



RESEARCH PAPER

Influence of Teacher and Student Relationship on the Academic Motivation in the Presence of Academic Emotions

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ABSTRACT

This study investigated the influence of teacher & student relationship on Pakistani high students' academic motivation for the science and arts subject and the complementary mediation functions of academic emotions that are both positive and negative on these. Because teacher & student interaction, as an important constituent of the classroom-interface, has been shown to be critical in improving academic motivation of students. The contestants of this study were 412 Pakistani high school students that are available conveniently. This study used many self-reported questionnaires to examine academic emotions, academic motivation, and teacher student relationships. Data were analyzed using structural equation models, which also looked into the direct and indirect effects of the interaction between teachers and students on Pakistani high-school students' academic motivation for the arts and sciences subjects. Hence, the findings of this study suggested that teacher & student relationship had a substantial, positive, & direct influence on Pakistani high-school students' academic motivation for the science and arts subject. Furthermore, the association between these two variables was also mediated by concurrent good and negative academic emotions. Hence, it can be recommended that to improve generalization, the survey's sample size and regional reach should be expanded in the further study. And more varied data collection methods should be explored in order to increase the impartiality of data resources.

KEYWORDS Academic Motivation, Academic Emotions, Teacher and Student Relationship, Structural Equation Model

Introduction

High school science and art courses in Pakistan cover a wide range of topics with the goal of fostering students' curiosity about science, critical thinking, creative problem-solving, enhance self-confidence, Resilience and expand their capability to contribute in tackle the real world efficiently. These courses has been instructed by the teachers in Pakistani high schools for many years and is a required subject for the majority of pupils. Furthermore, students can select this topic as a requirement of college admission examinations, and their score in these courses contributes for a significant amount of their overall score on the college level entry-exam. Furthermore, in order to pass the exam and achieve good grades, pupils must memorize a large amount of knowledge that they find tedious. As a result, the majority of Pakistani high school students find this topic dull, worthless, and uninteresting, and have faith that in learning by heart its information requires a significant time and energy investment.

This unfavorable perception of science and arts might cause pupils to grow jaded when learning the course, distract them from their studies, and diminish their desire to acquire it. As a result, students require strong inspiration to learn more about the subject, which is critical for increasing their wisdom and performing well in exams. Research has demonstrated that a nice classroom interface can boost students' involvement with knowledge gaining actions and compel them to put up a lot of effort (Velayutham and Aldridge, 2013). The teacher student interaction, as an important element of the classroom

atmosphere, has been shown to be critical in improving students' academic motivation. (Hughes, 2012). Several scholars like Yunus et al., (2011), Gest et al., (2005), Longobardi et al., (2021) have confirmed that the teacher-student interaction is a significant element influencing students' learning behavior and academic outcomes. Teacher-student relationships have a substantial influence on academic motivation of students and the development of prosocial behavior. It seems to be still unknown how the teacher & student connection influences students' academic motivation for science and arts subjects in Pakistani high schools, particularly within the constraints of traditional Pakistani culture. To address this issue, this study looks into the impact of teacher & student relationships on academic motivation of student for the above said subjects, as well as the mediating effect of academic emotions (i.e. positive & negative). It gives specific advice on how to encourage high school pupils to actively study scientific and arts subjects.

