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UNPACKING TEACHER LEADERSHIP: THE INFLUENCE OF DEMOGRAPHIC FACTORS

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Abstract

This study investigates the influence of disciplinary background and gender on secondary school teachers' leadership behavior, drawing on Social Cognitive Theory (SCT) and Self-Determination Theory (SDT) to explore psychological and contextual factors that shape leadership engagement. Using a sample of 138 teachers from Aligarh district, India, data were collected through the Teacher Leadership Behavior Scale (TLBS) and analyzed using t-tests, correlation, and regression techniques. Results revealed no significant differences in leadership behaviors across gender or disciplinary background. However, the components of leadership—administration, teaching skills, rapport, assertiveness, commitment, and moral inspiration—were strongly correlated, suggesting an integrated leadership profile among teachers. The study adds a regional perspective to existing literature and supports the notion that leadership is influenced more by internal motivation and professional context than demographic variables. Findings underscore the need for inclusive leadership development programs that focus on psychological empowerment rather than demographic segmentation. Implications for teacher training and policy reform are discussed.

Keywords: Teacher Leadership, Gender, Disciplinary Background, Secondary School Education

1. Introduction

People around the world are searching for answers on what makes a person a good leader. They also try to collect information about becoming an effective leader. As a result, much has been written about leadership in the popular media and academic research literature. A common belief among many individuals is that leadership is a quality that improves their personality and career paths. Corporations look for those who have leadership abilities as

they are convinced that it could have a positive impact on their organizations. Academic institutions are responding by designing various programs in leadership studies throughout the world.

Leadership is a topic that has attracted researchers' attention worldwide. An analysis of academic research on leadership reveals a diverse range of theoretical frameworks aimed at understanding the complexities of the leadership process (Bass, 1990; Bryman, 1992; Bryman et al., 2011; Day & Antonakis, 2012; Gardner, 1990; Hickman, 2009; Mumford, 2006; Rost, 1991). While some scholars define leadership in terms of traits or behaviors, others interpret it through the lens of information processing.

The people who engage in leadership are called leaders. It is said that a leader is a person who can change groups and their activities and also incorporate their will. There is a constant need for individuals who can oversee systems, direct personnel, plan, organize, and steer organizational activities toward sustainable development by accomplishing set goals. Such an individual is referred to as a leader, and the ability to guide and influence others is known as leadership (Madhavi, 2007).

Many people have led others over the years, but not all of them are called leaders. A leader is one who does more than just lead people. An exceptional leader serves as a catalyst, ensuring that all elements function cohesively. An educational system equipped with all essential components but lacking strong leadership will struggle to sustain its effectiveness. An organization without a leader is akin to an army without a general, a school without a teacher, or a family without parents.

An ideal leader not only motivates people but also focuses on improving systems. Leader does not need to come from the same background or follow the same path to become empathetic and connect with people to achieve goals. To become a leader, a person should have diverse opinions that bring a variety of perspectives.

Leadership is not limited to the corporate world; it is equally important in the educational sector. Educational leaders foster school-community partnerships by actively engaging parents and community members in initiatives that support student success. They cultivate a positive school culture built on mutual support and shared responsibility for students' academic and personal growth. Additionally, they create opportunities for students to take on meaningful leadership roles within the school.

Leadership is an inclusive concept that can be exercised by anyone (Frost, 2010). In the context of education, this includes students, teachers, school principals, and parents. A

successful education system is not only composed of effective strategies but also exceptional leadership.

The majority of individuals would concur that the teacher's identity and actions within the classroom have a more significant impact on students' achievements than any other school-related factor. There is substantial evidence that the actions of the teacher within the classroom are directly correlated with their actions outside of the classroom. Actively pursuing leadership opportunities enriches and energizes the lives of teachers in numerous ways.

Although much literature exists on leadership in education, many studies have focused predominantly on school principals, with relatively less attention given to classroom teachers as potential leaders. The concept of teacher leadership is grounded in the belief that teachers, as practitioners who directly influence student learning, can significantly impact school culture, curriculum decisions, and collective educational outcomes. As Danielson (2006) and York-Barr & Duke (2004) have noted, teacher leaders are those who not only excel in pedagogy but also extend their influence to peers, policies, and school-wide initiatives.

