

# IMPACT OF PERCEIVED TEACHERS' COMPETENCE ON STUDENTS' PERFORMANCE: EVIDENCE FOR MEDIATING/MODERATING ROLE OF CLASS ENVIRONMENT

By

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## ABSTRACT

*The purpose of the present study was to explore the impact of perceived teachers' competence on students' performance moderated by perceived class environment. The sample consisted of 500 students (250 male & 250 female) taken from public and private schools from the rural areas of Dokota Town, Tibba Sultan Pur, and Mailsi. Participants' age range was between 12-14 years old. Teaching Competence Scale (Passi & Lalita, 2009) and Class Environment Scales (Kelly, 2010) were used to measure the perceived teachers' competence and perceived class environment, respectively. For the purpose of the present research, scales were translated into Urdu through back translation method. Results indicated that perceived teachers' competence predicted the students' performance, but did not predict the perceived class environment. Further results indicated that there is no mediation and moderation effect of class environment on the relationship between teachers' competence and students' performance.*

*Keywords: Perceived Teacher Competence, Class Environment, Student Performance, Teachers-Student Relationship*

## INTRODUCTION

A fundamental variable in the teaching learning framework is the instructor. A sound instructive framework can thrive if two conditions are effectively met. They are initially the consistent overhauling and refinement in learning and expertise of serving educators and the second one is the training of teachers to make them competent with the suiting abilities, competencies and uplifting mentality towards occupation (Birch & Ladd, 1997).

Competencies are particular and self evident qualities or properties inexorable for instructing experts to make a persuading and student favorable climate. Competencies are being concerned with three areas of learner's behavior which are basic for teachers to shoulder prime obligations. Other than spreading information, teacher helps students for the following.

- To create basis and investigative disposition.
- To predict progressions in all circles of life and its effect on the social order.
- To help learners in moderating and transmitting

qualities supported by the social order.

Simple acquiring of learning and ensured capability gives no certification to meet the previously stated objectives. For this, it is mandatory for a teacher to have suitable perception of individual inclination, its needs, and developmental standards in light of urbanization generally and also throughout the world. Because of the tremendous increase in roles and obligations, a teacher needs to show high request of professionalism inside and outside the classroom. It is difficult for a teacher to have all competencies and capabilities in flawless amalgam. However, taking skills and experience lead a teacher towards competency (Dorman, 2001).

Student perception about the teacher is a fundamental element about teacher's performance in the classroom. Because a capable or competent teacher is inconsistently warm and cheerful. She has a clear vision of the set targets. She executes fastidiously whatever is arranged. Administration of issues is carried out viably by her inside and outside the classroom. Her aptitude of presentation of topic has the capacity to look for consideration of scholars. She is equipped for inspiring the

weak students. Former research discoveries linked with teacher competencies have identified that there lies a solid relationship between teacher ability and viable learning outcomes (Allen, & Fraser, 2007).

Wade and Moor (1992) expressed that teachers need learning of teaching method and preparing to create themselves as proficient teachers with certain of their own capabilities and with a confidence on the potential of the students. Pajares (1992) accepted that disposition, desires, observations of student teachers throughout the preparation period must be considered by the teacher. This can augment to help in instilling qualities and alluring abilities around the student teachers.

One of the essential concerns aiming educational research is the need to better see how class room settings impact the student education and achievements (Bouffard, Roy, & Vezeau, 2005). Classroom settings are liable to impact student education particularly throughout elementary school when learners use the greater part of their school day and instructional time with the same teacher and colleagues. Yet, there is restricted exact confirmation of a companionship between classroom environment and rates of student performance. Despite the fact, some has explored classroom elements with lingering change in accomplishment and performance (Boy & Pine, 1988), where few studies have demonstrated classroom impacts on the increase of performance and accomplishment (Burchinal, Peisner-Feinberg, Pianta, & Howes, 2002; Pianta, Belsky, Vandergrift, Houts, & Morrison, 2008).

A few studies have covered class environment impacts on students performance (Aikens & Barbarin, 2008; Mccoach, O'Connell, Reis, & Levitt, 2006). However as far as literature is concerned, no study investigating classroom consequences for students performance and accomplishment has addressed students within classrooms. Crevices in exploration on classroom impacts may be because of the tests connected with gathering repeated measures of performance and achievement throughout a scholastic year. Investigations of classroom impacts should be likewise thought about

student level aspects which impact the achievement and performance.

