

ROLE OF POSITIVE STUDENT-TEACHER RELATIONSHIP IN LEARNING

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ABSTRACT

Student-teacher relationship has consistently been one of the strongest predictors of student learning, academic performance and educational well-being at all levels of formal education. The relational foundation on which successful learning is based is formed on positive student-teacher relationships characterized by trust, warmth, emotional support, clear communication, respect and high expectations. Nevertheless, in the educational institutions in Pakistan, the relational aspect of instruction has been the subject of relatively little systematically oriented empirical research, although institutional worries abound regarding a decrease in student engagement, lack of motivation, and the maintenance of an authoritative, impersonal instructional culture that compromises the relational context most favorable to learning. This article is a quantitative and descriptive-correlational research which investigates the role of positive student-teacher relationships in learning in undergraduate students at the University of Gujrat (UOG), Punjab, Pakistan. The University of Gujrat, Gujrat campus is used to select a stratified random sample of $n = 150$ undergraduate students. Two researcher-developed instruments are used to collect data: the Student-Teacher Relationship Scale (STRS), a 25-item Likert-scale measure of five dimensions of student-teacher relationships quality: trust and safety, emotional support, academic encouragement, respectful communication, high expectations, and Learning Outcomes Perception Scale (LOPS) a 20-item Likert-scale measure of students self-reported learning on four measures: academic motivation, conceptual understanding, classroom engagement, and academic self-efficacy. IBM SPSS Statistics Version 28.0 is used to perform statistical analyses such as Pearson Product-Moment Correlation, multiple linear regression, independent-samples t-tests, and one-way ANOVA to statistically analyze the data. The hypothesized results imply that every one of the five dimensions of positive student-teacher relationship quality would have a significant and positive relationship with student learning outcomes, and academic encouragement and trust and safety would be the most powerful predictors. The paper finishes with the presentation of evidence-based suggestions to teacher preparation programs, university administrators and education policymakers on how to develop positive student teacher relationships in a systematic fashion as part of the institution-wide effort at enhancing the quality of learning at the university level.

Keywords: Student-Teacher Relationship, Learning Outcomes, Academic Motivation, Trust, Emotional Support, Academic Encouragement, Descriptive Research, Pearson Correlation, Higher Education, Pakistan, Gujrat.

1. INTRODUCTION

Of all the variables reported by the educational research in their studies as predictors of student learning, none consistently, as theoretically well-founded or as practically open to institutional intervention, as the quality of the teacher-student relationship. The teacher-student relationship- the interpersonal relationship that daily interaction in the classroom creates, is not only the social backdrop in which learning takes place, but to most students, is also the driving force, both motivational and emotive that initiates the occurrence of learning in the first place. A student who has trusted and respected his/her teacher, who feels free to ask questions and admit he/she is confused, who, on the one hand, is encouraged, challenging, and who, on the other, is given high expectations the student is in a more appropriate position to learn than one who sees a teacher as detached, intimidating, or dismissive, irrespective of their curriculum content, assessment system, and the quality of physical facilities.

The idea - that the relational nature of teaching is a leading factor to its pedagogical workability - is one of the most congruous discoveries in educational psychology literature. The synthesis of more than 800 meta-analyses by Hattie (2009) places teacher-student relationships at the head of the list of the top ten most influential factors to impact student achievement with a factor size of $d = 0.72$ - significantly larger than the developmental average of $d = 0.40$ - teacher student relations have a real impact on student learning that equals or exceeds much of what is traditionally being focused on in developmental efforts toward curriculum, assessment, and instruction. Pianta and Hamre (2009), the developers of Classroom Assessment Scoring System (CLASS) which has been tested in thousands of classrooms in dozens of nations have shown that the relational quality of teacher-student interaction has been proved to be one of the most robust measurable predictors of student academic achievement, student engagement, and student social-emotional development in preschool through university.

The teacher-student relationship in Pakistani educational scenario takes a controversial available stance. The Pakistani traditional pedagogy is

marked with high amounts of teacher power and social dimension: the teacher is culturally made an object of undisputed knowledge and moral authority the role of which is to transfer it, and the role of the student is to take it, memorize and repeat. This relational authority structure, supported by examination-based curricula and masses, in which it is impractically large to allow individualized interaction, yields classrooms where the lack of warmth, encouragement, mutual respect, and open communication that define positive teacher-student relationships in the literature are built-in discouragement (Rehman and Arshad, 2020; Ali and Farooq, 2022). Surveys of faculty in Pakistani higher education institutions have repeatedly indicated that students identify their relationship with teachers as transactional, mediated by grades, tests, and attendance, as opposed to relationally enhancing or motivating (HEC, 2023).

In this research, the researchers are going to measure the role of positive student-teacher relationships in learning among undergraduates studying at the University of Gujrat both quantitatively by either measuring quality of the student-teacher relationship and the learning outcomes using validated instruments, and statistically determine the relationships between individual dimension of relationship quality and individual domains of the learning outcomes. It is hoped that the findings will give empirical support to the suggestion - popular but hardly ever empirically proved, as far as Pakistani higher education is concerned, that investing in the relational quality of teaching is one of the most effective, and cost-efficient, strategies that could be used to enhance the university-level student learning.

2. Significance of the Study

The importance of the study is expressed in three dimensions (complementary).

2.1 Theoretical Significance

In theory, the research helps in validation and contextual expansion of the theory of attachment (Bowlby, 1969), self-determination (Deci and Ryan, 1985) and socio-cultural (Vygotsky, 1978) learning theory in the Pakistani education case.

The attachment theory as later elaborated by Pianta (1999) is based upon the premise that secure relational bonds with figures of authority, such as teachers, will form a sense of emotional safety on which children and adolescents draw the exploratory cognitive risk-taking by which deep learning is typified. SDT suggests that intrinsic motivation and deep learning are only possible when the three fundamental psychological needs, namely competence, autonomy, and relatedness, are fulfilled in the learning environment; the need to relatedness in the learning environment is achieved primarily by positive teacher-student relationships. The zone of proximal development theory (Vygotsky, 1978) puts the relationship between teacher and student at the heart of cognitive development, the teacher being the key facilitator of the scaffolded support to which learners can extend their reaches beyond reach. All three theories find commonality in the same prognosis: that quality of student-teacher relationship is a proximal predictor of quality of learning and the current study is an empirical study that has found out either to prove or qualify this prediction in Pakistani educational settings.

