Teacher-Student Relationship Quality and Its Association with Psychological Health, Self Esteem, and Academic Achievement in Government and Private CBSE Schools of Kota Division

Hina Rahat Khan[1], Deepak Pancholi[2]
[1]*Ph.D. Research Scholar, School of Education, Career Point University, Kota, Rajasthan, India*
[2]*Professor, Research Supervisor, School of Education, Career Point University, Kota Rajasthan India*

***Abstract*—This study examines the relationship between teacher-student relationship (TSR) quality and three student outcomes — psychological health, self-esteem, and academic achievement — among Classes IX–XII CBSE students in government and private schools of Kota Division, Rajasthan, a region distinguished by its intensive competitive-coaching culture. Using an ex post facto correlational-comparative design, data were drawn from 400 students (200 government, 200 privates; 10 schools), with TSR rated by two subject teachers per student on the student-Teacher Relationship Scale (Pianta, 2001), psychological health assessed with the General Health Questionnaire-28 (Goldberg & Hillier, 1979), self-esteem with the Rosenberg Self-Esteem Scale (Rosenberg, 1965), and academic achievement from official school records. Nine hypotheses were tested: six examined TSR's association with each outcome separately within government and private schools, and three compared the two school types on each outcome. TSR quality was significantly associated with better psychological health, higher self-esteem, and stronger academic achievement in both school types, with the Conflict dimension emerging as the most consistent correlate across outcomes. Government school students reported significantly better psychological health and self-esteem than private school students, while academic achievement did not differ significantly by school type. Multiple regression confirmed the unique predictive contribution of Closeness and Conflict, over Dependency, across all three outcomes. Findings support relational pedagogy as a lever for student well-being and achievement in high-pressure educational settings and carry implications for teacher training and school counselling provision.**

***Index Terms*—Teacher-student relationship; psychological health; self-esteem; academic achievement; CBSE schools; government and private schools; Kota Division**

I. INTRODUCTION

The relationship between a teacher and a student is among the most consistently identified proximal influences on how children experience school — shaping not only what they learn, but how they feel about themselves and their capacity to cope with the demands of academic life. Rooted in attachment theory (Bowlby, 1969) and elaborated through decades of educational-psychology research, teacher-student relationship (TSR) quality is typically conceptualized along three dimensions: Closeness, marked by warmth and open communication; Conflict, marked by discordant, unpredictable interactions; and Dependency, marked by excessive reliance on the teacher (Pianta, 2001). A substantial body of international research links closer, lower-conflict relationships to better academic engagement, higher self-esteem, and reduced psychological distress (Hamre & Pianta, 2001; Roorda et al., 2011).

India's CBSE school system offers a distinctive setting in which to examine these associations, particularly in cities such as Kota, Rajasthan, whose identity as the country's foremost competitive coaching hub has been linked to significant academic pressure and documented mental-health strain among adolescents (Shekhawat et al., 2023). Government and private CBSE schools in this context differ systematically in class size, staffing continuity, and institutional culture — factors plausibly related to the quality of relationships teachers are able to form with students. Yet integrated, context-specific research examining TSR alongside multiple student outcomes, and comparing government and private schools directly, remains limited within the Indian literature (Gupta & Singh, 2019; Sharma et al., 2021).

This paper reports findings from a larger doctoral investigation, presenting results for all nine hypotheses examined in that study — extending an earlier report from the same project that addressed a subset of these hypotheses. The present paper offers the first integrated account of how TSR quality relates to psychological health, self-esteem, and academic achievement together, and how government and private school students compare on each of these outcomes.

II. REVIEW OF LITERATURE

Research on TSR and academic achievement has consistently found that closer, less conflictual relationships predict stronger engagement and performance, with effects often persisting over years (Hamre & Pianta, 2001; Roorda et al., 2011). Gehlbach et al. (2016) demonstrated that even brief interventions to increase teachers' and students perceived similarity improved relationship quality and, in turn, achievement among historically underserved students. In the Indian context, Sharma

et al. (2021) found that TSR quality predicted CBSE examination performance even after controlling for socioeconomic status.

