PILOT STUDY ON NEUROTICISM, GENDER, AND CLASSROOM DISCIPLINE/EMOTIONAL CLIMATE IN PURBA MEDINIPUR DISTRICT OF WEST BENGAL

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Abstract

Classroom discipline and a positive emotional climate are essential for effective teaching and learning, particularly in higher secondary science classrooms where complex concepts require sustained attention and engagement. Teachers' personality traits, notably **neuroticism**, may significantly influence their ability to maintain order, manage behavioural challenges, and foster a supportive classroom environment. Additionally, gender may moderate these effects, as socio-cultural expectations in semi-urban contexts like Purba Medinipur may shape teaching behaviors. Despite its potential relevance, there is limited research examining the combined impact of neuroticism and gender on classroom discipline and emotional climate in Indian higher secondary schools.

This pilot study aimed to explore preliminary patterns linking neuroticism and gender with classroom management, assess the feasibility of research instruments, and provide methodological groundwork for a larger-scale investigation. A purposive sample of 20 higher secondary science teachers (10 male, 10 female) from eight schools in Purba Medinipur was selected. Data collection included a short neuroticism inventory, a structured classroom observation rubric evaluating discipline and emotional climate, and qualitative field notes documenting teacher behaviour during lessons. Quantitative data were analysed using descriptive statistics, correlations, and exploratory regression, while qualitative insights complemented numerical findings.

The results indicate that **neuroticism significantly influences classroom discipline and emotional climate**. Teachers with lower neuroticism consistently maintained calm, structured, and supportive classrooms, applying rules fairly and creating emotionally safe environments that encouraged student participation. Teachers with higher neuroticism occasionally displayed stress, frustration, and inconsistency, which sometimes disrupted

lesson flow and student engagement. Gender differences were present but secondary, with female teachers showing slightly higher emotional support and nurturing behaviours. Field notes corroborated these findings, highlighting how emotional stability contributes to effective classroom management, consistent rule enforcement, and a positive learning atmosphere.

The pilot study also confirmed the feasibility of the neuroticism inventory, observation rubric, and data collection procedures in local school contexts, establishing a foundation for a comprehensive study. Overall, the findings underscore the importance of emotional stability in classroom management and suggest that teacher development programs should emphasize stress management, emotional regulation, and structured approaches to discipline. This research contributes to understanding the interplay of personality, gender, and classroom environment in semi-urban Indian schools, with implications for improving teaching effectiveness and student outcomes.

1. 0 Introduction

Classroom discipline and a positive emotional climate are critical components of effective teaching and student learning. Teachers' ability to maintain order, manage conflicts, and foster an emotionally supportive environment significantly affects students' engagement, motivation, and achievement. Among personality traits, **neuroticism**—characterized by emotional instability, anxiety, moodiness, and sensitivity to stress—is hypothesized to influence classroom management and emotional climate. Teachers with higher levels of neuroticism may respond less consistently to disruptions, experience greater stress, and create a less predictable classroom environment, whereas teachers with lower neuroticism tend to remain calm, structured, and supportive under pressure.

Gender may also play a role, as previous research suggests female teachers often adopt nurturing strategies and emphasize emotional support, while male teachers may focus more on authority and task completion. However, findings are mixed, and cultural factors may moderate gender-related patterns. In semi-urban Indian contexts such as Purba Medinipur, systematic research examining the interplay between neuroticism, gender, and classroom discipline/emotional climate is scarce. This pilot study aims to explore preliminary trends, test the feasibility of research instruments, and provide methodological groundwork for a larger-scale investigation.

1.1 Statement of the Problem

Classroom discipline and a positive emotional climate are essential for effective teaching and student learning in higher secondary science classrooms. Teachers' personality traits, particularly neuroticism, may influence their ability to maintain order, manage conflicts, and create a supportive environment. While gender may also affect classroom management, there is limited research examining how neuroticism and gender jointly impact discipline and emotional climate in semi-urban Indian schools like Purba Medinipur. **Pilot Study on Neuroticism, Gender, and Classroom Discipline/Emotional Climate in Purba Medinipur District of West Bengal**

1.2 Review of Related Literature

1 Classroom Discipline and Emotional Climate

Classroom discipline is a core aspect of effective teaching, involving the enforcement of rules, proactive management of student behaviour, and creation of a structured learning environment. Emotional climate refers to the affective quality of the classroom, including warmth, empathy, teacher-student relationships, and psychological safety (Emmer & Stough, 2001; Pianta et al., 2012). Research indicates that a well-managed classroom with a positive emotional climate enhances student engagement, motivation, and academic achievement, especially in science education where complex concepts often require sustained attention (Marzano, Pickering, & Pollock, 2001).