2.2 Empirical Significance

This research fills a particular gap in the Pakistani scholarly literature in the field of education in an empirical manner. Although the teacher-student relationship has been well-investigated in the context of Western and East and Asia as well as a few South Asian studies, there are still limited published quantitative research ICT studies used to investigate the significance of the teacher student relationship in learning among Pakistani university students, using validated multi-dimensional measures. These two scales, the 25-item STRS and the 20-item LOPS, are legitimate, and replicable measurement scales that could be used in the future in the research of Pakistani educational contexts. The gender-balanced stratified sampling of three faculties allows cross-faculty and gender comparison, which provides information on the ability of the relationships between the quality of teacher-student relationships and learning to lead to the same relationships across different disciplinary settings.

2.3 Practical Significance

In practice, research findings mean direct implications on pre-service and in-service teacher education, in university management practice, and curriculum structures of the Punjab Education Department and Higher Education Commission. Pakistan Teacher education Teacher education has traditionally focused on knowledge and pedagogical approach of the subject without giving much systematic focus to the relational competency's empathy, encouragement, respect, attentiveness and high-expectation communication which this study identifies as the proximal mechanism of the teacher student relationship effect on learning. The data that indicates which particular dimensions of relationships bring about the most learning gain can give teacher educators a principled foundation to overhaul pre-service and in-service training curricula and emphasize relational pedagogy in terms of priority with the subject matter and instructional method.

3. Statement of the Problem

The nature of learning among students in Pakistani educational institutions is a multifaceted combination of the curricular, instructional, socioeconomic, and relational factors. Among it, the relational one the quality of everyday interaction of students with their teachers is not only among most theoretically significant but also one of the least systematically addressed in the Pakistani educational enhancement initiatives. Educational reform programs at the national level, such as National Education Policy (2017) and the National Curriculum Framework (NCF, 2023), as well as curriculum revision, assessment reform and provision of infrastructure may have little to no explicit focus on the quality of the teacher-student relational interaction as a learning driver.

This lack of supervision has practical implications. The report of student engagement and faculty surveys carried out in higher educational institutions across Gujrat repeatedly record the worries regarding student disengagement, the decrease in academic motivation, their passive behavior in the classroom, their hesitation to ask questions, and the overall atmosphere where the

students think that teachers are mere evaluators and sources of authority (District Education Authority, Gujrat, 2022; University of Gujrat QEC, 2023). The patterns are symptomatic of a larger pattern of relational inadequacy in Pakistani educational culture that impedes the quality of teaching, and in addition to that, as well as the quality and quantity of student learning - although, no quantitatively rigorous study grounded located in Pakistan has established the statistical association between particular dimensions of teacher-student relationship highs and lows and particular domains of student learning in either Gujrat context or within the university setting.

The particular research question that this study aims to deal with, then, is twofold: first, there is a lack of locally validated evidence on the relationship between the quality of student-teacher relationship and learning outcomes in Gujrat, and second, a lack of a validated, psychometrically impeccable measurement instrument to test the quality of student-teacher relationship and to do it in a culturally adequate manner that is suitable to the Pakistani educational environment. The research constructs and confirms a pair of tools towards the research or the STRS and the LOPS and uses them to produce the localized based empirical data required to put relational pedagogy in the heart of the current education enhancement initiatives in Gujrat and its associated region.

4. Research Objectives

This research is informed by the following specific research objectives:

1. Evaluation of the perceived quality of student-teacher relationships on five dimensions of trust and safety, emotional support, academic encouragement, respectful communication and high expectations among undergraduate students at the University of Gujrat.
2. Measure self-reported academic performance in three areas: academic motivation, conceptual understanding, classroom involvement, and academic self-efficacy with the Learning Outcomes Perception Scale (LOPS).
3. To test the nature, strength and direction of relationship between the overall student-teacher

relationship quality (STRS total score) and overall learning outcomes (LOPS total score) using Pearson Product-Moment Correlation.

4. Looking at the level of difference between each of the five dimensions of the STRS and each of the four learning outcomes of the LOPS, which dimensions of the relationship have the greatest level of association with a particular one of the learning outcomes.

5. To determine the strongest independent predictor of overall learning outcomes using multiple linear regression analysis of which dimension of STRS.

6. To compare the quality of student-teacher relationship, and learning outcome scores between the various faculties (Social Sciences, Education, and Natural Sciences) at the University of Gujrat.

7. To determine gender variation in the attitude towards student-teacher relationship quality and learning outcomes.

8. To construct and test the student-Teacher Relationship Scale (STRS) and Learning Outcomes Perception Scale (LOPS) as dependable and consistent measures of these constructs in Pakistani University students.

5. Research Questions

Primary Research Question

- RQ1: How does positive student-teacher relationship help in learning undergraduate students at the University of Gujrat?

Subsidiary Research Questions

- RQ2: Which is the perceived quality of student-teacher relations, using the five dimensions of the STRS, in undergraduate students in the University of Gujrat?
- RQ3: Do the quality of student-teacher relationships and student learning outcome depend on each other significantly (positively)?
- RQ4: What aspect of quality of student-teacher relationship, of trust, emotional support, academic encouragement, respectful communication or high expectations demonstrates the most significant relationship with student learning outcomes?

- RQ5: Which STRS dimension brightest predicts overall LOPS learning outcome scores in multiple regression analysis?
- RQ6: Do perceived student-teacher relationship quality and learning outcomes significantly differ among various faculties at the University of Gujrat?
- RQ7: Do males and females have significant differences in perceptions of the quality of student-teacher relationships and self-reported learning outcomes??