In the present study, the researcher discusses teachers' leadership behavior because teacher leaders in educational institutions are responsible for quality educational outcomes. Teachers who consider themselves leaders and want to be leaders improve teaching-learning practices, increase student achievement, manage classrooms efficiently, and contribute to overall school development. Various educational literature highlights that primary goal of teacher education is producing teachers capable of taking on leadership roles.

The activity of leadership involves motivating individuals to voluntarily pursue group objectives and adhere to a shared objective. The process of school leadership entails the harnessing and direction of the talents and energies of teachers, students, and parents in order to achieve shared educational objectives.

- **Teacher Leadership**

A global trend is emerging that recognizes the development of teacher leaders as a critical component of the new educational provision in light of the ongoing societal transformation. (OECD 2003). There have been many conceptions about how to define teacher leadership (Katzenmeyer & Moller, 2001; Killion & Harrison, 2006). Teachers assume leadership positions because they want to improve instruction and student learning (Lambert 2003; Danielson 2007). As Barth (2001) concluded, "Students learn when teachers lead."

While there is no universally agreed-upon definition, a teacher leader can be simply described as an educator who excels in teaching and takes on additional responsibilities to enhance the overall learning environment in a school (Danielson, 2006). In the field of education, teachers are often seen as leaders because their beliefs and practices shape the core aspects of teaching and learning, significantly impacting school culture and educational operations (Gabriel, 2005). Danielson (2006) describes teacher leadership as a set of skills exhibited by educators who not only continue teaching students but also extend their influence beyond their own classrooms, impacting colleagues within their school and beyond. In the other way teacher leadership is described as “the process by which teachers, individually or collectively, influence their colleagues, principals, and other members of school communities to improve teaching and learning practices with the aim of increased student learning and achievement” (York-Barr & Duke, 2004).

Southworth (2002) emphasizes that teacher leadership is deeply connected to teaching and learning, the professional growth of educators, and the overall development of the teaching profession. According to York-Barr and Duke (2004), teachers often step into leadership roles after gaining experience and expertise that lead to success in the classroom. Within their classrooms, teachers act as instructional leaders, demonstrating a strong commitment to ensuring students excel academically. Danielson (2006) further highlights that a teacher leader's foremost responsibility is to their students. These educators prioritize student learning and focus on enhancing academic achievement within their classrooms, making this a fundamental aspect of effective teacher leadership. This is further supported by Marzano (2003), who asserts that “Teachers make a profound impact on student learning.” Effective teacher leaders’ model best practices and develop professional expertise, seeing leadership as their duty.

Teachers can help transform schools into effective learning communities (Krisko, 2001). Leithwood and Jantzi (1998) conclude that teacher leadership has a more significant influence on student learning compared to principal leadership. They suggest that schools should delegate more leadership responsibilities to teachers, as this can enhance their effectiveness and increase student engagement.

The Indian education system is shifting towards high-quality education, which requires a strong curriculum, effective pedagogy, a supportive learning environment, and meaningful learning outcomes. Among these factors, **teachers play a central role** in ensuring educational quality. Their professional development, training, and leadership abilities directly

influence student learning outcomes and the overall effectiveness of the system (Johnson, 2017).

Teacher leadership extends beyond classroom instruction—it shapes the educational environment, fosters collaboration among colleagues, and contributes to school culture and community engagement. Research has consistently emphasized that **teacher behavior significantly impacts the quality of education** (Hoque, Alam & Abdullah, 2011; McDonald, Son, Hindman & Morrison, 2005; Newmann, King & Youngs, 2000; Poekert, 2012; Şişman, 2011). Good teaching is not just a profession but a **key driver of a nation's economic and social development**, influencing lifelong learning and societal progress.

Teachers should recognize that leadership is not solely the responsibility of school administrators—they are leaders both inside and outside the classroom (Danielson, 2006). Teacher leadership begins in the classroom and gradually extends to the school and community, where educators influence beyond their own students. Teacher leaders also have the autonomy to innovate in their teaching methods and mentor colleagues, shaping the learning culture within schools (Murphy, 2005).

The ultimate goal of any school is to **produce students capable of leading themselves and others as they graduate**. This responsibility lies in the hands of committed, well-trained, and motivated teachers. **Investing in teacher leadership is essential for achieving long-term educational success**

- **Teacher Leadership and Its Impact on Education quality**

Teacher leadership plays a crucial role in enhancing the quality of education and shaping the overall school environment. However, the role of teacher leaders should complement, rather than replace, the responsibilities of school administrators (Katzenmeyer & Moller, 2001). Wasley (1991) emphasized that teacher leadership involves the ability to influence and engage colleagues in improving teaching practices. Callender et al. (2015) further highlighted that providing feedback enhances both instructional methods and metacognitive skills among teachers.