2 Neuroticism and Teacher Effectiveness

Neuroticism, one of the Big Five personality traits, reflects emotional instability, anxiety, and sensitivity to stress (Costa & McCrae, 1992). Teachers high in neuroticism may struggle with classroom disruptions, respond inconsistently to student behavior, and experience stress when managing challenging situations. Conversely, emotionally stable teachers (low neuroticism) maintain calm, structured, and supportive classrooms, promoting better student outcomes (Lounsbury et al., 2004; Goh & Matthews, 2011). Prior studies suggest that teacher emotional stability correlates positively with classroom order, student participation, and overall learning climate.

3 Gender Differences in Classroom Management

Gender may influence teaching behavior, with female teachers often adopting nurturing, empathetic approaches and emphasizing emotional support, while male teachers may focus on authority and task completion (Johnson & Johnson, 2009). However, cultural context plays a significant role in shaping these patterns. In semi-urban Indian settings like Purba Medinipur, socio-cultural expectations may reinforce gendered teaching practices, though empirical evidence remains limited.

4 Research Gaps

1.　　Limited studies explore the impact of **neuroticism on classroom discipline and emotional climate** in Indian higher secondary schools.

2.　　The moderating role of **gender in the neuroticism-classroom management relationship** is underexplored.

3.　　Research in **semi-urban contexts**, such as Purba Medinipur, is scarce.

4.　　Few studies combine **quantitative personality assessments with qualitative classroom observations**.

5.　　Lack of pilot studies that test **instrument feasibility and methodological protocols** in local school contexts.

5 Summary of Review

The literature emphasizes the importance of emotional stability and personality traits, particularly neuroticism, in influencing classroom discipline and emotional climate. Gender may exert additional but context-dependent effects. However, there is a clear lack of empirical research in semi-urban Indian schools examining the interplay between neuroticism, gender, and classroom management. This gap justifies the present pilot study, which aims to investigate these relationships, test instruments, and provide methodological groundwork for a comprehensive study.

2. Background of the Study

2.1 Classroom Discipline and Emotional Climate

Classroom discipline involves the consistent enforcement of rules, proactive management of student behavior, and creation of a structured learning environment. Emotional climate refers to the affective quality of the classroom, including teacher-student relationships, empathy, warmth, and psychological safety. Both factors are crucial for effective science teaching at the higher secondary level (Emmer & Stough, 2001; Pianta et al., 2012).

2.2 Neuroticism and Teacher Effectiveness

Neuroticism, one of the Big Five personality traits, is associated with heightened sensitivity to stress, anxiety, and emotional volatility (Costa & McCrae, 1992). Teachers high in neuroticism may struggle with classroom disruptions, respond inconsistently to student behavior, and exhibit less patience in emotionally challenging situations. Conversely, emotionally stable teachers manage conflicts calmly, maintain consistent routines, and foster a positive classroom atmosphere (Lounsbury et al., 2004).

2.3 Gender Differences in Classroom Management

Research indicates gender may influence classroom discipline and emotional climate. Female teachers often emphasize nurturing, empathy, and structured guidance, whereas male teachers may rely on authority-based management. Cultural expectations in Indian semi-urban schools may reinforce these tendencies, although evidence remains limited and context-specific (Johnson & Johnson, 2009).

2.4 Rationale for the Pilot Study

The pilot study is crucial for assessing the feasibility and appropriateness of research instruments and procedures in the context of Purba Medinipur schools. **First**, it allows testing the suitability of a neuroticism inventory and a structured classroom observation rubric, ensuring that the tools accurately capture teacher personality and classroom behavior. **Second**, the study helps explore preliminary patterns linking neuroticism with classroom discipline and the emotional climate, providing early insights into how emotional stability influences teacher-student interactions. **Third**, it examines whether gender moderates the relationship between personality traits and

classroom management, identifying potential contextual or socio-cultural influences on teaching practices. **Fourth**, the pilot enables refinement of sampling strategies, observation schedules, and data collection protocols, ensuring clarity and reliability for a larger-scale study. **Fifth**, it helps identify effect sizes and variability in key measures, which are essential for planning meaningful statistical analyses in the subsequent comprehensive investigation. **Finally**, the pilot assesses teacher openness to participation and school cooperation, offering a realistic appraisal of practical challenges in data collection. By mapping these preliminary trends and testing methodological procedures, the pilot study provides both conceptual and practical groundwork, paving the way for a full-scale investigation into the interplay of neuroticism, gender, and classroom discipline and emotional climate.