Student performance is impacted by many school variables, for example, school poverty (Aikens & Barbarin, 2008) or the school environment (Pianta et al., 2008). Two fundamental attributes of class environment are teacher warmth and classroom order, which have been recognized as especially vital in increasing student performance. From a frameworks point of view, the classroom social atmosphere is formed by student-teacher relationship and classroom order. Classroom order and positive relationship are the thought to encourage student assurance, increment enthusiasm toward educational subjects, and to enhance the performance and accomplishment (Moos, 1991). Various studies have interfaced the measures such as instructor warmth, order, and emotional support to achievement and performance (Bennacer, 2000; Birch & Ladd, 1997; Burchinal et al., 2002; Fraser, 1991; Pianta et al, 2008).

Perceived teacher competence and warmth has positive connection with scholarly performance in elementary school (Birch & Ladd, 1997). Education help to catch the degree to which instructors give guideline, empower the learner obligation, and captivate learners in instructional discussion. Emotional support incorporates the educator affectability, classroom atmosphere, and classroom administration. Both extents have been joined to the accomplishment results, especially for at-danger learners (Hamre & Pianta, 2001). In Pianta's study, it is intended to look at the longitudinal connection between classroom quality and accomplishment throughout the span of elementary school, classroom autonomy atmosphere as a correspondance of accomplishment development (Pianta et al., 2008).

Perception of the classroom environment reported by students has additionally been analyzed in connection to scholastic accomplishment (Bennacer, 2000; Crosnoe, Johnson, & Edler, 2004; Dunn & Harris, 1998; Fraser, 1991; Fraser & Fisher, 1982a). Student perception of classroom environment has developed as powerful indicators of performance outcomes (Bennacer, 2000; Fraser, 1991;

Fraser & Fisher, 1982a). On the other hand, studies utilizing student reports have researched the apparent classroom environment as a scholar variable (Bennacer, 2000; Dunn & Harris, 1998). One study that utilized the perception of students interfaced on those classroom environment measures the learners' collected academic performance (Fraser & Fisher, 1982a).

A limited number of studies have utilized multi-level modeling to observe students within the classrooms or have collected learner reports to test the degree to which perceptions of the classroom are imparted by all learners (Verkuyten & Thijs, 2002). The classroom environment is formed to some extent by the demographics of the scholars who create the class. The point when person demographics are collected at a school level, schools with more terrific extents of learners from high socio-class foundations have a tendency to have higher accomplishment test scores (Fowler & Walberg, 1991). School socio-economic status demonstrates difference in performance scores (Ma & Klinger, 2000).

In short, there are few studies that think about the impacts of classroom climate on student's performance throughout the span of a school year. This study is around the first to investigate the role of classroom environment as mediator and moderator for the association between student reported teacher's competency and students' performance.

## Objectives

This study has three objectives. The first is to identify relationship among perceived teacher competency, student performance, perceived classroom environment. The second aim is to know whether perceived teacher competency accounts for differences in student performance. The third objective of

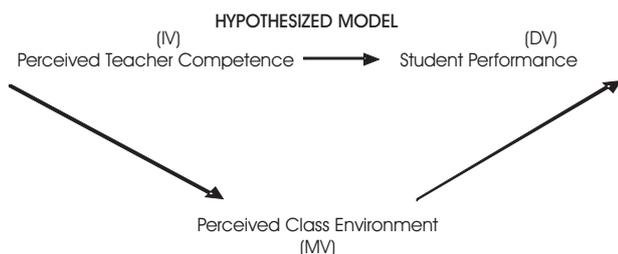


Figure 1. Hypothesized Model.

the study asks for the mediating and moderating role of classroom environment between perceived teacher competency and student performance. On the basis of those objectives, the hypothesized model was constructed as shown in Figure 1. Perceived class environment will play a role as mediator and moderator between the relationship of perceived teacher competence and student performance.