Effective teacher leaders possess the necessary skills to contribute to overall school improvement, ultimately impacting student achievement (Frost et al., 2000). More recently, Frost (2010) outlined several essential roles of teacher leaders, including initiating new instructional approaches, mentoring colleagues, collaborating on school-wide strategies, and making data-driven decisions. These responsibilities extend beyond the classroom,

encompassing school governance, curriculum development, and professional learning communities.

Teacher leaders actively participate in organizing school events, facilitating curriculum development, engaging with parents and the community, and mentoring new educators. They play a pivotal role in shaping school culture, fostering a spirit of collaboration, and driving educational excellence (SERVE, 1999, as cited in Childs-Bowen, Moller, & Scrivner, 2000). By working closely with their peers, teacher leaders contribute to student learning, promote school development, and advocate for continuous professional growth.

Moreover, teacher leadership is built on **integrity, honesty, and professional ethics**. It extends beyond instructional expertise—teacher leaders are **role models** who inspire others through their actions and commitment to education. As Danielson (2006) states, "Teacher leaders are not just good teachers; they are good people."

The leadership qualities of teachers directly influence student achievement. Schools that recognize teachers as key human resources and invest in leadership development produce future leaders of society. Wayne and Youngs (2003) emphasize that **the success of a school is closely linked to the leadership abilities of its teachers**. This leadership is not confined to the classroom but extends to professional collaboration, school administration, and community engagement.

Teachers exhibit varying levels of leadership, influenced by both innate qualities and acquired skills. Research indicates that the most significant school-based factor affecting student achievement is the **quality of teachers and educational leaders** who establish high expectations and deliver effective instruction. Therefore, identifying and nurturing leadership potential among teachers is essential for **educational development, social progress, and continuous improvement in academic standards**.

Despite growing interest in this area, a key question remains underexplored: what factors influence teachers' engagement in leadership roles? Specifically, the roles of **demographic variables** such as gender and disciplinary background are often discussed but yield mixed findings across studies. Leadership is often seen as a skill developed through experience, training, and institutional culture rather than an inherent trait influenced by gender or subject expertise (Wayne & Youngs, 2003). Some research suggests these factors shape leadership behavior (Smart & Elton, 1976; Way, 2010), while others report no significant impact (Anandarasu & Abdullah, 2019; Block, 2003). This inconsistency indicates a need to revisit the issue, particularly in diverse and underrepresented contexts such as Indian secondary education.

To address this gap, the present study investigates the leadership behavior of secondary school teachers in Aligarh district, Uttar Pradesh, focusing on the influence of gender and disciplinary background. This study focused on gender and disciplinary background due to their frequent citation in existing literature as factors influencing teacher leadership. These demographic variables are readily observable and often shape institutional expectations and teacher roles. However, we acknowledge that other factors such as teaching experience, school type, and cultural context also play critical roles and should be explored in future research to provide a more comprehensive understanding of leadership behavior.

What distinguishes this study is its use of two complementary psychological theories—*Social Cognitive Theory (SCT)* and *Self-Determination Theory (SDT)*—to frame the exploration of teacher leadership. These theories emphasize the role of self-efficacy, autonomy, competence, and social environment in motivating leadership behaviors. By integrating these frameworks, the study moves beyond demographic descriptions to explore the underlying motivational dynamics that shape teacher leadership.

In doing so, the study aims to contribute new insights to the teacher leadership discourse, offering both theoretical depth and practical relevance for teacher training and school policy.

2. Theoretical Framework

This study examines secondary school teachers' leadership behaviors, with a particular emphasis on how their disciplinary backgrounds and gender affect their ability to assume leadership roles. The theoretical framework combines Social Cognitive Theory (SCT) and Self-Determination Theory (SDT) to comprehend the dynamics of teacher leadership. SDT holds that relatedness, competence, and autonomy all play a significant role in behavior. However, the most significant determinant of an individual's propensity to engage in leadership activities is self-efficacy. According to Deci Ryan's (1985) Self-Determination Theory (SDT), people behave optimally when their psychological requirements for relatedness, competence, and autonomy are met. It focuses on the role of intrinsic motivation in behavior. Autonomy allows teachers to feel a sense of control over their work, fostering intrinsic motivation for leadership activities such as mentoring, leading initiatives, or influencing school policies. However, the degree of autonomy may vary based on gender and disciplinary background, as teachers' professional experiences and organizational cultures shape their leadership opportunities.