Literature review

The teacher student connection is an interactive affiliation that develops over time when teachers and students communicate and interact. As one of the most important and essential interpersonal connections in schools, it has a considerable impact on teenagers' academic progress and mental healthiness (Lippard et al., 2018). The relationship of teacher & student has a substantial impact on students' academic performance & achievement. Because when teacher support his student, it boosts students' confidence and ultimately achieve success in their academics (Roorda et al., 2011). A healthy and helpful teacher & student connection stimulates kids to acquire knowledge and enhances academic success (Barile et al., 2012). Furthermore, traditional culture puts a high value on students' admiration for instructors' specialist, and students might be frightened to interconnect with the teachers owing to their distrust of their consultant, which may have an adverse effect on the teacher & student relationships. A positive relation of student & teacher can help the students form bonds along with their school and access superior knowledge materials. Youth are the more expected to have higher academic good results as they enjoy a cordial and intimate interaction with their instructors and are willing to follow their advice. Students will have trouble acquiring opportunities for academic success if their teachers do not support and guide them (Ma, Liu, & Li, 2022). If students see their professors with greater motivation, they will be "partners" in gaining knowledge to study and do better academically. A superior rapport between teachers and students can minimize students' fear and tension, assist the formation of a common language, enhance collaboration amongst both of the parties, minimize the gap between generations, and foster a positive knowledge situation. When teachers perceive tighter interactions with pupils, students do slightly better across all categories. Conversely, more turbulent dealings are widely accompanying with a lack of achievement (Ansari et al., 2020). Various teacher approaches are proficient of addressing children's evolving requirements, and so are anticipated to absolutely contribute youths' progressive & academic progressions (McHugh et al., 2013). The findings of Karamane et al., (2023) revealed a considerable disparity amongst Students' opinions of teachers' interactions with one another and teachers' impressions of themselves. Variation in perspectives between the years of teaching experience that teachers have can be used to somewhat justify both teachers and student's academic background, and class level of education. Academic motivation is a fundamental idea in education. Both educational professionals and psychiatrists believe academic motivation as an important aspect in academic performance of the students and mental healthiness. Academic motivation refers to a student's willingness or curiosity about learning (Hulleman et al., 2016). Students' motivation to pursue learning is greatly influenced by it. It is a key motivator for students to pursue education. Academic motivation is linked to academic involvement, educational achievement, academic success, and mental well-being (Froiland et al., 2012). Australian researchers John Biggs classified academic motivation into three types: deep enthusiasm, achievement motivation and surface inspiration. Deep enthusiasm denotes to pupils' desire to acquire knowledge due to a natural curiosity in the subject matter. Surface motivation is the student's motivation for how to deal with and passing the exams. Academic

motivation states to schoolchildren's desire to receive better scores, awards, and acclaim. According to existing studies, academic motivation has a substantial effect on academic achievement (Dogan, 2015). Students who are more academically motivated tend to take more initiative in their learning. As a result, these pupils are more likely to study harder and get higher grades. Classrooms can be viewed as little yet whole societies. Teachers' attitudes and behaviors toward students, as well as the manner in which they interact with them, may have an either direct or indirect effect on students' academic motivation (Hughes, 2011). A positive teacher-student connection fosters a pleasant, friendly, and harmonious classroom environment that promotes student learning. more involved and interacting with trainers more quickly (Birch and Ladd, 1997). Furthermore, if kids admire their instructors, the school atmosphere, and their school fellows, then are going to learn more diligently, that will beneficially influence their schooling involvement and schooling procedure (Skipper and Douglas, 2015). On the other hand, when student critique their teachers, they are less motivated to learn and may even dislike the course that the instructor is teaching, which could have a substantial impact on their academic performance. If these fundamental psychological prerequisites are addressed, Individuals will exhibit increased motivation., engaged, and enthusiastic about working and learning, promoting psychological health and effective engagement. In particular, individuality as motivation is important to self-determination theory. In particular, individuality as motivation is important to self-determination theory. In classroom scenarios, a supportive interaction between teachers and student is beneficial to generating autonomous motivation in students, which could improve their capacity for acknowledging independent thought and increase their curiosity and engaged learning behavior (McNally and Slutsky, 2018). According to attachment theory, a positive rapport between instructors and students could provide an environment of security for schoolchildren to obtain understanding, develop competencies, achieve desires and follow new targets; reduce their concerns and complications in acquiring knowledge; encourage them to study more diligently and thoroughly; and inspire them to achieve tougher assignments, thereby improving their academic achievements (Ma et al., 2018). Additionally, expectancy-value theory implies that academic commitment of schoolchildren is influenced by their anticipations of achievement in school as well as their impressions of the worth or relevance of their education. Once kids have faith in, they can succeed academically, they are more likely to participate in knowledge made an attempt to study. Students who question their ability in order to succeed academically are less inclined to engage in active learning or put out a lot of effort, particular when faced with difficulty in learning assignments or unfavorable criticism. If students believe the subject matter, they are studying is significant, then when learning, they'll be more attentive and patient. Teachers, as essential sociable in schools, have enormous impact over pupils' opportunities and ideals. A sympathetic teacher-student connection helps students develop favorable standards and principles for learning, which increases their involvement in learning and, as a result, considerably enhances their academic motivation and academic accomplishment. Teacher & student contact and student engagement both influence the academic success of students, and the teacher-student connection has a substantial impression on students' motivation to learn, behavior during learning, and academic achievement. A worst and good teacher-student relationship can encourage students' excitement for acquiring knowledge, improve their dedication and academic motivation, while building their strengths (Daniel et al., 2016). Students who have pleasant, comfortable and personal connections with their professors are more likely to be enthusiastic about participating in class. They are likewise further involved considering what they currently studying, endure improved with anxiousness, embrace their teachers' instructions and disapproval with greater regard, and devote more consideration to teachers than another when learning (Ferradás et al., 2017). In contrast, an adverse connection between teachers and students has a detrimental impact on learning activities and learners themselves, reducing their drive to learn & triggering difficulty in focusing on their education, which might consequence in academic disappointment (Lei et al., 2023). Students who are experiencing poor associations with their professors are less likely to be academically motivated, are more prone to give up when