**IV predicts DV:** Perceived Teachers' Competence predicts Students' Performance

**IV predicts MV:** Perceived Teachers' Competence predicts Class Environment

**MV predicts DV:** Perceived Class Environment predicts Students' Performance

## Method

### Participants

Participants used in this study were 500 students. 250 male and 250 female students taken from the public and private schools. Their age range was between 12–14 years. Figure 2 shows the presentation model for the selection of participants. They were the students of 6th to 8th classes. All the participants were selected through simple random sampling technique. Scheme of sample and sampling technique are as under:

### Instruments

The following instruments were used to measure the study variables:

#### General Teaching Competence Scale

General Teaching Competence Scale (Passi & Lalita, 1977) is a 21-item scale to measure the teachers'

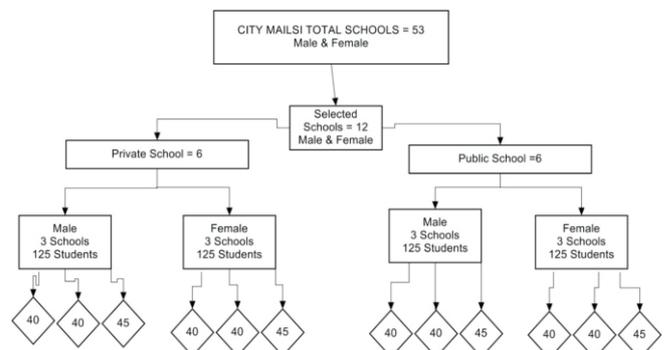


Figure 2. Presentation model for the selection of participants.

competence. Responses are obtained on 7-point Likert Scale ranging from "Not at all" to "Very much". The sum of the rating against the 21 items constitutes the score on general teaching competence. The maximum possible score is 147, whereas minimum score is 21. The inter-observer reliability coefficients range from 0.85 to 0.91. The Urdu version has shown the inter-item reliability of 0.78.

### *Classroom Environment Scale*

Classroom Environment Scale has 52 items with 5-point rating scale i.e., "Strongly Disagree", "Disagree", "Neither agree nor disagree", "Agree", "Strongly agree". The Scores assigned to those Rating Scales were 1, 2, 3, 4, 5. The sum of the rating against the 52 items constitutes the score on class environment. The maximum possible score was 260 and minimum 52. Since all the items of the instrument for the classroom investigation have been subject to extensive testing and validation in their original construction, a trial of the instrument was not considered as necessary. Therefore, validation data for the classroom instrument was generated for the main study only with the responses from 500 students. The data from the 500 students for the classroom environment were subjected to factor and item analysis. The inter-observer reliability coefficients range from 0.85 to 0.95. The Urdu version has inter item reliability of 0.74.

### *Students' Performance*

Student's performance was assessed on the basis of annual examination results which were provided by the schools' examination cell.

### **Procedure**

The study was completed in three phases.

#### *Phase I: Adaptation and Translation of Scales*

In this phase, both scales were given to the four bilingual educationists whose qualification was at least Doctorate. They were requested to translate those scales into Urdu language. Those translated versions were then given to other four bilingual experts to translate them into English again. After that, both original and translated version of scales were given to experts. They were requested to check carefully every item on both versions of scales whether each item is conveying the same meaning. After

completing the back translation method, both the scales were found successfully translated in Urdu language and all the items were found suitable to ask from the students in Urdu language.

#### *Phase II: Pilot Study*

In this phase, both the questionnaires were administered to the sample of 100 students evenly divided in public and private schools. Psychometric properties were then determined and were found highly reliable.

#### *Phase III: Main Study*

In the main study, 500 students were approached at 12 Schools (6 public and 6 private schools). To measure the perceived teacher's competence and perceived class environment scales, Urdu Version Teacher's Competence Scales and Urdu Version Class Environment Scales along with demographic variable sheets were given to the students respectively. After obtaining the consent from students, they were instructed about how to response the questionnaires. All the participants were assured about the confidentiality of their responses. The data obtained was then analyzed through 'SPSS 17' Version.

### **Results**

The hypothesized moderation and mediation role of perceived class environment for the relationship between perceived teachers' competence and students' performance was measured by computing online graph using a program to compute cell means for the graphical display of moderation analyses using the Internet Version

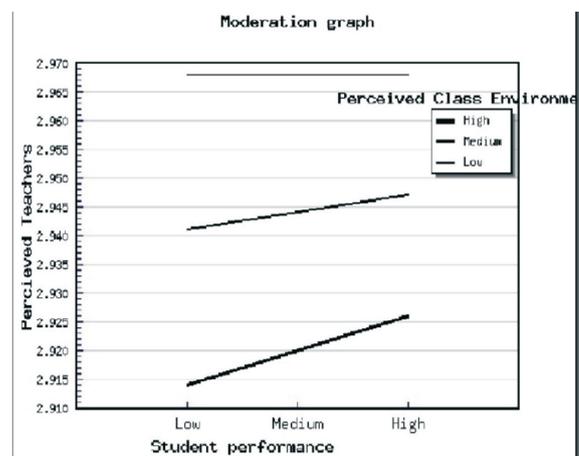


Figure 3. Graphical Representation of Mediation Effect of Class Environment

3.0 as shown in Figure 3, and by computing the Sobel Test respectively. A correlation matrix was also obtained through measuring Pearson correlations among all study variables as shown in Table 1. To check mediation effect, Regression analysis were computed through the following paths as shown in Tables 2,3 and 4.

