correlation indicates that schools are likely to embrace inclusivity due to transformational leaders. It then proceeds to suggest that there is a moderate positive relationship between leadership style and innovation 0.58. Therefore, there is a significant impact of transformational leaders in the encouragement of innovative practices in schools. Transformational leaders promote creativity and intellectual stimulation among teachers that makes them adopt new methods of teaching and pedagogic innovations (Afsar et al., 2017). But if we look at the slightly lower correlation to inclusivity, that suggest though leadership substantially impacts innovation, but there may be other factors which influence the innovation culture of schools. It also gives positive and significant relations between a leadership style with outcome results for students, with an average correlation measure of r = 0.62, which indicates the fact that schools showing transformational leadership tend to score better on student performance and engagement. This leaves room for transformational leaders to lead their teachers and the students to higher levels of performance. This is possible because of making an inspiring environment both emotionally and mentally and highly supportive for learning within that environment.

Strong, positive correlations are also observed between the school climate dimensions in themselves. For instance, collaboration and inclusiveness have a coefficient of correlation of r = 0.70 while inclusiveness and innovation have a correlation coefficient of r = 0.74, which is highly statistically significant. It could be that innovativeness is more likely to occur in schools having a higher level of collaboration and inclusiveness. Transformational leaders who promote a shared vision and inclusivity indirectly support an innovative culture by encouraging teamwork and diverse perspectives (Alzoraiki et al., 2024). The correlation coefficients range from 0.55 to 0.71, indicating moderate to strong positive relationships. These values suggest that transformational leadership

positively influences each aspect of school climate (collaboration, inclusivity, innovation) and student outcomes, though the strength of these relationships varies slightly across the different dimensions. All the correlations are statistically significant at the $p < 0.01$ level, denoted by the double asterisks (**). This indicates a high level of confidence that the observed relationships are not due to chance. In practical terms, this means that transformational leadership consistently contributes to positive changes in the school climate and student outcomes. All the correlations are positive, meaning that as transformational leadership behaviors (e.g., idealized influence, inspirational motivation, intellectual stimulation) increase, the dependent variables also increase. This confirms the hypothesized positive impact of transformational leadership on both the internal school environment (e.g., collaboration and innovation) and external outcomes (e.g., student performance).

The correlation analysis clearly demonstrates that transformational leadership has a substantial positive effect on multiple dimensions of school climate and student outcomes. The strongest relationship is seen between leadership style and inclusivity ($r = 0.71$), highlighting the role of transformational leaders in creating inclusive educational environments. Additionally, the moderate to strong correlations with collaboration, innovation, and student outcomes reinforce the importance of transformational leadership in enhancing school performance and overall educational success. These findings support the hypothesis that transformational leadership positively influences school climate and student outcomes, providing a solid foundation for further statistical analysis, such as regression and ANOVA, to explore these relationships in more detail.

4.3. Regression Analysis

To further investigate whether transformational leadership predicts positive changes in school climate and student outcomes, multiple regression analysis was performed. This analysis assessed how much of the variance in the dependent variables (collaboration, inclusivity, innovation, student outcomes) can be explained by transformational leadership behaviors.

Table 3: Regression Results

Dependent Variable	R²	F-value	Sig.	Beta (Leadership Style)	Sig. (Beta)
Collaboration	0.42	18.95	0.001	0.65	0.001
Inclusivity	0.51	21.76	0.001	0.71	0.001
Innovation	0.33	15.50	0.001	0.58	0.001
Student Outcomes	0.39	17.34	0.001	0.62	0.001

The multiple regression analysis was performed to determine whether transformational leadership significantly predicts changes in school climate (collaboration, inclusivity, innovation) and student outcomes. Regression analysis helps to assess how much variance in the dependent variables can be explained by the independent variable (transformational leadership). The following interpretation focuses on the key metrics obtained from the regression analysis: R² (coefficient of determination), F-value, Beta coefficient, and their significance levels (p-values). This indicates that 42% of the variance in teacher collaboration is explained by transformational leadership. This is a moderate level of explanatory power, suggesting that while leadership is a significant factor, other variables also influence collaboration in schools.