presented with tough learning tasks and engage in conversation with their teachers less frequently.

Pekrun et al., (2002) said that Academic emotions are underlying feelings learners had experience during education. According to control-value theory, academic emotions are produced in a variety of learning under certain circumstances, classrooms, and assessments. Researchers have divided students' academic emotions into two distinct groups: both favorable and adverse academic emotions. Positive academic feelings include pleasure, self-assurance, pleasure, enthusiasm peacefulness, and arrogance, while adverse reactions include anxiousness, apprehension rage, dissatisfaction desperation, and inadequacy. favorable and adverse academic emotions can influence students' motivation and accomplishment in school (Frenzel et al., 2007). affirmative academic emotions can drive schoolchildren to learn with great attention, raise their awareness of learning, encourage a growth of their intellectual abilities, and contribute to making them intelligent, which, in the consequence, serves to improve their academic performance (Yu and Dong, 2005). Unfavorable academic emotions, on the other hand, are regarded to weaken students' academic enthusiasm, impede their intellectual and cognitive development, and limit their dedication to study, resulting in poor performance in school (Fredrickson, 2004). Several investigations have found a strong link between teacher-student relationships, academic feelings, and academic motivation. A favorable teacher & student connection can foster a sense of belonging among students. Such emotional ties provide pupils confidence and comfort in having the support of their professors and peers, which helps them succeed academically (Furrer et al., 2014; Clem et al., 2021A more effective teacher & student interaction was related with better favorable and lower adverse academic emotions. Students who felt appreciated, valued, and recognized by their instructors were more inclined to participate in interactions, debates, and learning. Furthermore, intellectual feelings helped instill and sustain students' enthusiasm in learning activities (Krapp, 2005). When professors create wonderful connections with their students, children are more probable to generate favorable academic feelings like calm, self-assurance, and satisfaction in their learning environment, which can boost their academic motivation. In contrast, the adverse teacher & student relation might lead learners to generate unpleasant academic feelings such as anxiety, feeling inferior, and pain throughout the learning process, reducing students' willingness to learn. Studies have revealed that good academic emotions are associated to higher levels of academic motivation, while unfavorable academic emotions correspond to lower levels of motivation (Trigwell et al., 2012). Hence, by studied all the literature it can say that academic emotions may serve as a mediator among the teacher & student relation & academic motivation.

Hypotheses Development

- H1: Relationship of teacher & student has a significant impact on students' academic motivation for the science and arts subject in high schools of Pakistan.
- H2: Academic emotions effects positively as the mediator among the relationship of teacher & student relationship and students' academic motivation science and arts subject in high schools of Pakistan.
- H3: Academic emotions effects negatively as the mediator among the relationship of teacher & student relationship and students' academic motivation science and arts subject in high schools of Pakistan.