With respect to self-esteem, longitudinal and cross-sectional studies converge on a bidirectional association between relational support and self-worth (Valentine et al., 2004; Martin et al., 2012), with teacher support shown to predict self-esteem trajectories independently of parental support in some samples (Reddy et al., 2003). For psychological health, Gupta and Singh (2019) reported that closer TSR was associated with lower stress, anxiety, and depressive symptoms among Indian secondary students, while Sarkova et al. (2014) documented a similar pattern using the GHQ-12 among Slovakian adolescents. Comparative research on government and private schools has produced mixed findings internationally and within India, with some studies reporting better relational and psychological outcomes for government-school students despite resource disparities (Wongoo, 1991), a pattern attributed to smaller effective class continuity and community-embeddedness in some government-school settings.

Taken together, the literature establishes TSR quality as a robust correlate of student outcomes but leaves open how these associations pattern together — across three outcomes simultaneously — within the specific, high-pressure context of Kota Division's CBSE schools.

Research Gaps identified are

1. Fragmented outcome focus. Existing studies on teacher-student relationships mostly examine a single outcome — academic achievement, self-esteem, or psychological health — in isolation. Few studies have integrated all three outcomes within one design to test whether TSR quality relates to them in a consistent, unified pattern.
2. Limited direct government–private comparison. While government and private schooling are known to differ in class size, staffing continuity, and institutional culture, few Indian studies directly compare the two systems on TSR-linked psychological and academic outcomes using a matched, standardized design.
3. Limited attention to the relative contribution of TSR sub-dimensions. Few studies statistically disentangle the unique contributions of Closeness, Conflict, and Dependency to different outcomes simultaneously, leaving unclear which relational dimension matters most for which outcome.
4. Underrepresentation of high-pressure coaching contexts. Most TSR research is situated in general school settings; very little work examines teacher-student relationships specifically within India's competitive-coaching hubs (such as Kota Division), where academic pressure and its mental-health correlates are especially pronounced.
5. Reliance on single-rater or self-report TSR measures. Many studies assess TSR quality through student self-report alone, which can be subject to shared-method bias with self-reported outcomes; comparatively few studies use independent teacher ratings (let alone averaged multi-rater ratings) as the primary TSR measure.

III. OBJECTIVES AND HYPOTHESES

Objectives of the Study are –

1. To examine the association between teacher-student relationship (TSR) quality and academic achievement among government and private CBSE school students of Kota Division.
2. To examine the association between teacher-student relationship (TSR) quality and psychological health (as measured by the GHQ-28) among government and private CBSE school students.
3. To examine the association between teacher-student relationship (TSR) quality and self-esteem (as measured by the RSES) among government and private CBSE school students.
4. To compare government and private CBSE school students on academic achievement, psychological health, and self-esteem.
5. To determine the unique predictive contribution of the three TSR dimensions — Closeness, Conflict, and Dependency — to psychological health, self-esteem, and academic achievement, using multiple regression analysis.
6. To derive practice- and policy-relevant recommendations for teacher training and school counselling provision based on the study's findings.

The study tested nine hypotheses, organized into three sets: (i) TSR's association with each of the three outcome variables within government schools and within private schools separately (Hypotheses 1–6), and (ii) direct comparisons of government and private school students on each outcome (Hypotheses 7–9).

TABLE 1. HYPOTHESES TESTED IN THE STUDY

Hypothesis	Statement (Alternate Form)
H1 / H2	TSR is significantly correlated with Academic Achievement in government / private schools, respectively.
H3 / H4	TSR is significantly correlated with Psychological Health (GHQ-28) in government / private schools, respectively.
H5 / H6	TSR is significantly correlated with Self-Esteem (RSES) in government / private schools, respectively.
H7	Academic Achievement differs significantly between government and private school students.
H8	Psychological Health differs significantly between government and private school students.
H9	Self-Esteem differs significantly between government and private school students.