6. Literature Review

6.1 Conceptualizing the Student-Teacher Relationship

Student-Teacher Relationship 6.1 conceptualizing Student-Teacher Relationship

Even the educational literature in the psychology of education has conceptualized these as a multi-dimensional construct that includes affective, behavioral and cognitive aspects (Pianta, 1999; Roorda et al., 2011). The original Student-Teacher Relationship Scale (STRS) model suggested by Pianta (1999) based on comprehensive research with thousands of classrooms and subsequently identified three major dimensions of quality of teacher-student relationship: closeness, conflict and dependency. Closeness is the dimension that is consistently related to positive academic outcomes, and conflict is the dimension that is constant with the bad outcomes such as disengagement, absenteeism and poor academic performance (Pianta and Hamre, 2009; Roorda et al., 2011). Hamre and Pianta (2001) generalized this model to report that academic and behavioral outcomes over several years following a teacher-student relationship in early years are predicted by the quality of teacher-student relationships developed during this period, with respect to providing information about the long-term stability and the effects of relationship quality.

At the university level more dimensions are added to the conceptualization of quality of student teacher relationships to include dimensions which are especially significant to adolescent and young adult learners such as academic encouragement (the explicit perception of a teacher of the academic potential of student and their expression

of their high expectations to the student), respectful communication (the treatment of students as intellectually capable partners rather than passive compliments), and relatedness-supporting behavior (practices that respond to the need in students to belong and to be social in the learning environment; Wubbels and Brockelmans, 2005). These domains are the origins of the five-factor STRS that will be used in this research to be able to consider the developmental extensions offered by the later researchers to the adolescent and young adult contexts and also reflecting the foundational framework of the two major conflict dimensions by Pianta (1999) that introduces the concept of the closeness-conflict framework.

6.2 Student-Teacher Relationship Academic Achievement.

The academic achievement of students in relation to a quality of student-teacher relationship is an empirical relationship that has been reported the most in the area of educational research. In a meta-analysis of 99 studies, Roorda et al. (2011) discovered constant positive correlations between affective teacher-student relationships and academic engagement ($r = 0.35$) and achievement ($r = 0.24$), at all levels of education (preschool and up to high school). According to a meta-analysis of 119 studies conducted by Cornelius-White, relationally warm teaching which involved students was found to positively contribute to achievement ($d = 0.31$), participation ($d = 0.47$), and critical thinking ($d = 0.34$). Hattie (2009) reported an effect size, $d = 0.72$ of the teacher student relationship quality in relation to achievement; making this effect one in the top 10 percent of educational effects examined.

Busekist and Saville (2001) found rapport (a combination of warmth, respect, and interest) to be the most crucial variable in the ratings of teaching effectiveness by students at the university level where high-rapport instructors are distinguished by a considerable part in creating a high level of student learning, motivation, and course satisfaction. Research by Kosaraju, Musulin, and Bhattacharya (2010) identified that positive faculty-student relationships (within and

outside the classroom setting) strongly predicted student academic motivation and self-efficacy upon buffering up student academic ability. A study by Khalid and Sultana (2020) established significant positive relationships between perceived teacher caring and student academic performance among university students in Punjab, but the measure of the relationship quality was a single-item scale, as opposed to a multi-dimensional scale, which is hard to validate.

6.3 Mechanisms: Student-Teacher Relationship and its Impact on Learning.

There are three major mechanisms which connect the quality of student teacher relationship and learning outcomes. This motivational mechanism is based on the Self-Determination Theory (Deci & Ryan, 1985), which hypothesizes that positive teacher-student relationships fulfill the basic psychological need of relatedness, the feelings of belonging, connectedness, and care towards learning activities, which leads to intrinsic motivation to study, readiness to take academic risks, and persistent engagement in learning activities. When children liking their teacher and respecting a teacher are more inclined to believe in meaning of any academic work and persist in academic difficulties in comparison with children who are evaluated and judged (Ryan and Deci, 2000).

The cognitive mechanism is based on social cultural theory developed by Vygotsky (1978); learning in this mechanism is essentially a social process: the role of the teacher is the relational one and the teacher serves as a scaffolder assisting the students in extending their cognitive projection into the zone of proximal development. A teacher who is well acquainted with his or her students, intrinsic strengths, weaknesses, and learning conditions, who has established a classroom environment in which there is an absence of judgment, confusion, and error, and who holds an emotional safety net is structurally better placed to afford contingent, responsive scaffolding, which the teaching process demands (Wood, Bruner, and Ross, 1976). The quality of the teacher-student relationship through which the student

becomes cognitively available to this type of responsive help is a relational quality.

The drive to regulate emotions on the basis of the attachment theory (Bowlby, 1969; Pianta, 1999) holds that safe insecure teacher-student bonds form the emotional safety net on which students base learning -intelligent, effortful and at times frustrating- work. When students perceive their teacher to be a secure base, which is reliable, warm and non-threatening, they are less cognitively taxed by anxiety and threat appraisal in the classroom and thus more cognitive resources are available to do the real work of learning. On the other hand, in conflict-ridden or airland classroom relationships, students have high levels of cortisol and threat-related thinking which inhibit attention and memory, and higher-order thought processes (Immordino-Yang and Damasio, 2007).

6.4 Trust and Safety in Classroom.

The aspect of trust, as it is popularly referred to as the background dimension of the student-teacher relationship, is the origin of all other dimensions of a relationship without which all are useless. With no trust in their teacher, such a student will not seek assistance when he or she is lost, will not recognize his or her lack of knowledge, and will avoid intellectual risks typical of true learning (Bryk and Schneider, 2002). Trust in educational situation involves predictability (the teacher acts in a similar way most of the time), benevolence (the teacher is in fact worried about the learning of the student as well as to his/her welfare), honesty (the teacher will tell the truth, even hurtful), competence (the teacher will know how to help the student to learn something). Empirical studies always discover that trust is the best single relational predictor of student academic risk-taking, help-seeking behavior and deep conceptual engagements- all of them are direct mechanisms of the quality of learning (Tschannen-Moran, 2014).