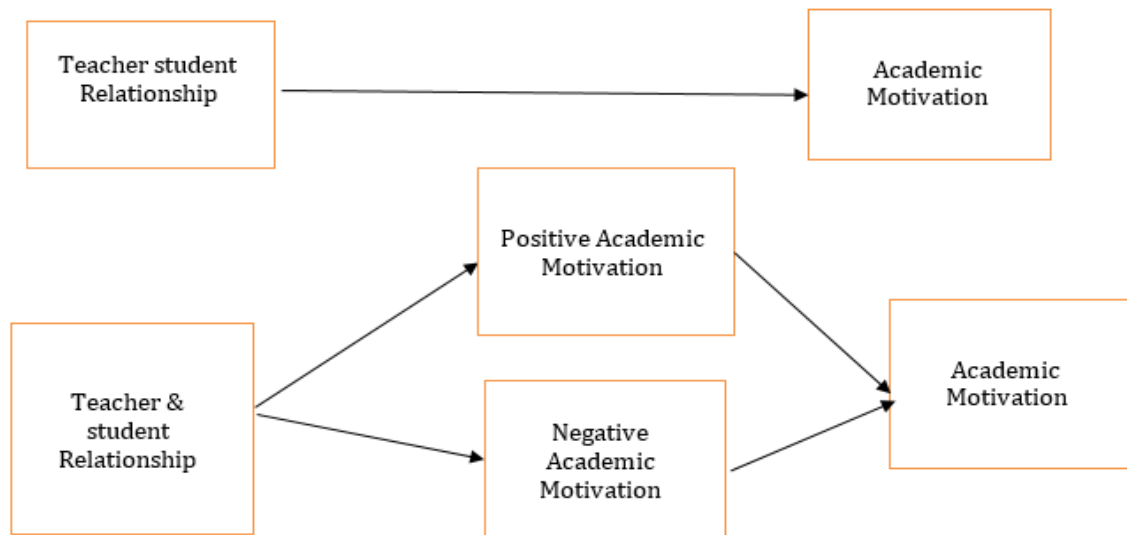


Fig. 1 Conceptual Framework:

Material and Methods

Research Design

As the purpose of this study is to investigate the influence of teacher & student relationship on Pakistani high students' academic motivation for the science and arts subject in the presence of academic emotions as the mediator. To accomplish this, our study uses quantitative research approach. Given that it uses numerical data collection and analysis to find patterns and connections, this study is ideally suited for quantitative research.

Research Population

The research population consists of students were chosen as the sample from the high schools of Punjab Pakistan.

Research Sample

The research sample means the group of individuals which are nominated to take part in the study. The planned sample size for this study was 412 students were chosen as the sample from the high schools of Punjab Pakistan.

Sampling Technique

Participants for the study were selected using a convenient sampling technique. This method chooses participants by considering their availability as well as readiness to participate in the study.

Research Tool

This study utilized a questionnaire as the research tool. For teacher & student relationship assessment questionnaire comprises of three dimensions which previously used by Chu (2006). Specifically, the teacher& student relation, teacher familiarity, and status inequalities amongst teachers and their students. Every dimension contains six components, which are graded on a five-point Likert scale that ranges from 1-5. The higher score represents the better relationship of teacher & student and vice versa. The academic emotional scale utilized in current study for high school students was derived from the appropriate elements of questionnaire, which was initially established by Dong & Yu,

(2007). It has two segments: the positive & negative academic feelings assessments. This study assessed Pakistani high-school students' academic emotions by employing 36 questions on a scale ranging from 1 to 5, with higher scores indicating a superior degree of linked attributes. The measurement scale of academic motivation was taken from the questionnaire that created by Biggs, (1987). This 18-item scale assesses Pakistani high-school students' academic enthusiasm for science and arts subjects across three dimensions: achievement motivation, surface motivation, deep motivation, each question is scored on a 5-point Likert scale, from 1 to 5 with higher scores indicating stronger academic motivation.

Instrument Reliability

A reliability analysis utilizing Cronbach's alpha revealed a high degree of internal consistency among the questionnaire items. Cronbach's alpha co-efficient for teacher & student relationship scale in the present research was 0.81, suggesting a high level of reliability. The Cronbach's alpha co-efficient of academic emotions scale i.e. subscales for both positive & negative academic emotions were 0.84 & 0.89, respectively. Whereas, Cronbach's alpha of academic motivation found to be 0.81, suggesting a high level of reliability.