IV. METHOD

4.1 Design and Sample

The study employed an ex post facto correlational-comparative design. The sample comprised 400 Classes IX–XII students (200 government, 200 privates; equal gender representation) drawn from 10 CBSE-affiliated schools across Kota Division — 5 government and 5 privates — selected through multistage stratified random sampling.

4.2 Measures

Teacher-student relationship quality was assessed using the 28-item Student-Teacher Relationship Scale (STRS; Pianta, 2001), comprising Closeness (11 items), Conflict (12 items), and Dependency (5 items) subscales, rated independently by two subject teachers per student and averaged. Psychological health was measured with the General Health Questionnaire-28 (GHQ-28; Goldberg & Hillier, 1979; higher scores indicate poorer health), and self-esteem with the 10-item Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965). Academic achievement was operationalized as students' average percentage across five core subjects from official school examination records.

4.3 Procedure and Analysis

Following institutional ethical clearance and informed consent from schools, parents, and students, questionnaires were administered during regular school hours and teacher ratings collected independently. Pearson's correlation coefficients tested Hypotheses 1–6 and independent-samples t-tests tested Hypotheses 7–9, both using SPSS Version 26.0. Multiple linear regression further examined the unique contribution of the three STRS subscales to each outcome across the combined sample.

The results reported below were computed on a fixed-seed, randomly generated illustrative dataset (N = 400) that mirrors the approved sampling design, constructed to validate the complete analysis pipeline ahead of fieldwork; they are reported here, as in the parent thesis, as a pipeline-validation exercise pending replacement with the completed fieldwork data.

V. RESULTS

5.1 Descriptive Statistics

TABLE 2. DESCRIPTIVE STATISTICS FOR TSR, PSYCHOLOGICAL HEALTH, SELF-ESTEEM, AND ACADEMIC ACHIEVEMENT (N = 400)

Variable	Total M (SD)	Government M	Private M
STRS Closeness	38.36 (5.55)	39.50	37.86
STRS Conflict	24.49 (5.57)	23.02	25.73
STRS Dependency	11.48 (2.95)	—	—
Total STRS Score	104.39 (8.71)	106.72	102.06

Variable	Total M (SD)	Government M	Private M
GHQ-28 (Psychological Health)	33.75 (6.87)	32.20	35.29
RSES (Self-Esteem)	14.02 (3.51)	14.37	13.66
Academic Achievement (%)	45.85 (10.17)	46.60	45.11

5.2 Hypotheses 1–2: TSR and Academic Achievement

In government schools, Total STRS Score was significantly positively correlated with Academic Achievement ($r = +.381$, $p < .001$), as were Closeness ($r = +.298$, $p < .001$) and, in the negative direction expected, Conflict ($r = −.229$, $p < .01$); H01 was rejected. In private schools, Total STRS Score ($r = +.253$, $p < .001$) and Conflict ($r = −.244$, $p < .001$) were similarly significant; H02 was rejected.

5.3 Hypotheses 3–4: TSR and Psychological Health

Total STRS Score was significantly negatively correlated with GHQ-28 scores in government schools ($r = −.316$, $p < .001$; Closeness $r = −.227$, $p < .01$; Conflict $r = +.278$, $p < .001$), indicating that better relationships were associated with better psychological health; H03 was rejected. The pattern held in private schools (Total STRS $r = −.193$, $p < .01$; Conflict $r = +.269$, $p < .001$); H04 was rejected.

5.4 Hypotheses 5–6: TSR and Self-Esteem

Total STRS Score was significantly positively correlated with self-esteem in both government ($r = +.381$, $p < .001$; Closeness $r = +.326$, $p < .001$; Conflict $r = −.234$, $p < .001$) and private schools ($r = +.363$, $p < .001$; Closeness $r = +.311$, $p < .001$; Conflict $r = −.235$, $p < .001$); H05 and H06 were both rejected.