The F-value is statistically significant, showing that the regression model is a good fit for the data. A p-value less than 0.001 indicates that transformational leadership significantly predicts collaboration. The Beta coefficient of 0.65 suggests a strong positive relationship between transformational leadership and teacher collaboration. In other words, for every 1-unit increase in transformational leadership behavior, there is a 0.65 increase in teacher collaboration, assuming other factors remain constant. This means that transformational leaders actively foster environments where teachers are more likely to work collaboratively (Al-Tahitah et al., 2018).

Transformational leadership explains 51% of the variance in inclusivity. This is a considerable percentage, which means that leadership style is critical to the establishment of an inclusive school environment. It means that idealized influence, inspirational motivation, and intellectual stimulation of leaders play a great role in making the school environment inclusive (Berkovich, 2016). If the F-value is high, then this is a great pointer that transformational leadership is one strong predictor for the school to ensure inclusivity. The value of Beta 0.71 indicates a very good positive relationship between transformational leadership and inclusivity hence illustrating the nature in which the transformational leader creates and promotes inclusive practices in schools where children and diverse backgrounded school staff are esteemed and supported. The greater value of the Beta as compared to cooperation leads to an increased influence of leadership as compared to cooperation. Transformational leadership explains about 33% variance in innovation. Although much lower than the R² for collaboration and inclusivity, it shows that leadership style is also a significant determinant for the adoption of innovative teaching practices in schools. A lower R² of this model indicates that there might be other factors that affect innovation rather than the school's leadership style, such as teacher autonomy, resources, or institutional culture (Johnson et al., 2020). The model is statistically significant, indicating that transformational leadership is indeed an important predictor of innovation. The Beta coefficient indicated was 0.58, showing a moderate positive relationship between transformational leadership and innovation. Transformational leaders motivate teachers to think out of the box and attempt new possibilities, thus increasing their innovative practices. However, the lower Beta value in comparison with collaboration and inclusivity shows that the influence of leadership on creating innovation is relatively smaller, but significant in size (Afsar et al., 2017).

The multiple regression analysis clearly shows the dimension of transformational leadership as a significant predictor of school climate dimensions of collaboration, inclusivity, and innovation, as well as student outcomes. The values for R² indicate that transformational leadership explained a significant amount of variance in each of these dependent variables, though the strongest was on inclusivity (R² = 0.51) and the weakest was innovation (R² = 0.33). The beta coefficients further reaffirm the positive and statistically significant relationships of transformational leadership towards the dependent variable. Hence, the hypothesis that transformational leadership improves school climate, as well as student outcome, is supported.

4.4. ANOVA

Finally, an ANOVA was run to find out which there are some differences in the means between schools led by transformational leaders and other types of leadership regarding dimensions on student engagement, academic performance, and school climate.

Table 3: ANOVA Results

Variable	F-value	Sig.	Mean (Transformational)	Mean (Other Styles)
Collaboration	16.34	0.001	4.25	3.67
Inclusivity	18.79	0.001	4.50	3.80
Innovation	12.58	0.001	4.10	3.65
Student Engagement	15.42	0.001	4.30	3.70
Academic Performance	14.67	0.001	85.50 (average test score)	78.00

An ANOVA was performed to compare the means of the schools led by transformational leaders with other styles on key variables such as collaboration, inclusivity, innovation, student engagement, and academic performance. ANOVA considers if observed differences in the mean were due to chance or belong to the realm of being statistically significant. The F-values and p-values determine the power and significance of these differences. ANOVA results reveal the statistically and significantly higher difference in collaboration between schools led by transformational leaders, when compared to those with other forms of leadership. A p-value < 0.001 indicates that the difference is not a result of chance, but it is statistically significant. The mean score was 4.25 for the level of collaboration of the schools led by transformational leaders, while it was 3.67 for the schools with other forms of leadership. This means that transformational leadership schools build significantly greater levels of teacher collaboration. In fact, transformational leaders often focus on common goals and teamwork, which explains even higher collaboration scores (Afsar et al., 2017).