Data analysis technique

A variety of descriptive statistics, such as mean, median, mode, and standard deviation, were used to examine the data in order to highlight the key features of the sample and provide an overview of the data. Data were also analyzed using structural equation models, which also looked into the direct and indirect effects of the interaction between teachers and students on Pakistani high-school students' academic motivation for the arts and sciences subjects.

Results and Discussion

Table 1
Demographic Analysis

Variable	Frequency	Percent
Gender		
Male	217	52.66
Female	195	47.33
Total	412	100
Grade		
VIII	152	36.89
IX	147	35.67
X	113	27.42
Total	412	100
Age		
12-13	103	25
14-15	93	22.57
16-17	216	52.43
Total	412	100

Table no 1 below shows the demographic profile of the students. Comprising 217 men (52.66%) and 195 women, (47.33%); 152 were in the VIII grade (36.89%), 147 in IX grade (35.67%), and 113 in X grade (27.42%), also 25% respondent is of the age between 12-13, 22.57% respondent is of the age between 14-15, and 52.43% is of the age between 16-17.

Common bias test:

The factor analysis results revealed that 20 aspects had the eigen-values greater than 1. The first factor's explained variance percentage was 25.77%, significantly lesser than the 40% indicated by Podsakoff et al. (2003), demonstrating that statistical bias was not a problem in the present research.

Table 2
Means & standard deviations

Variables	Mean	Std. Dev
1. TSR	3.07	0.70
2. PE	3.24	0.66
3. NE	2.94	0.60
4. AMSAS	3.02	0.64

T.S.R= teacher student relation;

PE= +ve academic emotions;

NE= -ve academic emotions;

AMSAS=academic motivation for the science and arts subject.

Table 3
Correlations

Variable	1. TSR	2. PE	3. NE	4. AMSAS
1. TSR	1			
2. PE	0.53**	1		
3. NE	-0.57**	-0.67**	1	
4. AMSAS	0.61**	0.63**	-0.54**	1

**P < 0.01.

Table 3 shows that the connection between teachers and students was directly, favorably, and significantly connected to students' academic motivation for science and arts subjects ($r = 0.61$), as well as positive academic emotions ($r = 0.53$). Negative academic emotions were substantially associated with interactions between teachers and students ($r = -0.57$). Positive academic emotions were significantly and positively linked to students' motivation for science and arts subjects ($r = 0.63$), while negative emotions were negatively and significantly related ($r = -0.54$).

Table 4
Measurement model (structural equation modeling)

Model	X ₂ /d.f	C.F.I	T.L.I	RMSEA (90%)
Teacher student relationship & academic motivation	3.27	0.87	0.91	0.071

Table 4 shows that by analyzing the level of accuracy of the model's fit, we discovered that the data of the current study fit perfectly.

Mediating variables

We employed SEM to investigate the mediating effects of positive and negative academic emotions on teacher & student relationships and academic motivation of students in science and arts courses. The intermediary model in Fig. 1 demonstrates that the interaction between teacher & students has a strong positive direct influence on students' academic motivation for science and arts courses ($\beta = 0.41$, $p < 0.001$), supporting Hypothesis 1. The teacher student interaction had a significant favorable effect on positive

academic feelings ($\beta = 0.57, p < 0.001$). Positive academic emotions significantly increased students' motivation in science and arts subjects ($\beta = 0.25, p < 0.001$).

Moreover, the study found that negative academic emotions had a substantial adverse direct effect on students' motivation for science and arts subjects ($\beta = -0.26, p < 0.001$), while teacher student relationships had a noteworthy negative direct impact on academic emotions of student ($\beta = -0.53, p < 0.001$). We also did a bias-corrected bootstrap assessment employing 5,000 re-samples with a confidence interval of 95% to investigate the relevance of the mediation impact of teacher & student relationships on academic motivation of students for science and arts subjects. The findings showed that positive & negative academic emotions had a substantial moderating effect on teacher student relationship and students' academic motivation for science and arts subjects (refer to Table 5). Positive & negative emotions serve a similar mediation effect between the teacher student connection and the students' academic motivation for science and arts subjects, supporting Hypothesis 2.

Table 5

Effect	Path	β	95%CL
Direct	T.S.R→ AMSAS	0.41	
Indirect	T.S.R→PM→ AMSAS	0.14	(0.073, 0.167)
Indirect	T.S.R→ NM→ AMSAS	0.12	(0.068, 0.152)

Bootstrap analysis of the mediating model.