3. Objectives of the Study

1. To assess levels of neuroticism among higher secondary science teachers.
2. To evaluate classroom discipline and emotional climate using structured observation.
3. To examine gender differences in neuroticism and classroom management.
4. To explore the relationship between neuroticism and classroom discipline/emotional climate.
5. To investigate whether gender moderates the association between neuroticism and classroom climate.

4. Hypotheses (Pilot Form)

1. **H1:** Male and female teachers differ significantly in classroom discipline/emotional climate.
2. **H2:** Male and female teachers differ significantly in neuroticism scores.
3. **H3:** Neuroticism is negatively correlated with classroom discipline and emotional climate.
4. **H4:** Neuroticism and gender jointly predict classroom discipline and emotional climate.

5. Methodology of Study

5.1 Nature of the Study

This pilot study uses a mixed-methods design combining quantitative personality assessment with structured classroom observation and qualitative field notes.

5.2 Sample

- **N = 20** higher secondary science teachers (10 male, 10 female)
- Subjects: Physics, Chemistry, Biology
- Schools: 8 schools in Purba Medinipur
- Teaching experience: 3–22 years
- Sampling: Purposive and convenience sampling

5.3 Tools

1. **Short Neuroticism Inventory** (based on Big Five model)
2. **Classroom Discipline and Emotional Climate Observation Rubric**, assessing:
   - Enforcement of rules
   - Consistency in behavior management
   - Teacher responsiveness to student needs
   - Emotional support and warmth
   - Classroom atmosphere and student engagement
3. **Field Notes** documenting teacher behavior, reactions to challenges, and classroom mood.

5.4 Procedure

1. Obtained school and teacher consent.
2. Administered neuroticism inventory.
3. Conducted two classroom observations per teacher.
4. Recorded qualitative field notes.
5. Data analyzed using descriptive statistics, correlations, and exploratory regression.

6. Analysis and Interpretation of Collected Data

6.1 Descriptive Statistics

- **Neuroticism Scores:** Mean = 18.6, SD = 4.2 (out of 40)
- **Classroom Discipline/Climate Scores:** Mean = 37.4, SD = 4.8 (out of 50)

6.2 Hypothesis-wise Analysis

H1: Gender Differences in Classroom Discipline/Emotional Climate

Gender	N	Mean	SD
Male	10	36.0	4.6
Female	10	38.8	4.7
Total	20	37.4	4.8

Interpretation: Female teachers scored slightly higher in emotional support and structured discipline, supporting a minor gender trend.

H2: Gender Differences in Neuroticism

Gender	N	Mean	SD
Male	10	19.8	3.9
Female	10	17.4	4.2
Total	20	18.6	4.2

Interpretation: Male teachers had slightly higher neuroticism scores; differences are preliminary due to small sample.

H3: Correlation between Neuroticism and Classroom Discipline/Emotional Climate

Variables	r	Interpretation
Neuroticism ↔ Discipline/Climate	-0.62	Moderate negative correlation

Interpretation: Higher neuroticism was associated with lower classroom discipline and emotional support.

H4: Joint Prediction by Neuroticism and Gender

Predictor	b	Beta	Interpretation
Neuroticism	-0.78	-0.55	Strong negative predictor
Gender	2.1	0.28	Moderate predictor
Constant	42.0	–	Baseline score

Interpretation: Both neuroticism and gender influence classroom discipline/emotional climate, with personality having a stronger effect.

7. Qualitative Findings (Field Notes)

The qualitative observations provided rich insights into how neuroticism manifested in classroom discipline and emotional climate. **First**, in terms of emotional responsiveness, teachers with low neuroticism consistently remained calm and composed during classroom disruptions, responding to challenging student behavior with patience and measured interventions. In contrast, teachers with higher neuroticism often exhibited stress, frustration, or irritability when faced with unexpected situations, which occasionally affected the overall classroom mood. **Second**, regarding discipline maintenance, emotionally stable teachers enforced rules consistently and fairly, creating predictable and orderly learning environments. Teachers scoring higher in neuroticism were sometimes inconsistent in applying classroom rules, which occasionally led to confusion or minor disruptions among students. **Third**, in promoting student engagement, emotionally stable teachers fostered supportive and inclusive environments, encouraging participation, open questioning, and peer interaction.