Competence is essential to leadership development because teachers who are secure in their abilities—whether in subject matter competence, classroom management, or student

engagement—are more inclined to assume leadership positions like academic coaching or curriculum design. Different fields may have different needs for competency; science teachers, for example, may feel more equipped to handle technical leadership responsibilities. Since instructors who feel supported in their school community are more inclined to assume leadership roles, relatedness—the need for positive relationships—also affects leadership behavior. This requirement may be impacted by gender dynamics, since female instructors may experience different degrees of inclusion and support than their male counterparts. Bandura (1986) also came up with the Social Cognitive Theory (SCT), which explains how teachers become leaders through self-efficacy, observational learning, and reciprocal determinism. Self-efficacy, or the belief in one's ability to succeed, plays a central role in leadership engagement. Teachers with high self-efficacy are more likely to take on leadership roles because they believe they can influence others, manage challenges, and drive change. However, gender and disciplinary background can shape self-efficacy; societal expectations may lead male teachers to feel more confident in leadership, while female teachers might face challenges asserting themselves due to gender stereotypes. Observational learning significantly impacts leadership development, as educators emulate behaviors exhibited by peers or mentors. This exposure differs among disciplines and gender groups, with male educators in scientific fields likely having greater access to leadership role models compared to female educators or those in the arts. Reciprocal determinism emphasizes that leadership behaviors are influenced by the ongoing interaction among personal beliefs, environmental factors, and actions. A teacher possessing high self-efficacy in an institution that prioritizes leadership is likely to pursue leadership positions, thereby enhancing their motivation and leadership competencies over time. In this study, SDT, SCT, gender, and discipline perspectives are all brought together to give a full picture of the internal and external factors that affect how teachers lead others. It examines how the satisfaction of psychological needs—autonomy, competence, and relatedness—along with self-efficacy, influences teachers' willingness to engage in leadership. Additionally, it considers how gender and disciplinary background moderate these relationships, offering a nuanced perspective on the development of teacher leadership. Although earlier studies (like Anandarasu & Abdullah, 2019; Block, 2003; Ogbanna & Harris, 2000) found that gender and disciplinary background do not significantly affect teacher leadership behavior, this study adds a fresh perspective by focusing on secondary school teachers in Aligarh district, Uttar Pradesh, India. This regional focus brings in important cultural and institutional context. Additionally, the study uses two well-known psychological theories—Social Cognitive Theory (SCT) and Self-Determination

Theory (SDT)—to better understand what influences teacher leadership. This approach helps explain leadership behavior in a deeper way, looking at both personal motivation and the school environment, not just basic details like gender or subject background of teachers.

3. Methodology

This study explored the influence of disciplinary background and gender on teachers' leadership behaviour of secondary school teachers. This study sought to answer the following research questions:

- Is there a significant difference in leadership behavior between arts and science secondary school teachers?
- Is there a significant difference in leadership behavior between male and female secondary school teachers?
- Are the components of teacher leadership behavior significantly related to one another?
- Do gender and disciplinary background significantly predict leadership behavior?

• Sample Description

The study sample consisted of 138 secondary school teachers selected through simple random sampling, enhancing the diversity and representativeness of the findings. The participant group included 46 arts teachers and 92 science teachers, drawn from both government (72 teachers) and private schools (66 teachers), which provided varied insights into leadership behaviors across different educational settings. The gender distribution was nearly balanced, with 62 male and 76 female teachers, and varied levels of teaching experience, with 82 teachers having less than 10 years and 56 having 10 years or more. This diverse sample allowed for a comprehensive analysis of leadership behaviors influenced by academic discipline and gender. The sample size exceeds the minimum requirements for independent t-tests and regression analyses with small to medium effect sizes at 80% power (Cohen, 1992). The sample for this study was taken from Aligarh, India. Aligarh district was selected because it has both urban and semi-urban schools, giving a mix of different school environments and views on teacher leadership. However, the results are specific to this area and may not apply to all parts of India. Future studies can be done in other regions to see if the findings are the same in different places.