T.S.R= teacher student relation;

PE= +ve academic emotions;

NE= -ve academic emotions;

AMSAS =academic motivation for the science and arts subject.

Conclusion

The current study investigated the impact of teacher-student relationships on students' academic motivation for science and arts subjects in Pakistani high schools, as well as the mediated effects of positive and negative academic emotions on this contribution. First, the study discovered that the teacher student interaction had a positive but significant influence on Pakistani high school academic motivation of student for science & arts subjects. Positive student-teacher interactions were associated with higher levels of academic motivation for their subject and vice versa. A solid teacher student affiliation can promote students' passion for studying in the classroom, foster a favorable learning environment for them, and raise their interest in the science and art curriculum. All of these factors can boost students' academic motivation for the course. On the other hand, when there is a bad teacher-student relationship, students will become more fearful and averse toward their teachers, which will impede communication and interaction between the two parties. They will also become less interested and initiative in studying the arts and sciences, which will lower their intellectual inspiration for the course. The results showed that the teacher student relationships can foresee academic motivation of student for the focus subject, which is consistent with earlier research. Positive teacher & student collaborations can boost the motivation and interest that students have in learning, give them a forum to express their thoughts, and arouse them to actively contribute in class happenings. (Verschueren and Koomen, 2012). On the other hand, a bad teacher-student dynamic can lower pupils' motivation, excitement, and interest in what they are studying.

On the other hand, an inadequate teacher student interaction can lower motivation of the student, enthusiasm, and awareness in what they are studying. Students might interact lesser with their teachers and be less likely to put in a lot of effort in their studies if teachers frequently chastise them, yell at them, or are overly stern with them (Mensah & Eric Koomson, 2020; Opdenakker et al., 2012). The results of current study showed that academic desire of student in the field of arts and sciences in Pakistani high-schools had a

positive correlation with their teacher-student interaction. Secondly, the current study's findings suggested that academic motivation of student for the sciences and arts subject was mediated by affirmative academic emotions among the teacher student interaction. In particular, children are more likely to experience good academic feelings like ease, self-assurance, enjoyment, and confidence in the procedure of learning the scientific and arts subjects if they have a warm and personal relationship with their teacher. Furthermore, in Pakistani high schools, learners' academic enthusiasm for the subject mentioned above can be concurrently enhanced by pleasant academic emotions. Students will be less reactive, conscientious, persistent, and motivated in learning when they experience pleasant academic emotions when studying this subject. Similar findings have been found in numerous other studies, such as (Mainhard et. al, 2018; Capern & Hammond, 2014;). However, the findings of the study showed that the relationship between students' academic motivation for the science and arts courses and their teacher-student interaction was mediated by negative academic feelings. In particular, there was a negative correlation between students' bad academic feelings toward the subject and their teacher student interaction. When learning a subject, pupils who have a bad relationship with their teacher will experience negative academic emotions like worry, pain, frustration, and humiliation complex. In the meantime, unfavorable academic feelings will lower pupils' motivation to learn the material. Students who experience negative academic emotions typically exhibit lower levels of academic motivation and interest in acquiring knowledge, give up more easily when faced with challenging assignments, become easily unfocused during the knowledge gaining procedure, and are hesitant to invest the time and energy necessary to thoroughly study a subject. These conclusions are parallel with many previous studies i.e. (Buyse et. al, 2008; Miller et. al, 2000).

Recommendations

This study met its objectives and produced acceptable findings; however, it should be acknowledged that it has certain limitations and recommendations. First off, because the study only included participants from Punjab, Pakistan, and the number of participants was limited, it's probable that the findings cannot be applied to high school students in other areas or cultures. To improve generalization, the survey's sample size and regional reach should be expanded in further research. Secondly, the dependability of the research findings may be negatively impacted by the fact that the data & statistics for the current study were gathered via reports of oneself, and the outcomes of this reported assessments might be affected by specific heterogeneity. In the future, more varied data collection methods should be explored in order to increase the impartiality of data resources. Thirdly, there were no strong causal presumptions in this cross-sectional investigation. In order to look at causal linkages, a series of interviews should be done in future research.

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