Conversely, classrooms led by high-neuroticism teachers were occasionally tense, and students appeared less willing to volunteer responses or ask questions freely. **Finally**, when handling challenges such as unanticipated questions, behavioral disruptions, or technical difficulties during lessons, teachers with low neuroticism managed the situations systematically, maintaining lesson flow and reinforcing learning objectives. High-neuroticism teachers struggled at times to regain control or adapt quickly, which affected both the lesson structure and the emotional climate of the classroom. Collectively, these qualitative insights underscore the influence of neuroticism on teachers' classroom behavior, highlighting how emotional stability supports consistent discipline, student engagement, and the creation of a positive, productive learning environment.

8. Discussion

The findings of this pilot study provide significant insights into the influence of neuroticism and gender on classroom discipline and emotional climate among higher secondary science teachers in Purba Medinipur. The results confirm that **neuroticism plays a crucial role** in shaping classroom management behaviors and the overall learning environment. Teachers with lower levels of neuroticism consistently maintained structured, supportive, and calm classrooms. They demonstrated patience when addressing student questions or behavioral issues, applied rules consistently, and created emotionally safe environments where students felt encouraged to participate and engage. In contrast, teachers with higher neuroticism occasionally displayed emotional reactivity, such as stress or frustration in response to disruptions, which sometimes disrupted lesson flow and affected classroom atmosphere. These findings are consistent with previous research emphasizing that emotional stability enhances professional effectiveness, supports consistent discipline, and fosters a positive classroom climate (Costa & McCrae, 1992; Lounsbury et al., 2004).

While **gender differences** were observed, they were secondary to the influence of neuroticism. Female teachers tended to show slightly higher scores in creating nurturing, supportive, and student-centered classrooms, suggesting that cultural and socio-contextual norms in Purba Medinipur may encourage women to adopt more empathetic and emotionally attentive teaching styles. Male teachers, although equally capable of maintaining discipline, were sometimes less inclined to emphasize emotional support, reflecting traditional gendered expectations of teacher authority and classroom management. However, the personality trait of emotional stability emerged as a stronger predictor of classroom effectiveness than gender, highlighting the dominant role of intrinsic personality characteristics in shaping teaching behavior.

The study also underscores the importance of considering **local cultural and contextual factors** when examining gender-related trends. Semi-urban school environments may reinforce certain behavioral expectations, influencing how teachers express personality traits in practice. Overall, the findings suggest that interventions aimed at improving classroom discipline and emotional climate should focus on developing teachers' emotional regulation and stress-management skills, in addition to recognizing gendered tendencies. By integrating personality awareness into teacher training and professional development programs, schools can foster more consistent, supportive, and engaging learning environments for students.

9. Implications

1. Teacher training programs should emphasize **emotional regulation, stress management, and classroom management strategies**.

2. Understanding the role of neuroticism can inform **targeted professional development** and mentorship programs.

3. Gender considerations may guide **supportive interventions** to enhance classroom emotional climate.

10. Limitations

- Small sample size limits generalizability.

- Only two observations per teacher; repeated measures would strengthen findings.

- Self-reported neuroticism may be influenced by social desirability.

- Study focused on semi-urban Purba Medinipur; rural and urban contexts may differ.

11. Suggestions for Full-Scale Study

- Larger, more diverse sample across multiple districts.

- Include longitudinal classroom observations.

- Incorporate student feedback and academic outcomes.

- Explore interactions with other personality traits, such as conscientiousness and extraversion.

12. Conclusion

This pilot study provides preliminary evidence that neuroticism is a significant predictor of classroom discipline and emotional climate in higher secondary science classrooms in Purba Medinipur. Teachers with lower neuroticism demonstrated the ability to maintain calm, structured, and supportive learning environments. These teachers consistently applied classroom rules, managed student behavior effectively, and created a positive emotional atmosphere that encouraged participation and engagement. Conversely, teachers with higher neuroticism occasionally exhibited emotional reactivity, stress, or frustration when faced with disruptions or unexpected challenges, which sometimes disrupted lesson flow and affected the overall classroom climate. These findings are in line with prior research highlighting the role of emotional stability in professional effectiveness, classroom management, and student outcomes (Costa & McCrae, 1992; Lounsbury et al., 2004).

Although gender differences were observed, they were relatively minor compared to the influence of neuroticism. Female teachers displayed slightly higher levels of emotional support and nurturing behavior, suggesting that socio-cultural expectations in Purba Medinipur may encourage women to adopt empathetic and student-centered approaches. Male teachers were equally capable of enforcing discipline but were less consistently focused on fostering emotional warmth. These observations underscore the importance of considering both intrinsic personality traits and contextual factors when analyzing teacher behavior.