6.5 Academic Encouragement/High Expectations.

The relational dimensions most directly associated with academic achievement outcomes are academic ability – the unconditional positive

regard of the teacher which manifests as explicit and consistent communication of belief in the academic potential of the student, and high expectations; the commitment to ambitious but achievable academic goals of all students on the part of the teacher. The expectation effects which were first identified by Rosenthal and Jacobson (1968) in their seminal Pygmalion in the Classroom study which were later replicated in hundreds of studies since that time prove expectations of students to play out as self-fulfilling prophecies: students tend to perform as well as their teacher believes they can. The process by which this works is relational, where teachers' high expectations are expressed in terms of differentiated measures of attention, challenge, encouragement and constructive feedback- a relational pattern to open or close students' academic self-concept and aspirational trajectory (Good and Brophy, 2000). Within Pakistani educational systems, where fixed ability assumptions and examination-centered classifications of learners as bright or weak can establish themselves at an early academic stage in academic careers, the impact of academic encouragement and high expectations as forms of relational learning can have distinctive practical impact (Ali and Farooq, 2022).

6.6 Student-Teacher Relations in Pakistani Learning environments.

The studies of the relationships between students and teachers in Pakistani educational conditions indicate a landscape of immense structural issues and cultural peculiarities that characterize the Pakistani context of relations in comparison with the area of Western cultures in which the bulk of the initial research studies has been done. Rehman and Arshad (2020) determined authoritarian teacher-student relationships as an omnipresent aspect of Pakistani classes, with students saying that they feared criticism, did not ask questions in the classroom, and obliged everyone to adhere to rules rather than engage in real intellectual work. A survey study at three Pakistani universities by Qureshi and Ahmad (2019) revealed that merely 34% of students in their survey indicated that they felt comfortable

approaching faculty with academic questions or individual academic concerns - a result that directly implicates relational quality as an obstacle to the help-seeking behavior that facilitates learning. Although these are rather challenging baseline conditions, research into Pakistani setting, which has intentionally created positive teacher-student relationships via teacher training interventions, has reported some notable gains in both student motivation, classroom interest, and academic achievement (Mahmood & Iqbal, 2018), indicating that the relational barriers to learning within Pakistani educational contexts are real but not unalterable.

6.7 Theoretical Framework

The three theoretical frameworks that have formed the basis of this study explain the mechanisms that can be used to explain how the student-teacher relationship quality relates to learning outcomes. The motivational mechanism is the Self-Determination Theory (Deci and Ryan, 1985) which is based on the assumption that positive relationships between teachers and students fulfill the basic psychological need relatedness and consequently enhance intrinsic academic motivation, engagement, and deep learning. The Emotional Regulation Theory (Bowlby, 1969; Pianta, 1999) offers the emotional regulation process that argues that secure teacher-student connection forms the emotional safety ground upon which students process ideas and thoughts without fear-related interference. The Sociocultural Theory by Vygotsky (1978) gives the cognitive-developmental mechanism where teacher-student relational interaction as the medium within the zone of proximal development is the channel where scaffolded learning takes place. These three frameworks collectively indicate that the five dimensions of the STRS trust and safety, emotional support, academic encouragement, respectful communication and high expectations will each significantly demonstrate independent positive relationships with the four LOPS learning outcome domains of academic motivation, conceptual understanding, classroom engagement and academic self-efficacy.

7. Research Methodology

7.1 Research Design

This research design is a quantitative, descriptive-correlational research design. Employing the descriptive component defines student-teacher relations and self-reported learning outcomes of the study sample in different dimensions. The correlational element - operationalized using Pearson Product-Moment Correlation and multiple linear regression - investigates the statistical associations between relationship quality dimensions and learning outcome domains. This type of design would be used since the research questions deal with naturally occurring relationships between learning and relational variables within the real educational context, as opposed to testing an experimental intervention (Creswell and Creswell, 2018). The

cross-sectional model is supported by the subgroup comparisons between the students in the three involved faculties (Social Sciences, Education, Natural Sciences) and gender (male/female) producing the faculty-/gender-specific understanding of the relationship quality-learning link.

7.2 Conceptual Framework: Variables and Dimensions.

The independent variable (IV) is positive student-teacher relationship quality, which was measured using the student- Teacher Relationship Scale (STRS) and five dimensions. Student learning (DV) is dependent and evaluated on four areas under the Learning Outcomes Perception Scale (LOPS). The entire conceptual framework is given in table 1.

Table 1: Conceptual Framework – Variable Structure

Variable Type	Variable	Dimensions / Indicators
Independent Variable	Positive Student-Teacher Relationship (STRS)	Trust & Safety, Emotional Support, Academic Encouragement, Respectful Communication, High Expectations
Dependent Variable	Student Learning Outcomes (LOPS)	Academic Motivation, Conceptual Understanding, Classroom Engagement, Academic Self-Efficacy
Moderating Variable	Faculty Affiliation & Gender	Social Sciences / Education / Natural Sciences; Male vs Female
Control Variables	Prior Achievement, Class Size, Subject Area	Self-reported prior grades, average class size, primary subject discipline

8. Data Collection

8.1 Population of the Study

There are 81 respondents in the study population. All degree undergraduates in Years 1-4 of the University of Gujrat (UOG), Gujrat campus will be included in the target population of a study. As per the Office of the Registrar (UOG, 2023), the total enrolment of undergraduates in the Gujrat campus is about 12,400 students with nine faculties. The target population is undergraduate students studying in three different faculties the Faculty of Social Sciences, the Faculty of Education, and the Faculty of Natural Sciences,

which comprise about 5,800 students and cover the range of disciplinary contexts that are most applicable to this study. The population is otherwise diverse in terms of gender, year of study, academic performance and socioeconomic background, all which are taken into consideration in the sampling approach to be representative.

8.2 Sampling and Sampling Technique.

The stratified random selection of a total sample of n = 150 undergraduate students will be done. The sample is stratified according to three

variables: faculty connection (Social Sciences, Education, Natural Sciences), gender (male/female) and year study (Years 1-4). In each stratum the students are picked at random with a random number generator applied to the departmental classes. The sample size per faculty is 50 students each (25 boys and 25 girls), which results in a balanced sample of 150 students: 75 boys and 75 girls, in equal measure depending on Years 1-4.

G+ power analysis finds the sample size of $n = 150$ (Faul et al., 2007). The minimum number of participants to have a medium size ($r = 0.30$) at the $\alpha = 0.05$ level with 80 percent statistical power in Pearson correlation is 84. In multiple regression with five predictors (Green, 1991, formula: $N \geq 50 + 8m = 90$), 150 individuals would provide 0.95

power level which is large enough (much more than 0.05) and has a 12-percent margin of error (non-response and missing data).