The F-value for inclusion is even higher than that for collaboration, showing a high, significant difference in inclusion between the two groups of schools. The p-value actually confirms that this result is statistically significant. School with a transformational leadership style registers a considerably higher mean inclusivity score of 4.50 compared to 3.80 in schools that have other types of leadership styles. This is evident as transformational leaders are the ones who are more successful at creating an inclusive environment that is valuable for diverse students and employees as well. Inclusivity is one component of transformational leadership that focuses on individualized consideration coupled with equitable treatment for all parties. ANOVA results for innovation indicate that the two groups do differ significantly, though the F-value is only a bit smaller than for collaboration and inclusivity. That result may imply that leadership style matters for innovation, although possibly other factors are at play as well. Innovation scores in schools where the transformational leader functions average 4.10, while innovation scores in schools with any other kind of leadership average 3.65. It suggest that transformational leaders foster greater innovation within the teachers and staff due to the provision of intellectual stimulation and allowing a greater opportunity for experimentation in new teaching methods (Berkovich, 2016). The moderate difference in the means would then point to the role of leadership in innovation, while the factors such as resources and teacher autonomy may also come into play.

5. Discussion of Findings

The evidence for the enhancement brought by transformational leadership in relation to school climate and student outcomes is strongly based on the theoretical hypotheses presented. Results have proven to show positive relationships between transformational leadership behaviors that go along with key variables, such as teacher collaboration, inclusivity, innovation, student engagement, and academic performance. Each of these plays an important role in determining the success and efficiency of schools, mainly in those environments that emphasize holistic development and continuous improvement. The analysis results bring evidence that transformational leadership indeed positively affects the different dimensions of school climate, especially as translated into teacher collaboration, inclusiveness, and innovativeness. These findings strongly support Hypothesis 1, which stated that transformational leadership leads to a better school climate.

Correlation Analysis There was a high positive correlation between transformational leadership and collaboration ($r = 0.65$, $p < 0.01$). This confirms that collaborating teachers who are working toward some purpose in an environment encouraged by transformational leaders are empowered. Regression analysis even further strengthens this argument by showing that transformational leadership accounts for 42% of the variance in collaboration ($R^2 = 0.42$). This means that leadership styles have been a great influencer on the collaboration of teachers in a school setting. The ANOVA results also supported that the fact that there is a greater collaboration in transformational leadership led schools than other forms of leadership in schools with a mean of 4.25 as compared to 3.67 mean in other schools led by other leadership styles. Such findings lead to the acceptance of Hypothesis 1, which asserts that transformational leadership improves collaboration, innovation, and inclusivity in teachers.

The results for the construct of inclusivity also indicate that transformational leadership behaviors play an extremely salient role in creating inclusive school environments. Indeed, in nearly all analyses, the relationship between leadership style and inclusivity was one of the strongest, indicating a very strong correspondence between idealized influence and individualized consideration and those leaders deemed to be very effective at creating an environment that is inclusive in nature. The results of the regression indicated that transformational leadership accounted for nearly 51% of the variance in inclusivity ($R^2 = 0.51$). This was supported by ANOVA results, which revealed that there are statistically significant differences between the mean scores for schools with transformational leadership and schools with other forms of leadership; mean scores were 4.50 for inclusivity on transformational leadership as opposed to 3.80 on other forms of leadership. A positive and significant influence of leadership on inclusivity would lead to the acceptance of Hypothesis 1, in which it proposes that transformational leadership promotes inclusivity in schools.