• Instrument

“Teacher’s Leadership Behaviour Scale” (TLBS) developed by Lawrence, A.S.A. (2016) was used to collect the data. This contained six components viz. ‘Administration’, ‘Teaching Skills’, ‘Rapport’, ‘Assertiveness’, ‘Commitment’ and ‘Moral Inspiration’. The scale consists of 32 statements based on these components, which are rated on a five-point Likert scale. The reliability of the questionnaire was tested and the result stated that the Cronbach alpha of the scale was 0.812. Therefore, the scale is acceptable to use.

- **Approach to collecting data**

Teachers were first contacted and briefed them about the study. The questionnaire was distributed and were requested to fill the questionnaire. 250 teachers were approached and 138 responded, possibly due to time constraints, survey fatigue, or perceived irrelevance. Future research could use follow-ups or digital platforms to improve response rates.

- **Data analysis**

The collected data was tabulated using SPSS 26.0 for statistical analysis. The data analysis was conducted using t-tests to compare mean differences in leadership behaviors across genders and disciplines. Additionally, correlation analysis was employed to examine the relationships between different leadership behaviors. Regression analysis was used to determine the predictive power of gender and disciplinary background on leadership behaviors. These statistical methods were chosen for their ability to effectively identify and analyse patterns and relationships within the data, providing clear insights into the factors influencing teacher leadership.

4. Results and findings of the study:

Research question 1- Is there any difference between arts and science secondary school teachers with respect to components of leadership behaviour

Table 1: Results of independent t-test Between arts and science teachers regarding leadership behaviour and its each component (Administration, Teaching Skills, Rapport, Assertiveness, Commitment, Moral Inspiration)

Variables	Disciplinary Background	N	Mean	S.D.	Mean Difference	df	t-value	P-value	Significant value
Administration	Arts teacher	46	40.61	3.367	0.522	136	0.915	>0.05	Not Significant
	Science teacher	92	40.09	2.682					

<i>Variables</i>	<i>Disciplinary Background</i>	<i>N</i>	<i>Mean</i>	<i>S.D.</i>	<i>Mean Difference</i>	<i>df</i>	<i>t-value</i>	<i>P-value</i>	<i>Significant value</i>
<i>Teaching Skills</i>	Arts teacher	46	35.73	2.778	0.620	136	1.154	>0.05	Not Significant
	Science teacher	92	35.11	3.335					
<i>Rapport</i>	Arts teacher	45	48.21	5.055	0.429	136	0.491	>0.05	Not Significant
	Science teacher	92	47.78	4.242					
<i>Assertiveness</i>	Arts teacher	46	40.57	4.841	0.870	136	1.001	>0.05	Not Significant
	Science teacher	92	39.70	4.742					
<i>Commitment</i>	Arts teacher	46	34.78	3.649	0.957	136	1.497	>0.05	Not Significant
	Science teacher	92	33.83	3.302					
<i>Moral Inspiration</i>	Arts teacher	46	36.87	3.713	-0.217	136	-.352	>0.05	Not Significant
	Science teacher	46	37.09	2.723					
<i>Overall leadership behaviour</i>	Arts teacher	92	236.76	18.554	3.319	136	1.093	>0.05	Not Significant
	Science teacher	46	233.37	14.021					

The results of Table 1 shows that there is no significant difference in leadership behaviour and in all components i.e., Administration, Teaching Skills, Rapport, Assertiveness, Commitment, Moral Inspiration of science and arts stream teachers ($p \geq 0.05$). It means that arts and science teachers have same leadership behaviour.

Research question 2- Is there any difference between male and female secondary school teachers with respect to components of leadership behaviour

Table 2: Results of independent t-test Between male and female teachers regarding leadership behaviour and its each component (Administration, Teaching Skills, Rapport, Assertiveness, Commitment, Moral Inspiration)