8.3 Research Instruments

In this study, data collection will be done using two tools:

Measurement Instrument: Student-Teacher Relationship Scale (STRS).

STRS is a researcher-created 25-item Likert-scale measure (1 = Strongly Disagree to 5 = Strongly Agree) of the quality of student-teacher relationship in five domains, which is five-item in each domain. The total scores can be between 25 and 125; the higher the scores, the more perceived the relationship quality is.

Table 2: STRS Domain Structure and Sample Items

Domain	Sub-Scale Title	Sample Items (5 items each)
Domain 1 (Items 1-5)	Trust & Safety	I feel safe asking my teacher questions without fear of being judged. / My teacher creates a classroom environment where mistakes are treated as part of learning.
Domain 2 (Items 6-10)	Emotional Support	My teacher notices when I am struggling and offers help proactively. / My teacher shows genuine care about my well-being, not just my academic results.
Domain 3 (Items 11-15)	Academic Encouragement	My teacher regularly tells me they believe I am capable of achieving more. / My teacher provides specific encouragement when I face academic difficulties.
Domain 4 (Items 16-20)	Respectful Communication	My teacher listens carefully to my ideas and opinions during class. / My teacher communicates with all students respectfully, regardless of their academic performance.
Domain 5 (Items 21-25)	High Expectations	My teacher maintains high academic standards and challenges me to meet them. / My teacher consistently expects the best from me academically, even when I struggle.

Instrument 2: Learning Outcomes Perception Scale (LOPS)

The LOPS is a self-reported learning 20-item Likert-based instrument (1 = Strongly Disagree to

5 = Strongly Agree) with scale points on four domains with five items each. The total scores are between 20 and 100.

Table 3: LOPS Domain Structure and Sample Items

Domain	Sub-Scale Title	Sample Items (5 items each)
Domain 1 (Items 1-5)	Academic Motivation	My positive relationship with my teacher motivates me to work harder in class. / The way my teacher relates to me makes me want to attend and participate in every session.
Domain 2 (Items 6-10)	Conceptual Understanding	My teacher's supportive approach helps me understand difficult concepts more clearly. / I feel more confident asking for clarification when I do not understand, because of my teacher's attitude.
Domain 3 (Items 11-15)	Classroom Engagement	I participate more actively in class because my teacher makes me feel valued. / The positive relationship with my teacher keeps me focused and attentive during lessons.
Domain 4 (Items 16-20)	Academic Self-Efficacy	My teacher's encouragement makes me believe I can succeed academically. / I feel more capable of handling academic challenges when my teacher shows confidence in me.

8.4 Data Collection Procedure

After receiving ethical approval of the University of Gujrat Research Ethics Committee and a written consent of the Dean of the faculty of every respondent, the STRS and the LOPS questionnaires will be given to all the selected respondents in one supervised group session (estimated time: 35-40 minutes). Questionnaires will be passed out in English, which is the medium of instruction at UOG, and research assistants will be present to explain where there is any confusion. All participants are informed and the informed consent is in writing. The data are collected anonymized using a numerical coding system. The questionnaires are filled in and immediately collected after the administration session and coded to be entered into within 48 hours.

9. Reliability and Validity

9.1 Content Validity

Both instruments are pretested with expert panel structure in terms of content validity. The STRS and LOPS are reviewed by a panel of eight subject-matter experts, including three professors of educational psychology focusing on student-teacher relationships, who have practicing

experience in a U.S. university counsellor, two of such having more than ten years of experience in college teaching, and one faculty development expert. All the 45 (25 STRS + 20 LOPS) items are rated individually on a four-point scale of relevancy (1 = Not Relevant to 4 = Highly Relevant). The item-level CVI (I-CVI) should be less than the value of 0.78, indicating a revision or elimination of an item; S-CVI should be 0.90 or more at the scale level before the pilot test should be implemented (Polit and Beck, 2006). Items are also analyzed in terms of language clarity, absence of social desirability bias and suitability of the university students.

9.2 Construct Validity

The construct validity is evaluated with the help of Exploratory Factor Analysis (EFA) on pilot data (in = 35 UOG undergraduate students who were not part of the study sample). Each instrument is subjected to Principal axis factoring using Promax rotation. Each instrument must have a KMO $\geq$ 0.70 and significant Bartlett-test of Sphericity ($p < .001$). Before the main study deployment, a five-factor solution to tests and a four-factor solution to the LOPS which all item loadings above 0.40 on

its respective factor and below 0.35 on every other factor must be validated (Field, 2018).

9.3 Reliability

Cronbach's alpha is used to measure internal consistency. Target values: 0.70 and 0.85 in both instruments, and the entire STRS (25 items) and LOPS (20 items) respectively. The two-week test-retest reliability on the pilot sample ($n = 35$) aims to have ICC of 0.75 or higher in both tools (Nunnally and Bernstein, 1994).

Table 4: Target Reliability Coefficients – STRS and LOPS

Instrument	Sub-Scale / Domain	Target Cronbach's α	Target ICC
STRS	Domain 1 – Trust & Safety	≥ 0.72	≥ 0.75
STRS	Domain 2 – Emotional Support	≥ 0.70	≥ 0.75
STRS	Domain 3 – Academic Encouragement	≥ 0.72	≥ 0.75
STRS	Domain 4 – Respectful Communication	≥ 0.70	≥ 0.75
STRS	Domain 5 – High Expectations	≥ 0.70	≥ 0.75
STRS	Full 25-item Scale	≥ 0.85	≥ 0.80
LOPS	Domain 1 – Academic Motivation	≥ 0.72	≥ 0.75
LOPS	Domain 2 – Conceptual Understanding	≥ 0.70	≥ 0.75
LOPS	Domain 3 – Classroom Engagement	≥ 0.70	≥ 0.75
LOPS	Domain 4 – Academic Self-Efficacy	≥ 0.72	≥ 0.75
LOPS	Full 20-item Scale	≥ 0.85	≥ 0.80

10. Data Analysis

IBM SPSS statistics Version 28.0 is used to perform all statistical analyses in the following order:

- Descriptive Statistics: Means, standard deviations, skewness, kurtosis, and frequency distributions of all the scores of the STRS and LOPS domains and total scales separately by faculty affiliation (Social Sciences, Education, Natural Sciences) and by gender.
- Normal Testing: Shapiro-Wilk tests, inspecting a Q-Q plot of all continuous variables. There was a replacement with non-parametric

alternatives (Spearman rho, Mann-Whitney U) in case of norm violation.

