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# MEASURING INTERPERSONAL BEHAVIOUR OF SECONDARY SCHOOL TEACHERS OF WEST BENGAL

Dr. Arghadip Paul

**RESEARCH ARTICLE**

**Author Details:**
Assistant Professor,
Department of Education,
Panchla Mahavidyalaya,
West Bengal, India

**Corresponding Author:**
Dr. Arghadip Paul

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**Abstract**

In recent years, researchers studying the learning environment have focused on teacher interpersonal behaviour as a key area of investigation. This aspect has been recognized as crucial not only for enhancing students' motivation but also for influencing learning outcomes, attitudes towards subjects, and overall achievement. Wubbels and Levy (1991) developed the concept of teacher interpersonal behaviour by adapting Leary's Model of interpersonal behaviour. According to their model, interpersonal behaviour consists of two distinct dimensions: influence and proximity. In this particular study, the researchers aimed to examine teacher interpersonal behaviour based on these two dimensions, using a questionnaire called the "Questionnaire on Teacher Interaction (QTI)" developed by Wubbels and Levy. The researcher adapted this questionnaire for measuring teacher interpersonal behaviour in secondary schools in West Bengal. The findings of the study indicated that the scale can be used as a valid and reliable tool for assessing teacher interpersonal behaviour in secondary schools in West Bengal.

**Keywords:** *Teacher Interpersonal Behaviour, Questionnaire on Teacher Interaction*

## Introduction

In recent times, there has been a growing emphasis on examining the learning environment to understand the effectiveness of teaching. This viewpoint suggests that students can benefit from classroom instruction, in terms of cognitive, affective, and attitudinal learning, only when the learning environment is conducive to their needs. Therefore, it is considered one of the fundamental responsibilities of teachers to create a favorable learning environment that maximizes students' learning potential. Researchers have predominantly focused on studying the learning environment through the lens of interpersonal behaviour, which explores the impact of personal characteristics on the teacher-student relationship. Numerous studies have explored interpersonal behaviour in the field of social psychology. Leary, Heider, Argyle, Forgas, and Jones make significant contributions in understanding this aspect of social relationships. However, in educational psychology, Leary's model has been widely utilized to explain the social dynamics between teachers and students in the classroom. Leary's model of interpersonal behaviour conceptualizes interpersonal behaviour through two primary dimensions: proximity and influence. Subsequently, Wubbels expanded upon this model in classroom research, specifically focusing on teacher interpersonal behaviour and its constructive implications. The learning environment is regarded as a vital factor in facilitating effective teaching and learning. It encompasses various elements such as physical surroundings, social interactions, instructional materials, and the overall atmosphere of the classroom. By examining the interpersonal behaviour between teachers and students, researchers aim to identify the key factors that contribute to a positive learning environment.

## Theoretical Framework of Teacher Interpersonal Behaviour

The concept of the learning environment, particularly from an interpersonal perspective, was initially introduced by Wubbels and Levy in 1991 and 1993. They drew upon Leary's model of interpersonal behaviour to provide an explanation for the interaction between teachers and students within the classroom setting. However, Wubbels and Levy's model presented a more advanced and comprehensible framework compared to Leary's original model.

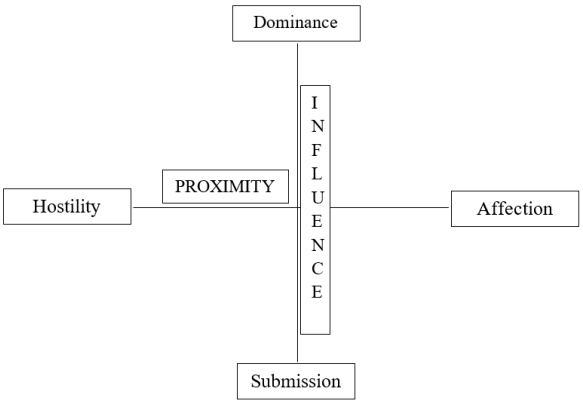


Fig. 1: Leary's Model of Interpersonal Behaviour

Leary, in 1957, developed a concept of interpersonal relationships based on two distinct bipolar dimensions: influence and proximity. The influence dimension encompassed two opposite poles, namely dominance and submission, while the proximity dimension consisted of affection and hostility. These dimensions served as the foundation for understanding the dynamics of interpersonal behaviour. When adapting Leary's model, Wubbels and Levy made slight modifications to the terminology. They employed the terms Dominance-D, Submission-S, Cooperation-C, and Opposition-O to refer to the four axes.

Wubbels and Levy's model further divided these four axes into eight sectors, each representing a distinct combination of interpersonal behaviour. The eight sectors are described as follows:

1. Leadership (DC): The degree to which the teacher demonstrates leadership in the classroom, capturing the students' attention.
2. Helping/Friendly (CD): The extent to which the teacher displays a friendly and supportive attitude towards the students.
3. Understanding (CS): The level at which students are given opportunities to take on responsibilities for their own activities.
4. Student Freedom (SC): The extent to which students are provided the chance to assume autonomy and responsibility for their actions.
5. Uncertain (SO): The degree to which the teacher expresses uncertainty or doubt.
6. Dissatisfied (OS): The level at which the teacher conveys dissatisfaction or unhappiness with the students.
7. Admonishing (OD): The extent to which the teacher demonstrates anger, impatience, or temper in the classroom.
8. Strict (DO): The degree to which the teacher enforces strict standards and expectations on the students' performance.