<i>Variables</i>	<i>Gender</i>	<i>N</i>	<i>Mean</i>	<i>S.D.</i>	<i>Mean Difference</i>	<i>df</i>	<i>t-value</i>	<i>P-value</i>	<i>Significant value</i>
<i>Administration</i>	Male teacher	62	40.06	3.223	-0.672	136	-1.248	>0.05	Not Significant
	Female teacher	76	40.74	3.087					
<i>Teaching Skills</i>	Male teacher	62	35.42	3.054	-0.186	136	-.364	>0.05	Not Significant
	Female teachers	76	35.61	2.931					
<i>Rapport</i>	Male teachers	62	48.00	4.780	-0.120	136	-.145	>0.05	Not Significant
	Female teachers	76	48.12	4.832					
<i>Assertiveness</i>	Male teachers	62	40.00	4.959	-0.500	136	-.606	>0.05	Not Significant
	Female teachers	76	40.50	4.703					
<i>Commitment</i>	Male teachers	62	35.05	3.522	1.062	136	1.759	>0.05	Not Significant
	Female teacher	76	33.99	3.531					
<i>Moral Inspiration</i>	Male teacher	62	36.61	4.127	0.598	136	-1.025	>0.05	Not Significant
	Female teachers	76	37.21	2.680					
<i>Overall leadership behaviour</i>	Male teachers	62	235.15	18.174	-0.881	136	-0.298	>0.05	Not Significant
	Female	76	236.03	16.473					

<i>Variables</i>	<i>Gender</i>	<i>N</i>	<i>Mean</i>	<i>S.D.</i>	<i>Mean Difference</i>	<i>df</i>	<i>t-value</i>	<i>P-value</i>	<i>Significant value</i>
	teachers								

The results of Table 2 shows that there is no significant difference in leadership behaviour and in all components i.e., Administration, Teaching Skills, Rapport, Assertiveness, Commitment, Moral Inspiration of male and female teachers ($p \geq 0.05$). It means that male and female teachers have same leadership behaviour.

Research question 3- Is there any relationship between various components of leadership behaviour of secondary school teachers

Table 3: Results of Correlation Coefficient Between various components of leadership behaviour (Administration, Teaching Skills, Rapport, Assertiveness, Commitment, Moral Inspiration) of teachers

<i>Components of leadership behaviour</i>	<i>Administration</i>	<i>Teaching Skills</i>	<i>Rapport</i>	<i>Assertiveness</i>	<i>Commitment</i>	<i>Moral Inspiration</i>
<i>Administration</i>	1	0.652**	0.557**	0.480**	0.425**	0.423**
<i>Teaching skills</i>	-	1	0.522**	0.505**	0.407**	0.443**
<i>Rapport</i>	-	-	1	0.593**	0.478**	0.452**
<i>Assertiveness</i>	-	-	-	1	0.463**	0.353**
<i>Commitment</i>	-	-	-	-	1	0.474**
<i>Moral inspiration</i>	-	-	-	-	-	1

The results of Table 3 shows that correlational analysis presented as a matrix reveal following Administration is significantly related to

- i) Teaching Skills ($r=0.652$, $P<0.01$)

- ii) Rapport ($r=0.557$, $P<0.01$)
- iii) Assertiveness ($r=0.480$, $P<0.01$)
- iv) Commitment ($r=0.425$, $P<0.01$)
- v) Moral inspiration ($r=0.423$, $P<0.01$)

Teaching skills is significantly related to

- i) Rapport ($r=0.522$, $P<0.01$)
- ii) Assertiveness ($r=0.505$, $P<0.01$)
- iii) Commitment ($r=0.407$, $P<0.01$)
- iv) Moral inspiration ($r=0.443$, $P<0.01$)

Rapport is significantly related to

- i) Assertiveness ($r=0.593$, $P<0.01$)
- ii) Commitment ($r=0.478$, $P<0.01$)
- iii) Moral inspiration ($r=0.452$, $P<0.01$)

Assertiveness is significantly related to

- i) Commitment ($r=0.463$, $P<0.01$)
- ii) Moral inspiration ($r=0.353$, $P<0.01$)

Commitment is significantly related to moral inspiration ($r=0.474$, $P<0.01$).

Therefore, the components of teacher's leadership behaviour namely administration, teaching skills, rapport, assertiveness, commitment, moral inspiration are significantly related to each other.

Research question 4- Is there any impact of disciplinary background and gender of secondary school teachers on their leadership behaviour.