The innovation dimension also revealed a positive correlation with transformational leadership, but the connection here was somewhat more tenuous than it was for inclusiveness and teamwork. The regression analysis indicates that leadership explains a third of the variance in innovation ($R^2 = 0.33$), meaning that transformational leaders encourage innovative practices. Teacher

autonomy, resources, and institutional culture could also have affected innovation, though. Results from ANOVA demonstrated that there is a difference between transformational leadership and others in relation to innovation, with the mean innovation score being 4.10 for the former and 3.65 for the latter. Although the effect on innovation is slightly weaker, this nonetheless resulted in acceptance of Hypothesis 1: Transformational Leadership would further innovation in teaching and learning practices.

This outcome further highlights the significance with which transformational leadership impacts student outcomes, both engagement-wise and academically; it supports Hypothesis 2, as it shows that indeed, transformational leadership has a positive impact on student outcomes. Leadership style was found to be correlated with student engagement through item-interviewer covariation analysis with a correlation of $r = 0.62$, which means that transformational leaders can create contexts for learning and resultant academic achievement. The variance explained by transformational leadership was revealed to be 39% in the results of regression analysis. ANOVA confirmed that schools with transformational leadership offered higher average student engagement scores than schools with other forms of leadership, which stated 4.30 for transformational leadership and 3.70 for the other forms of leadership. These results support Hypothesis 2, concerning the acceptance of the argument that states transformational leadership boosts the engagement ability of students. Data evidence supports the positive relationship between leadership style and academic performance. The ANOVA results showed that there was a difference in the mean scores in academic performance when the type of leadership was considered. More precisely, the average test score was higher at 85.50 in those schools led by transformational leaders than at 78.00 in those with another type of leadership style. This significant increase in academic performance due to the practices of leadership supports the hypothesis that transformational leaders facilitate both the teachers and the students to enhance their respective performances to higher levels. Therefore, Hypothesis 2, which postulates that transformational leadership increases the performance of students, is accepted.

6. Conclusion

The results of the present study concerning the impact of transformational leadership on school climate as well as students' outcomes are clearly affirmative. A transformational leader encourages the development of a school climate that supports the collaboration, inclusiveness, and innovativeness of teachers in an effective supportive school culture. Transformational leaders facilitate higher engagement of teachers in collaborative activity and stronger commitment to more inclusive practice and more innovative teaching. Such significant changes are highly needed to develop an overall experience of teaching and learning in the school climate.

Apart from enhancing the school climate, transformational leadership is associated with a rich influence on the results of students. Transformational leadership in schools shows that they have a higher engagement level of students and better academic performance. Transformational leaders create inspiring and encouraging settings for learning, and make students take responsibility for their education and thereby strive for academic excellence. The results of the study find that transformational leaders tend to be more active tendencies like high expectations, and personalized support, leading the students toward greater success. General, the findings of this study vindicate both hypotheses stating that transformational leadership remarkably enhances school climate and improves student achievement, further solidifying the fact that leadership plays a critical role in academic success.

6.1. Implications for Future Research and Educational Leadership Practice

The findings of the present study have several important implications both for future research and for the educational leadership practice:

This research suggests that the first concern of school leaders' development programs should be to have transformational leadership behavior. Educational institutions should train school leaders with collaboration, inclusiveness, and innovative approaches in changing. The leadership approach needs programs to inspire the teaching staff as well as students, shared vision, and intellectual and emotional support. This, in turn, lead to the development of transformational leaders who bring about revolutionary changes in schools.

Future research should be directed at establishing the long-term outcomes of transformational leadership for school performance and students' achievement. Properly designed longitudinal studies would go a long way to understanding how long-lasting transformational leadership practices impact continuous school improvement in educational settings. Similarly, mediating effects can also be evaluated, for instance, the teachers' autonomy in addition to the school resources as related to the concept of leadership and school performances. Through knowledge of these interactions, a more comprehensive understanding derived regarding how transformational leadership might be optimized across the different contexts in education.