### Moderation Effect

Figure 3, shows that there is no moderation effect of perceived class environment on the relationship between perceived teachers' competence and students' performance.

### Mediation Effect

Table 1 shows the correlations matrix among the perceived teachers' competence, students' performance, and perceived class environment. These statistics depicted significant positive correlation between perceived teachers' competence and students' performance ( $r=.62$ )\*. While perceived class environment was not found to be related with teacher' competence and students' performance ( $r=-0.3$ ).

Table 2 indicates the regression analysis for showing the effect of perceived teachers' competence on students' performance. Findings reveal that students' performance

Scales	Mean	SD	Perceived Teachers' Competence	Students' Performance	Perceived Class Environment
Perceived Teachers' Competence	5.99	.706	1	.62*	-.03
Students' Performance	4.14	.555		1	-.04
Perceived Class Environment	61.91	13.97			1

**Table 1. Correlations Matrix among the Variables of Perceived Teachers' Competence, Students' Performance, and Perceived Class Environment (N=500)**

Predictors	B	Std. Error	Beta	T	P
(Constant)	64.043	8.681		7.377	.000***
Perceived Teachers' Competence	1.202	.069	.618	17.531	.000***

$R^2 = 0.67$ , Adjusted  $R^2 = .061$ , (F (1, 499) = 14.37,  $p < = 0.000$ \*\*\*) \*\*\* $p < = 0.001$ ,

**Table 2. Regression Analysis Showing Impact of Perceived Teachers' Competence on Students' Performance**

Predictor	B	Std. Error	Beta	T	P
(Constant)	66.532	4.708		14.130	.000***
Perceived Teachers' Competence	-.021	.022	-.044	-9.990	.323

$R^2 = 0.082$ , Adjusted  $R^2 = 0.380$ , (F (1,499) = .349,  $p < = 1.000$ \*\*\*)

**Table 3. Regression Analysis Showing Impact of Perceived Teachers' Competence on Perceived Class Environment**

regressed upon perceived teachers' competence. The value of  $R^2 = 0.67$  shows higher dependency upon independent variable. It means perceived teachers' competence predicted the students' performance as shown by adjusted  $R^2 = (0.61)$

Table 3 indicates the regression analysis for showing the effect of perceived teachers' competence on perceived class environment. Findings reveal that perceived class environment was not regressed upon perceived teachers' competence as the value of  $R^2$  is 0.082 which is of very small effect but non-significant. It suggests that perceived teachers' competence did not predict perceived class environment as shown by adjusted  $R^2 = 0.380$ .

Table 4 indicates the regression analysis for showing the effect of perceived class environment on students' performance. Findings reveal that perceived class environment does not regress upon perceived teachers' competence as the value of  $R^2 = 0.002$  is very much small and therefore insignificant. It implies that perceived teachers' competence did not predict perceived class environment as shown by adjusted  $R^2 = 0.00$ .

Table 5 reveals the mediation effect of perceived class environment. Findings imply that there is no mediation role played by perceived class environment as the Sobel Test values are not significant (0.90785,  $p \geq 0.05$ ).

### Discussion

In every era, perceived teachers' competence and perceived class environment is playing an important role in students' performance. Several research has been conducted on teachers' competence and students' performance in Pakistan and in West. But the culture of all

Predictor	B	Std. Error	Beta	T	P
(Constant)	66.482	4.700		14.145	.000***
Perceived Class Environment	-1.105	1.126	-.044	-.981	.327

$R^2 = 0.002$ , Adjusted  $R^2 = 0.00$ , (F (1, 499) = .962,  $p < = 0.327$ ), \*\*\* $p < = 0.001$ ,

**Table 4. Regression Analysis Showing Impact of Perceived Class Environment on Students' Performance**

Regression	B	Std. Error	Sobel Test	P
PTC predicting PCE	1.2	.069	0.90785	0.182ns
PCE predicting SP	.02	.022		

Note: P = non-significant

**Table 5. Sobel Test for Mediation Effect of Perceived Class Environment b/w the Relationship Perceived Teachers' Competence and Students' Performance**

the researches has been done only on the relationship of teacher's competence with students' performance at secondary school level. This study has provided the evidence that when perceived teacher's competence is related to students' performance, then perceived class environment plays any moderated and mediated effect on this relationship.