Table 4: Results of Regression analysis Between various demographic variables (disciplinary background & Gender) and leadership behaviour of secondary school teachers

Variable	Coefficients	Standard Error	t-Value	P-Value
Constant	238.301	5.960	39.984	<0.001
Subject Specialization	-3.600	3.146	-1.145	0.254
Gender	1.373	2.981	0.461	0.646

The regression analysis reveals that the constant term (238.301) is highly significant ($p < 0.001$), indicating a strong baseline level of leadership behavior in the absence of subject

specialization and gender. However, the coefficients for both subject specialization (-3.600) and gender (1.373) are not statistically significant, with p-values of 0.254 and 0.646, respectively. This suggests that subject specialization and gender do not significantly influence leadership behavior in this sample of teachers. The negative coefficient for subject specialization implies a slight decrease in leadership behavior as specialization increases, while the positive coefficient for gender suggests a marginal increase in leadership behavior for females compared to males, but neither effect is statistically meaningful. The overall weak fit of the model ($R^2 = 0.010$) indicates that other factors, not included in this analysis, may play a more significant role in determining leadership behavior

5. Discussion

This study investigated the leadership behaviour of teachers with regard to disciplinary background and gender. The results of this study have significant impact for developing and shaping the leadership behaviour of teachers. The findings of this study revealed that no significant difference was found between science and arts teachers as well as male and female teachers with regard to components of leadership behaviour. The results were also consistent with the findings of Anandarasu & Abdullah (2019) who also did not find any difference on leadership behavior of teachers with reference to disciplinary background and gender. Block (2003), Ogbanna and Harris (2000), Harland et al. (2005), Steyrer et al. (2008), Prema (2013), Pinto (2014), Iqbal 2005, and suman & james (2021) also found no effect of gender on teachers' leadership behaviour. Instead, they support the central tenet of SCT: that self-efficacy and observational learning play a stronger role in influencing leadership behavior than fixed characteristics like gender or discipline (Bandura, 1986). In other words, when teachers believe in their ability to lead and are exposed to leadership models in their environment, they are more likely to engage in leadership behaviors—regardless of whether they are male or female, or from the arts or sciences.

The study conducted by Eagly et al. (2003) and Bass (1999) contradicted the findings of no effect of gender on leadership behaviour of teachers. According to the findings of Smart and Elton (1976), Way (2010) and Morris and Laipple (2015) disciplinary background has an effect on leadership behaviour of teachers. The difference in results may be due to cultural and system-level differences in education. In India, especially in Aligarh district, leadership roles in schools may be more equally shared, no matter the teacher's gender or subject, possibly because of common training methods and a team-focused school culture. Also, the

TLBS scale used in this study measures general leadership qualities, which might miss small differences linked to gender or subject area.

The current study establishes that different components of leadership behaviour viz, namely administration, teaching skills, rapport, assertiveness, commitment, and moral inspiration were significantly and positively correlated to each other. It means if one component is increased or decreased then other components is also increased or decreased. From the review of literature on teacher leadership it is inferred that administration, teaching skills, rapport, assertiveness, commitment, and moral inspiration are requisite abilities and skills for teachers to be a leader. As York-Barr & Duke, 2004 described that teacher leaders should be action-oriented and committed. Danielson (2006) asserts that teacher leaders exhibit optimism, enthusiasm, and confidence, which inspire others to think creatively and collaborate in problem-solving. According to Katzenmeyer and Moller (2001), teacher leaders are not only skilled educators but also possess exceptional teaching abilities, a well-developed educational philosophy, and a strong sense of altruism. Additionally, Killion and Harrison (2006) highlight that teacher leaders have a profound understanding of diverse teaching theories and practices. Team-work, communication, responsibility and proper time management are the main few skills an administrator should have. So, teacher leaders should also have good teamwork skills (Jackson, et.al. 2010). Teacher leaders do not work alone; their activities and projects are facilitated by strong and sensitive administrative engagement. To become a teacher leader, to build positive interpersonal relationship (Katzenmeyer & Moller, 2001) and building trust and rapport with colleagues (Lieberman et al., 2000 as cited in Harris & Mujis, 2003) are essential requirement. A teacher leader should embody integrity, honesty, and professional ethics, as teaching and leadership are inherently connected. Waldron, Collie, and Davies (1999) describe teaching and schooling as moral endeavours, emphasizing that power and authority should not be used merely for control. Instead, leadership should inspire, guide, and support students in their learning journey and personal growth.