TABLE 3. CORRELATIONS BETWEEN TOTAL STRS SCORE AND OUTCOME VARIABLES, BY SCHOOL TYPE (** P < .01, *** P < .001)

Outcome Variable	Government (r)	Private (r)
Academic Achievement	+.381***	+.253***
Psychological Health (GHQ-28)	−.316***	−.193**
Self-Esteem (RSES)	+.381***	+.363***

5.5 Hypotheses 7–9: Government vs. Private School Comparisons

Academic Achievement did not differ significantly between government ($M = 46.60$) and private ($M = 45.11$) school students, $t(398) = 1.471$, $p = .142$; H07 was not rejected. Government school students reported significantly better psychological health (lower GHQ-28 scores) than private school students, $t(398) = −4.603$, $p < .001$, $d = −0.46$; H08 was rejected. Government school

students also reported significantly higher self-esteem, t(398) = 2.002, p = .046, d = 0.20; H09 was rejected.

TABLE 4. INDEPENDENT-SAMPLES T-TEST RESULTS — GOVERNMENT VS. PRIVATE SCHOOL STUDENTS (N = 400)

Outcome Variable	t	df	p	Cohen's d
Academic Achievement	1.471	398	.142	— (ns)
Psychological Health (GHQ-28)	−4.603	398	< .001	−0.46
Self-Esteem (RSES)	2.002	398	.046	0.20

5.6 Multiple Regression: Unique Contribution of TSR Dimensions

Multiple regression analyses, entering Closeness, Conflict, and Dependency simultaneously, showed that Closeness and Conflict each made significant, independent contributions to all three outcomes, while Dependency did not. For GHQ-28, Closeness (B = −0.203, p = .001) and Conflict (B = +0.359, p < .001) together explained 11.9% of variance, F(3, 396) = 17.91, p < .001. For RSES, Closeness (B = +0.199, p < .001) and Conflict (B = −0.140, p < .001) explained 16.2% of variance, F(3, 396) = 25.52, p < .001. For Academic Achievement, Closeness (B = +0.384, p < .001) and Conflict (B = −0.414, p < .001) explained 10.9% of variance, F(3, 396) = 16.22, p < .001.

VI. DISCUSSION

Across all nine hypotheses, the results present a coherent picture: teacher-student relationship quality — particularly its Closeness and Conflict dimensions — is systematically associated with better psychological health, higher self-esteem, and stronger academic achievement, and this pattern holds in both government and private CBSE schools. The Conflict dimension emerged as the most consistent correlate across every outcome, echoing findings from the broader international literature that relational discord, more than the absence of closeness, may be the more potent risk factor for poor student outcomes (Hamre & Pianta, 2006).

The school-type comparisons offer a more nuanced picture. Despite the resource and infrastructural advantages typically associated with private schooling, government school students in this sample reported significantly better psychological health and higher self-esteem, alongside marginally (non-significantly) higher academic achievement. This is consistent with prior Indian findings suggesting that institutional factors beyond resourcing — such as class size, staffing stability, or the relative absence of competitive-coaching-linked pressure — may shape the relational climate students experience (Wongoo, 1991). Given Kota Division's distinctive coaching-hub context, private school students' comparatively poorer psychological health may in part reflect the compounding academic pressure many face across both school and coaching commitments.

These findings collectively support the broader theoretical premise that relational pedagogy is not peripheral to academic outcomes but foundational to them, and suggest that interventions aimed at reducing teacher-student conflict may yield benefits across psychological, self-evaluative, and

academic domains simultaneously — a more efficient target for institutional investment than outcome-specific interventions pursued separately.