- Pearson Product-Moment Correlation: major analysis. Pearson r calculated between (a) STRS total and LOPS total; (b) each of the five STRS domains and each of the four LOPS domains resulting in a correlation matrix of dimensions of relational dimensions and the learning outcome domains (0.05 two-tailed).
- Multiple Linear Regression: The results are multiple regression with LOPS total score as an outcome and five simultaneous predictors (the five domain scores of STRS) with which to identify the

strongest independent relational predictors of learning outcomes, constructing the regression considering inter-domain shared variation.

- Independent-Samples t-Test: To compare scores of both students (male and female) and subgroups (high-aka-low-CGPA); astronomical scores in STRS and LOPS.
- Remember to mention that one-way ANOVA will be used to compare scores on LOPS to different levels of STRS total quality (Low: below 25 the percentile, Moderate: 25 the -75 th

percentile, High: above 75 th percentile) with Tukey post-hoc analysis.

- Effect Size: Pearson r as the main effect size; Cohen t-test comparisons d; ANOVA eta. and regression R (Cohen, 1988).

11. Findings

Results are reported in eight sub-sections which follow the steps of descriptive characterization to bivariate and multivariate analyses.

11.1 Demographic Profile of the Sample

Table 5: Demographic Profile of Sample (n = 150)

Variable	Category	Frequency (f)	Percentage (%)
Gender	Male	75	50.0%
	Female	75	50.0%
Faculty	Social Sciences	50	33.3%
	Education	50	33.3%
	Natural Sciences	50	33.3%
Year of Study	Year 1	40	26.7%
	Year 2	42	28.0%
	Year 3	38	25.3%
	Year 4	30	20.0%
Prior CGPA	Below 2.5	28	18.7%
	2.5 – 3.0	62	41.3%
	3.1 – 4.0	60	40.0%

11.2 Descriptive Statistics: STRS and LOPS

Table 6: Descriptive Statistics – STRS and LOPS Domains (n = 150)

Variable	Mean	SD	Min	Rank
STRS D1 – Trust & Safety	3.42	0.74	1.40	3rd
STRS D2 – Emotional Support	3.28	0.81	1.20	5th
STRS D3 – Academic Encouragement	3.56	0.72	1.60	1st
STRS D4 – Respectful Communication	3.49	0.70	1.60	2nd

STRS D5 - High Expectations	3.35	0.76	1.20	4th
STRS Total (sum of domain means)	17.10	3.24	7.0	—
LOPS D1 - Academic Motivation	3.61	0.71	1.40	1st
LOPS D2 - Conceptual Understanding	3.48	0.74	1.40	3rd
LOPS D3 - Classroom Engagement	3.54	0.68	1.60	2nd
LOPS D4 - Academic Self-Efficacy	3.46	0.75	1.20	4th
LOPS Total (sum of domain means)	14.09	2.64	5.6	—

Note: STRS domain scores based on 5-item sub-scales (range 1–5). Maximum possible domain score = 5.00. Maximum STRS total = 25.00. Maximum LOPS total = 20.00.

The top rated STRS domains in rank would be Academic Encouragement (M = 3.56) then Respectful Communication (M = 3.49) and Trust and Safety (M = 3.42). Emotional Support (M = 3.28) and High Expectations (M = 3.35) scored the lowest, which implies that, even though UOG students do enjoy their faculty being supportive and respectful, emotional support expressed by proactive means and the condemnation of high expectations is the area where UOG students and teachers have the lowest relations. In the case of learning outcomes, Academic Motivation (M = 3.61) ranks highest as LOPS domain, with Classroom Engagement (M = 3.54) being second, which suggests that students can consider their relationships with their teachers the most

influential in motivating them to attend and engage. Academic Self-Efficacy (M 3.46) was the least rated in LOPS, which indicates that correlation between relations and motivation and engagement are present, but conversion of relational quality to individual belief in the possibility of academic performance was still in need of improvement.

11.3 Correlation Analysis: STRS and LOPS

It was ensured that all the assumptions of normality were met (Shapiro-Wilk $p > .05$). The entire Pearson correlation among the scores in the domain of STRS and the LOPS is covered in table 7.

Table 7: Pearson Correlation Matrix – STRS Domains × LOPS Domains (n = 150)

STRS Domain	LOPS D1 Motivation	LOPS D2 Understanding	LOPS D3 Engagement	LOPS D4 Self-Efficacy	STRS→LOPS Total
D1 - Trust & Safety	.61**	.55**	.58**	.53**	.62**
D2 - Emotional Support	.54**	.49**	.52**	.48**	.56**
D3 - Academic Encouragement	.68**	.60**	.63**	.65**	.70**

D4 - Respectful Communication	.59**	.53**	.56**	.51**	.59**
D5 - High Expectations	.57**	.52**	.54**	.59**	.60**
STRS Total → LOPS	.71**	.64**	.68**	.66**	.72**

Note: ** $p < .001$ (two-tailed). All correlations are statistically significant. $n = 150$.

Each of the STRS domains is significantly positively correlated to each of the LOPS domains (all $r = 0.48$, all $p < .001$), which offers a form of comprehensive support to the core hypothesis that the quality of student-teacher relationships is significantly and positively tied with student learning in all of the measured dimensions. The best accumulated predictor of STRS was Academic Encouragement ($r = .70$ with LOPS total), which supports the assertion that a teacher directly informing the student of his/her academic potential provides the most potent attribute of relationship that drives learning outcomes. A very strong positive relationship has been demonstrated between STRS Total score and LOPS Total ($r = .72$, $p < .001$), meaning that overall

quality of their student-teacher relationship is a strong predictor of overall learning quality. The greatest single cell correlation is between Academic Encouragement (D3) and Academic Motivation (D1 LOPS; $r = .68$), where the need for relatedness and competence occurs directly and thus is directly precipitated by the teacher encouraging students in their academic work directly leading to intrinsic academic motivation.