Importantly, the pilot study confirmed the **feasibility of the research instruments, observation procedures, and data collection protocols**, demonstrating that higher secondary science teachers were willing to participate and that classroom observations could be conducted effectively. The findings establish a solid foundation for a larger-scale, comprehensive investigation to examine the interplay between personality traits, gender, and classroom management in semi-urban Indian contexts. Furthermore, the study has practical implications for teacher training and professional development, emphasizing the need to foster emotional stability, stress management, and consistent classroom practices to enhance both discipline and the emotional climate in science classrooms.

References

1. Allport, G. W. (1937). *Personality: A psychological interpretation*. Holt.

2. Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman.

3. Borich, G. D. (2017). *Effective teaching methods: Research-based practice* (9th ed.). Pearson.

4. Campbell, J., Kyriakides, L., Muijs, D., & Robinson, W. (2004). *Effective teaching and learning: Teacher effectiveness and student achievement*. Open University Press.

5. Costa, P. T., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) manual*. Psychological Assessment Resources.

6. Darling-Hammond, L. (2000). Teacher quality and student achievement. *Education Policy Analysis Archives, 8*(1), 1–44.

7. Emmer, E. T., & Stough, L. M. (2001). Classroom management: A critical part of educational psychology, with implications for teacher education. *Educational Psychologist, 36*(2), 103–112. https://doi.org/10.1207/S15326985EP3602_5

8. Feldman, R. S. (2017). *Essentials of understanding psychology* (13th ed.). McGraw-Hill.

9. Flanders, N. A. (1970). *Analyzing teaching behavior*. Addison-Wesley.

10. Gage, N., & Berliner, D. (1998). *Educational psychology* (6th ed.). Houghton Mifflin.

11. Goh, S. C., & Matthews, R. G. (2011). Personality and teaching effectiveness. *Teaching and Teacher Education, 27*(3), 470–478. https://doi.org/10.1016/j.tate.2010.09.001

12. Good, T. L., & Brophy, J. E. (2007). *Looking in classrooms* (10th ed.). Pearson.

13. Johnson, D. W., & Johnson, R. T. (2009). *An educational psychology success story: Social interdependence theory and cooperative learning*. Impact.

14. Kyriacou, C. (2009). *Effective teaching in schools: Theory and practice* (3rd ed.). Nelson Thornes.

15. Lounsbury, J. W., Park, S. H., Sundstrom, E., Williamson, J., & Pemberton, A. E. (2004). Personality and career satisfaction: Big Five correlates. *Journal of Career Assessment, 12*(4), 395–409. https://doi.org/10.1177/1069072704266653

16. McCrae, R. R., & John, O. P. (1992). An introduction to the Five-Factor Model and its applications. *Journal of Personality, 60*(2), 175–215. https://doi.org/10.1111/j.1467-6494.1992.tb00970.x

17. Muijs, D., & Reynolds, D. (2017). *Effective teaching: Evidence and practice* (4th ed.). Sage.

18.   Pianta, R. C., Hamre, B. K., & Allen, J. P. (2012). Teacher-student relationships. In K. R. Harris, S. Graham, & T. Urdan (Eds.), *APA educational psychology handbook* (Vol. 1, pp. 199–234). American Psychological Association.

19.   Richardson, V., & Placier, P. (2001). Teacher change. In V. Richardson (Ed.), *Handbook of research on teaching* (4th ed., pp. 905–947). AERA.

20.   Schön, D. (1983). *The reflective practitioner: How professionals think in action*. Basic Books.

21.   Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review, 57*(1), 1–23. https://doi.org/10.17763/haer.57.1.j463w79r56455411

22.   Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

23.   Woolfolk, A. (2020). *Educational psychology* (14th ed.). Pearson.

24.   Borko, H., & Putnam, R. T. (1996). Learning to teach. In R. C. Calfee & D. C. Berliner (Eds.), *Handbook of educational psychology* (pp. 673–708). Macmillan.

25.   Darling-Hammond, L., & Bransford, J. (2005). *Preparing teachers for a changing world: What teachers should learn and be able to do*. Jossey-Bass.

26.   Marzano, R. J., Pickering, D. J., & Pollock, J. E. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement*. ASCD.

27.   Pianta, R. C., & Hamre, B. K. (2009). Conceptualization, measurement, and improvement of classroom processes: Standardized observation can leverage capacity. *Educational Researcher, 38*(2), 109–119. https://doi.org/10.3102/0013189X09332374

28.   Pekrun, R., Goetz, T., Titz, W., & Perry, R. P. (2002). Academic emotions in students' self-regulated learning and achievement: A program of qualitative and quantitative research. *Educational Psychologist, 37*(2), 91–105. https://doi.org/10.1207/S15326985EP3702_4