Path 1 suggested that perceived teachers' competence will predict the students' performance. The present study has supported this path and findings have revealed that students' performance is predicted by perceived teacher competency level. This finding is in consistent with many other research findings. Such as Anderson (1991) found that a competent teacher can be a good source for students' positive outcomes. Western (2001) also investigated the prognostic relationship between instructor' mastery and its impact on learners performance. He found that teachers' mastery is strongly connected with the ability to master the complex situations of students. In the same way, Emmer (1987) postulated that an effective teacher is not only master of the subject knowledge, but also master of classroom situation. He or she should know, how to handle the class for effective learning of the students and skills to contain and description of how to apply skills and knowledge in an effective way. Holt (1964) addressed that when teacher's learning style is relaxed and its knowledge, enthusiasm level is high, it provides a warm climate in classroom which encourages the students to give good performance and accept new challenges of thinking offered by teachers. In Table 2, results indicated that the perceived teachers' competence has effect on students' performance. Findings revealed that students' performance regressed upon perceived teachers' competence. It means that perceived teachers' competence has positive impact on the students' performance.

It is stated that, perceived teachers' competence has effect on perceived class environment. Findings indicated that the perceived teachers' competence has no effect on perceived class environment. Moon, Mayes, and Hutchinson (2004) indicated that the professional characteristics, teaching skills and classroom climate are

three important factors which are important in teacher's control and influence the rate of achievements of students. Elliot et. al. (2000) cleared that effectual teaching depends on engaging environment and teaching technique. Hsu (1983) found similar results. Teachers who are successful in creating a climate of warmth and support can extract greater students' achievements.

It was further hypothesized that perceived class environment will have effect on students' performance. Findings didn't provide the support for this assumption and revealed that perceived class environment didn't predict students' performance. These findings are in contrast with the investigation that stated different environmental variables like teachers qualification, size of school etc which also affect the success rate of students. Hsu (1983) also found similar results that teachers who are successful in creating a climate of warmth and support can extract greater students' achievement.

It is also stated that, perceived class environment will moderate and mediate the relationship between perceived teachers' competence and students' performance. Results revealed that neither moderation nor mediation roles played by class environment are in relationship between perceived teachers' competence and students' performance.

### Limitations

In spite of providing some significant findings regarding the effect of teachers' competence on students' performance, however, the study also has some following limitations. The present study has utilized the simple random sampling technique to select the participants from rural areas. As only rural areas are included in the present study, results cannot be generalized to the population of urban areas. The sample size is not enough to represent the whole population of this kind. This study has been conducted only for the school children of grades 6, 7 and 8. It means findings are only limited to the school children. Though questionnaires used in the present study have been translated into native language of Urdu for the participants, it cannot be considered as

efficient measures of study variables because the content of items was originally from western culture. Therefore, these questionnaires are basically not related to our culture. The data obtained is only quantitative, therefore it is another limitation of the study that qualitative tools have not been used for data collection.

## Recommendations

Keeping the limitations and significance of the present study, the study has also offered the following recommendations. As it is in the credit of the present study that participants have been approached through simple random sampling but only from rural areas, therefore it is suggested that future research should be conducted on the sample from Urban areas, so that the results could be generalized to the Urban areas as well. The sample size should be increased to make it enough to represent the whole population of this kind. If the same research would be replicated in future, it is suggested that questionnaires should be formulated in the context of our Pakistani culture. In this way, the results will be more authentic and reliable. The data has been obtained only quantitatively. It is another suggestion of the study that qualitative tools should also be used for data collection. The analyses should also be checked on public/private sectors as well.

The findings can be utilized to understand the context of school children of rural areas and it will help in making the policies for their educational set up. The translated questionnaires can be useful in future researches. Future investigator can take help from those translated scales to measure the study variables.

## Conclusion

The following conclusions have been drawn from the current study. Results showed the significant effect of teachers' competence on students' performance. However, non-significant effects were found between teachers' competence and classroom environment. Findings pertaining to the mediation and moderation effects also presented non-significant effects that yielded classroom environment as non-significant factor for teachers' competence and students' performance.

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