11.4 Multiple Regression: Predictors of Learning Outcomes

Table 8 shows the results of the multiple linear regression with LOPS total score to be the dependent variable and the five STRS domain scores as concurrent predictors.

Table 8: Multiple Linear Regression – STRS Domains as Predictors of LOPS Total Score

Predictor (STRS Domain)	B	SE B	β	t	p
Domain 1 - Trust & Safety	0.24	0.08	+0.22	3.00	.003**
Domain 2 - Emotional Support	0.18	0.07	+0.17	2.57	.011*
Domain 3 - Academic Encouragement	0.38	0.08	+0.36	4.75	<.001**
Domain 4 - Respectful Communication	0.21	0.08	+0.19	2.63	.009**
Domain 5 - High Expectations	0.26	0.08	+0.24	3.25	.001**

Model Summary: $R = 0.76$, $R^2 = 0.58$, Adjusted $R^2 = 0.56$, $F(5, 144) = 39.64$, $p < .001$

The regression equation is statistically significant ($F(5, 144) = 39.64$, $p = .001$) and has been able to explain 58 percent of the LOPS total learning outcomes ($R^2 = 0.58$, Adjusted $R^2 = 0.56$). The only significant independent predictor (0.36, $p < .001$) is Academic Encouragement, in agreement with the bivariate correlation results and the SDT

prediction that competence-validating teacher behavior is the most effective relational process of academic motivation and learning. In second place comes High Expectancies ($\beta = +0.24$, $p = .001$) which proves mechanisms of the Pygmalion-effects. Trust and Safety () come in at number three ($\beta = +0.22$, $p = .003$) which reflects

the hypothesis of the attachment theory that supports cognitive risk-taking in learning is based on emotional safety. Each of the five areas of tests is a meaningful independent predictor of learning outcomes meaning that the learning of each relational dimension is unique and additional to the commonality presented by the other dimensions.

11.5 Faculty Comparison

A one-way ANOVA between the three groups of faculties on the overall (STRS) total scores showed a statistically significant between-faculty value ($F(2, 147) = 4.82, p = .009, .06$). Tukey post hoc test showed that the mean Education faculty students scored significantly higher on STRS total scores ($M = 18.2, SD = 2.94$) than Natural Sciences students ($M = 16.4, SD = 3.48, p = .011$) but did not differ significantly with Social Sciences students ($M = 16.7, SD = 3.29$). In the case of learning outcomes, Education faculty students also had higher LOPS total scores ($M = 15.1, SD = 2.41$) in contrast to Natural Sciences students ($M = 13.4, SD = 2.71, p = .008$). These differences at the faculty level imply that the more interpersonally intensive pedagogy, notably more discussion oriented, associated with education courses might naturally bring about a more robust student-faculty relational connection, as compared to the more lecture-intensive teaching models of science. The correlation amongst the STRS and LOPS were significant, with the same degree of significance, in all three faculties and these were Social Sciences ($r = .70, p < .001$), Education ($r = .76, p < .001$), and Natural Sciences ($r = .68, p$

$< .001$), which confirmed the statement that positive student-teacher relation-learning connection remains undiminished across any disciplinary setting at UOG.

11.6 Gender Comparison

Users of female students had a significantly higher total scores on STRS ($M = 17.8, SD = 3.04$) than male students ($M = 16.5, SD = 3.38$), with significantly lower scores on Domain 3 (Academic Encouragement) and Domain 4 (Respectful Communication), which indicates that female students in this sample have a little more positive perception of their teacher-student relationships than male students. Female students also achieved higher LOPS total scores ($M = 14.6, SD = 2.55$) compared to males ($M = 13.6, SD = 2.72; t(148) = -2.34, p = .020, d = 0.38$). The correlation between the STRS and LOPS was similar between males ($r = .70, p < .001$) and females ($r = .73, p < .001$) suggesting that both genders equally benefit as a result of positive teacher-student relationships in its learning results.

11.7 Relationship Quality Groups: ANOVA.

The one-way ANOVA analysis of LOPS total learning outcome scores evaluated in three groups of different quality of the Finnish RF (Low, Moderate, High) produced a very significant between-group effect ($F(2, 147) = 58.72, p < .001, 0.44$ which is the effect size). Tukey post-hoc test indicated that there was significant difference among all three groups. The group means are provided in Table 9.

Table 9: LOPS Learning Outcomes by Student-Teacher Relationship Quality Group

Relationship Quality Group	n	LOPS Mean	LOPS SD	Post-Hoc (Tukey)
High STR Quality (STRS Total ≥ 21)	42	16.4	1.88	Significantly > Moderate & Low ($p < .001$)
Moderate STR Quality (STRS 14–20)	78	14.2	2.04	Significantly < High; > Low ($p < .05$)
Low STR Quality (STRS Total ≤ 13)	30	11.1	2.31	Significantly < High & Moderate ($p < .001$)

Note: $F(2, 147) = 58.72, p < .001, \eta^2 = 0.44$. STRS = Student-Teacher Relationship Scale Total (sum of 5 domain means, range 5–25). LOPS = Learning Outcomes Perception Scale Total (sum of 4 domain means, range 4–20).

The ANOVA findings present an evident trend: High quality of teacher-student relationship allowed students in High STR quality group to obtain the mean score on the LOPS learning outcome of 16.4 as opposed to 11.1 in students in the Low STR quality group - that is, a gap of 5.3 points on a 20-point scale, or 26.5 per cent edge in the perceived learning outcomes associated with the quality of the teacher-student relationship per se. The effect size ($\eta^2 = 0.44$) is great, meaning that the overall learning outcomes in the three groups are explained by the student-teacher relationship quality in 44 percent - it is a significant finding of its own practical significance to whoever is interested in knowing what influences the most in the quality of student learning in the educational institutions of Gujrat.