Similarly, **SDT** posits that behaviors such as leadership flourish when psychological needs for autonomy, competence, and relatedness are fulfilled (Deci & Ryan, 1985). The strong correlations observed between components such as rapport, commitment, and moral inspiration suggest that these leadership qualities are mutually reinforcing and reflect underlying motivational dynamics rather than externally imposed roles. The finding that gender and subject background did not significantly predict leadership behavior supports SDT's emphasis on internal motivation over external categorization.

This study further underscores that gender and disciplinary background do not influence the leadership behavior of secondary school teachers, reinforcing the idea that teacher leadership is a universal trait, not confined by gender or subject expertise. These findings highlight that leadership development is shaped more by training, experience, and institutional support rather than demographic factors. Therefore, schools should provide leadership training for all teachers, regardless of gender or subject specialization, establish mentorship programs where experienced teacher leaders guide new teachers in developing leadership skills, and foster a collaborative school culture that encourages shared decision-making among all educators.

Based on the study's finding that gender and subject background do not significantly affect teacher leadership, leadership training should be open and relevant to all teachers. These programs should focus on building psychological strengths like confidence (self-efficacy) and inner motivation, as suggested by Social Cognitive Theory (SCT) and Self-Determination Theory (SDT). Schools can support this by setting up mentorship programs where experienced teachers guide others and by including leadership skills in regular professional development for all subjects.

The study shows that teacher leadership depends more on the school environment and a teacher's mindset than on personal traits like gender or discipline. So, policy-makers should focus on creating supportive school settings, giving equal access to leadership training, and encouraging a culture of shared leadership. These steps, grounded in both research and theory, offer clear and practical ways to strengthen teacher leadership.

Although these findings are consistent with a growing body of literature, the study offers a **novel contribution** by examining these patterns within the specific cultural and institutional context of Aligarh district, India. Regional studies such as this are valuable because educational leadership is often shaped by local school cultures, norms, and training systems. In the context of Aligarh, leadership opportunities may be distributed more equitably across disciplines and genders due to common teacher preparation practices and collaborative school cultures.

6. Conclusion

The present study tries to understand the leadership behaviour of male and female teachers from different stream. The results of the study lead to the conclusion that science and arts teachers have same leadership quality as well as the male and female. The findings also revealed that components of leadership such as administration, teaching skills, rapport, assertiveness, commitment, and moral inspiration are correlated. These qualities are very

important for a teacher to be a leader. The current paper discussed the need of teacher leaders for develop the quality education. It is important that policy maker, teacher preparation institution and heads of schools should encourage the teachers to improve their leadership skills. This study highlights the uniformity of leadership behaviors across male and female, as well as arts and science teachers. These results confirm the idea that good teacher leadership has nothing to do with discipline or gender. Therefore, educational policies and school practices should encourage leadership abilities among all teachers so that they guarantee equal chances for professional development independent of disciplinary background or gender, so improving quality of education.

As there is no difference between teacher leadership with respect to their disciplinary background and gender, so the policy makers and administrators should give equal opportunities to all the teachers to nurture their leadership skills. Effective teacher leaders should avoid being burdened with bureaucratic organization and focus primarily on solving problems of teaching and learning. Teachers should have the chance to actively participate in school governance as teacher leaders in order for educational improvement. The study comes to the conclusion that teacher leadership behavior is not much influenced by gender or disciplinary background. This supports the view that, in school, leadership is a learnt ability rather than a natural ability connected with demographics.

7. Suggestions for further Research

Future research should consider longitudinal designs to track the development of leadership behaviors over time, examining how continuous professional development and career progression influence teacher leadership. Adding cross-cultural studies to the research could help us understand how different school systems and cultural settings affect teacher leadership, which could reveal new challenges and opportunities. Examining the particular effects of focused leadership development programs on teacher leadership practices among many disciplines and gender can help to narrow training approaches and focal areas. Furthermore, innovative research that fits current educational trends may be investigating how technology might be used to improve teacher leadership, particularly in terms of training and cooperation. To create a more inclusive and successful leadership environment, educational institutions should create and apply teacher training programs stressing leadership development across all disciplines and for both genders. These results should be included into educational programs so that they guarantee fair chances for the development of leadership without favouring particular disciplines or genders. This can be accomplished by funding seminars on leadership development and rewarding schools to give top priority to

this on their professional agendas. Schools can also foster a supportive culture that celebrates teacher leadership by means of mentoring programs, peer coaching, and leadership task teams including teachers from many backgrounds, therefore creating clear career paths.

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