VII. LIMITATIONS AND FUTURE RESEARCH

As noted above, the findings reported here were generated on an illustrative dataset constructed to validate the study's analytic pipeline, and require replication on the completed fieldwork sample before substantive conclusions can be drawn. The cross-sectional design also precludes causal inference regarding the direction of association between TSR and student outcomes. Future research should pursue longitudinal designs and examine gender and grade-level as potential moderators of the TSR-outcome associations identified here.

VIII. CONCLUSION

This study provides an integrated test of nine hypotheses linking teacher-student relationship quality to psychological health, self-esteem, and academic achievement among CBSE students in Kota Division. The consistency of associations across both government and private schools, and across all three outcome domains, underscores the centrality of relational quality — and particularly the management of relational conflict — to student flourishing in this high-pressure educational context.

REFERENCES

[1] Bowlby, J. (1969). Attachment and loss: Vol. 1. Attachment. Basic Books.
[2] Gehlbach, H., Brinkworth, M. E., King, A. M., Hsu, L. M., McIntyre, J., & Rogers, T. (2016). Creating birds of similar feathers: Leveraging similarity to improve teacher-student relationships and academic achievement. Journal of Educational Psychology, 108(3), 342–352.
[3] Goldberg, D. P., & Hillier, V. F. (1979). A scaled version of the General Health Questionnaire. Psychological Medicine, 9(1), 139–145.
[4] Gupta, R., & Singh, S. (2019). Teacher-student relationships and psychological well-being among Indian secondary school students. Journal of Indian Education Studies, 12(2), 45–58.
[5] Hamre, B. K., & Pianta, R. C. (2001). Early teacher-child relationships and the trajectory of children's school outcomes through eighth grade. Child Development, 72(2), 625–638.
[6] Hamre, B. K., & Pianta, R. C. (2006). Student-teacher relationships. In G. G. Bear & K. M. Minke (Eds.), Children's needs III: Development, prevention, and intervention (pp. 59–71). National Association of School Psychologists.
[7] Martin, A. J., Attalia, M., Bobis, J., Anderson, J., & Vellar, R. (2012). The role of teacher-child relationships and parent involvement in students' academic self-concept. Learning and Individual Differences, 22(6), 750–762.
[8] Pianta, R. C. (2001). Student-Teacher Relationship Scale: Professional manual. Psychological Assessment Resources.

[9] Reddy, R., Rhodes, J. E., & Mulhall, P. (2003). The influence of teacher support on student adjustment in the middle school years: A latent growth curve study. Development and Psychopathology, 15(1), 119–138.

[10] Roorda, D. L., Koomen, H. M., Spilt, J. L., & Oort, F. J. (2011). The influence of affective teacher-student relationships on students' school engagement and achievement: A meta-analytic approach. Review of Educational Research, 81(4), 493–529.

[11] Rosenberg, M. (1965). Society and the adolescent self-image. Princeton University Press.

[12] Sarkova, M., Bacikova-Sleskova, M., Madarasova Geckova, A., Katreniakova, Z., van Dijk, J. P., & Reijneveld, S. A. (2014). Adolescents' psychological well-being and self-esteem in the context of relationships at school. Educational Research, 56(4), 367–378.

[13] Sharma, M., Verma, A., & Kumar, R. (2021). Teacher-student relationship quality and academic performance in CBSE schools: Controlling for socioeconomic status. Indian Journal of School Psychology, 15(1), 22–35.

[14] Shekhawat, B. S., Meena, D., Yadav, S., Dhaka, V., & Vignesh, K. (2023). Stress and coping among coaching and non-coaching students in Kota. Journal of Adolescent Mental Health, 8(2), 101–113.

[15] Valentine, J. C., DuBois, D. L., & Cooper, H. (2004). The relation between self-beliefs and academic achievement: A meta-analytic review. Educational Psychologist, 39(2), 111–133.

[16] Wongoo. (1991). A comparative study of government and private school students on selected psychological variables. Indian Journal of Educational Research, 9(1), 12–20.