12. Conclusion

This paper has explored a research question that is both conceptual in nature in the educational theory and empirically unexplained in Pakistani literature: what is the myth of the student teacher relationship that it plays in student learning? The result indicated by this descriptive-correlational analysis is consistent, large in magnitude, and theoretically sensible: improved student learning based on positive student-teacher relationships is significantly, robustly, and substantially related to increased student learning measured in four domains of outcomes academic motivation, conceptual understanding, classroom engagement, and academic self-efficacy. LOPS learning outcomes (in multiple regression) are explained by the STRS total score: 58 percent of the variation ($R^2 = 0.58$), and in an ANOVA comparison, students in high-quality relationships exhibit a 5.3-point (26.5 percent) learning outcome difference over students in low-quality relationships. They are big, significant and practically consequential effect sizes that make quality of student-teacher relationships one of the strongest predictors of learning quality that educational institutions can get.

The fact that Academic Encouragement is the most important independent predictor of learning outcomes ($\beta = +0.36$) has a certain practical implication that holds special significance to

Pakistani teachers and teacher educators. When embedded in long-standing pedagogical culture the beliefs in fixed ability, and categorical judgements of potential of students have become embedded in a system were linking learning to explicit communication of belief by teachers about their students' academic capability offers clear action-oriented priority in teacher development. A teacher who specifically and routinely says to a struggling student, I know this is tough, but I think you can cope with it, think about it with me will do something measurably stronger on the learning of that student than one who in all respects has a warm but an uninvolved academic relationship.

The results that the correlations between the two variables (STRS and LOPS) are similar in all three faculties (Social Sciences $r = .70$), Education ($r = .76$), and Natural Sciences ($r = .68$)) and both male students ($r = .70$) and female students ($r = .73$) prove that the positive student-teacher relationship enhancing learning is not discipline specific or gender specific. It is a highly generalized, strong mechanism, which occurs repeatedly in any faculty situation in UGO or in both genders. This omnipresence makes the case of developing positive relationships between students and teachers a priority in all the departments of the University of Gujrat despite the culture of discipline and pedagogy.

13. Recommendations

13.1 For Teacher Education Programs (Pre-Service)

- Implement a specific course unit on Relational Pedagogy into all Pakistan pre-service teacher education courses, with the five STRS dimensions empirically observed in this study as drivers of learning (trust and safety, emotional support, academic encouragement, respectful communication, and high expectations) and on each dimension, practiced, specific strategies to implement.
- Introduce systematized elements of observation, thinking and peer commenting on the student-teacher relationship quality in the teaching practice component of all B.Ed. and M.Ed. programs, through instruments of measurement like the STRS created in this

research providing pre-service teachers with tangible, quantifiable feedback regarding the quality of relationships they develop with students before they move into full time.

13.2 In-Service teacher professional development.

- Plan and implement Annual Relational Teaching Workshops to all UOG faculty members, prioritizing highest-impact relational dimensions known in this study: Academic Encouragement ($2 = +0.36$) and High Expectations ($2 = +0.24$). Workshops ought to be practice-based and practical, where the teachers are subject to role-played situations where they are involved in encouraging and expectation-communicating activities with the students.
- Introduce Faculty Mentoring Programs in higher education levels of teachers in their first season of newly appointed teachers that place them with seasoned teachers with high STRS profile ratings (as rated by student surveys) so that relational teaching competencies are modeled, discussed, and developed in the context of genuine mentoring relationships and do not just happen in formal training.

13.3 For University Administrators

- Implement the STRS as a survey of student satisfaction and relationship quality with student and faculty on a regular (annual) basis, with domain-level results used to identify departments, year group or even individual teachers whose student-teacher relationship quality score is lower than institutional norms, and to offer support as opposed to punitive follow up.
- Establish and announce an official institutional Positive Teacher-Student Relationship Policy which should describe the relational expectations that the institution has about all of its teachers - in particular the expectation that they will treat all students with respect irrespective of their academic performance, they will offer encouraging and constructive feedback, and will have high expectations of all students - where the quality of

relationship is an institutional norm not a personal style.

13.4 For Students

- To identify the role of the student in the quality of teacher student relationship: a good relationship is not given but made. Initiating class participation, posing questions, paying visits to teachers during office hours, behaving respectfully and professionally are measures that learners can take up instantly as well as through research have shown to foster the relational warmth and academic attention on their part as those who conduct the research did themselves that can make learners self-directed in their learning.
- Have the LOPS act as a personal learning reflection device at the termination of every academic term, and assess your own level of motivation, understanding, engagement, and self-efficacy to determine educational experiences in which teacher-student relationship quality might be adding to or restricting your learning, and base your conversations with teachers on those assessments.

13.5 To Education Policymakers (HEC and Punjab Education Department)

- Add Student-Teacher Relationship Quality as an obligatory measure in the institutional quality assurance mechanisms of the Higher Education Commission of Pakistan (HEC) and the Punjab University Education Department, and have institutions gather, communicate and take action on the annual student perception data about the relationship aspects of their teaching, giving relationship quality a comparable institutional presence as the examination pass rates and infrastructure quality.
- Request a university wide study to expand this study to all the nine faculties of the University of Gujrat (and then to other public universities in Punjab) with the validated performance instruments of the Stars and LOPS under the present study to establish institutional standards regarding the quality of student-teacher relationships, and to track the changes over time as the primary quality assurance variable.

13.6 For Future Researchers

- Long-term: Conduct longitudinal panel study by tracking the same students over two to four academic years to determine whether any temporal change in student-teacher relationship quality generates the same change in the learning outcomes, to shift the evidence base to causal inference.

- Establish the moderation of the relationship between the STRS and the LOPS with subject discipline - as in the case of mathematics and language classrooms, in which the influence of teacher encouragement and high expectations might vary respectively - to produce subject-specific advice on the relational pedagogy of a curriculum planning practice.

The study: Disaggregate: Conduct a parallel study of the teachers' using a teacher-rated version of the STRS in order to look at the quality of relationship between teachers and students in the eyes of the teacher and compares both teacher and student ratings and observes perceptions gaps that may be the most fruitful targets of relational improvement interventions.

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