6.2 Recommendations

- Focus on developing transformational leadership through targeted training and mentorship programs that emphasize inspiration, collaboration, and innovation.
- Encourage Collaboration: Create opportunities for teacher teamwork and provide resources that support innovative teaching.
- Implement inclusive policies and offer diversity training to ensure a welcoming school environment for all students.
- Regularly assess leadership effectiveness through feedback and link it to student performance for improvement tracking.
- Develop succession plans and consider shared leadership models to maintain strong leadership practices over time.

References

Afsar, B., Badir, Y. F., Saeed, B. B., & Hafeez, S. (2017). Transformational and transactional leadership and employee's entrepreneurial behavior in knowledge–intensive industries. *The International Journal of Human Resource Management*, *28*(2), 307-332.

Al Harbi, J. A., Alarifi, S., & Mosbah, A. (2019). Transformation leadership and creativity: Effects of employees pyschological empowerment and intrinsic motivation. *Personnel Review*, *48*(5), 1082-1099.

Al-Tahitah, A., Muthaliff, M. M. A., Abdulrab, M., & Al-Maamari, Q. A. (2018). Paper review on the relationship between transformational leadership and readiness for change. *International Journal of Energy Policy and Management*, *3*(1), 1-7.

Alzoraiki, M., Ahmad, A. R., Ateeq, A., & Milhem, M. (2024). The role of transformational leadership in enhancing school culture and teaching performance in Yemeni public schools. Frontiers in Education,

Berkovich, I. (2016). School leaders and transformational leadership theory: time to part ways? *Journal of Educational Administration*, *54*(5), 609-622.

Bojovic, I., & Jovanovic, S. S. (2020). Transformational leadership and psychological needs of employees. *Technium Soc. Sci. J.*, *7*, 226.

Chakraborty, C., Bhattacharya, M., Lee, S.-S., Wen, Z.-H., & Lo, Y.-H. (2024). The changing scenario of drug discovery using artificial intelligence (AI) to deep learning (DL): Recent advancement, success stories, collaborations, and challenges. *Molecular Therapy-Nucleic Acids*.

Day, C., Gu, Q., & Sammons, P. (2016). The impact of leadership on student outcomes: How successful school leaders use transformational and instructional strategies to make a difference. *Educational administration quarterly*, *52*(2), 221-258.

Ishaque, A., & Audi, M. (2024). Leadership and Infrastructure in Implementing Professional Learning Communities in Lahore HEIs: An Interpretive Structural Modeling Approach. *Bulletin of Business and Economics (BBE)*, *13*(2), 505-512.

Johnson, O. W., Han, J. Y.-C., Knight, A.-L., Mortensen, S., Aung, M. T., Boyland, M., & Resurrección, B. P. (2020). *Assessing the gender and social equity dimensions of energy transitions*. Stockholm Environment Institute.

Khan, W., & Wali, R. (2020). Assessing the Impact of a Comprehensive Capacity Building Program on Educational Leadership and Teaching Performance in Public and Private Sectors. *Jour*

Kirby, E., Tolstikov-Mast, Y., & Walker, J. L. (2020). Retention challenges for indigenous Peruvian college students on Beca 18 scholarship and strategies to improve their experiences and academic success. *Diaspora, Indigenous, and Minority Education*, *14*(3), 162-176.

Rosby, M. (2020). *Examining Transformational Leadership and Organizational Change in High-Poverty Urban Schools* St. Thomas University].

Vidaković, D., Hadzima-Nyarko, M., & Marenjak, S. (2020). The contribution of workers' attributes on sustainability of construction project realization goals—survey on the impact on productivity in Croatia. *Sustainability*, *12*(23), 9946.

Wang, Z., & Ahmad, R. (2018). Impact of Working Capital Management on Firm Profitability: Evidence from Pakistan's Textile Sector. *Journal of Business and Economic Options*, *1*(4), 92-98.

Wilson Heenan, I., De Paor, D., Lafferty, N., & Mannix McNamara, P. (2023). The impact of transformational school leadership on school staff and school culture in primary schools—A systematic review of international literature. *Societies*, *13*(6), 133.