Wubbels and Levy's model of interpersonal behaviour is widely regarded as more advanced due to its enhanced comprehensibility. By introducing the division into eight sectors, it offers a more nuanced understanding of the teacher-student interaction within the learning environment. This model provides a valuable framework for analyzing and evaluating the various dimensions of interpersonal behaviour exhibited by teachers and students, contributing to the overall quality of the learning experience.

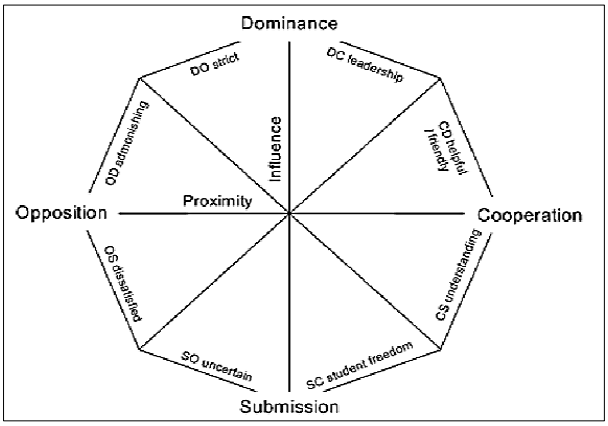


Fig. 2: Model of Interpersonal Teacher Behaviour (Adapted from Wubbels & Levy, 1991)

## Measuring Teacher Interpersonal Behaviour

In the field of education, researchers have been striving to develop effective measurement tools to study teacher interpersonal behaviour in classroom settings. One notable model that has been adapted for this purpose is Leary's model. However, the initial observation schedule developed by Leary, called the "Interpersonal Adjective Checklist" (ICL), did not yield reliable data for studying interpersonal behaviour. As a result, efforts were made to construct a more robust measurement scale. In 1985, Wubbels,

Creton, and Hooymayers introduced a scale called the "Questionnaire on Teacher Interaction" (QTI) in the Netherlands. This scale aimed to assess interpersonal behaviour in teachers and consisted of 77 items in its original Dutch version. The validity and reliability of the QTI were found to be very high, making it a promising instrument for measuring teacher interpersonal behaviour. Recognizing the value of the QTI, Wubbels and Levy developed an American version of the questionnaire in 1991. This adapted version consisted of 64 items, which were tailored to suit the cultural and educational context of the United States. The American version aimed to capture the essential aspects of teacher interpersonal behaviour while maintaining the validity and reliability of the original scale. Additionally, Wubbels adapted the QTI for the Australian perspective by creating a shorter version of the questionnaire. This Australian version consisted of 48 items, with six items allocated to each sector. The sectors covered different aspects of teacher interpersonal behaviour. The adapted scale proved to be highly reliable and valid for measuring teacher interpersonal behaviour in the Australian context. Building on the success of the Australian version, Brok, Fisher, and Koul (2005) implemented the adapted QTI in an Indian perspective. The researchers found that the scale maintained its high validity and reliability when used in the Indian context. This reinforced the notion that the QTI was a robust instrument that could be effectively applied across different cultural and educational settings. The development and adaptation of the Questionnaire on Teacher Interaction (QTI) have provided researchers with a powerful tool for studying teacher interpersonal behaviour. The scale has proven to be highly reliable and valid in various cultural contexts, including the Netherlands, the United States, Australia, and India. Its application has facilitated the collection of consistent and accurate data, enabling researchers to delve into the complexities of teacher-student interactions and their impact on the educational process. Moving forward, the QTI and its adaptations hold great potential for further research and exploration in the field of education.

## Studies related to the validation of Questionnaire on Teacher Interaction

A number of researches on teachers' interpersonal behaviour was focused on the validation of measuring instrument "Questionnaire on Teacher Interaction". Fisher, Chiew, Wong, and Rickards (1996) examined the validity and reliability of the QTI in secondary school science classes in Singapore. They found that the QTI can be used as a valid instrument for measuring interpersonal behaviour in secondary school science classes in Singapore. Kim, Fisher and Fraser (2000) in their research also found the similar result. Results of their study indicated that Questionnaire on Teacher Interaction can be used as a valid and reliable tool for collecting information about teacher interpersonal behaviour in Korea. Henderson, Fisher and Fraser (2000) studied about the reliability and validity of the QTI for measuring the interpersonal behaviour of teachers belonging to the senior secondary biology classes. Den Brok, Fisher and Koul (2005) investigated the validity and reliability of the QTI in the Indian perspective. Results of this study revealed that, the Australian 48-item version of QTI could be used in the Indian perspective as a valid and reliable instrument for measuring teacher's interpersonal behaviour.
The purpose of this study is to construct a valid and reliable tool for measuring teacher interpersonal behaviour in the perspective of Secondary Schools of West Bengal, India.

## Methodology

For this study, all the secondary schools of West Bengal constituted the population. The sample was drawn seven districts of West Bengal (Kolkata, North 24 Parganas, Murshidabad, West Burdwan, Purulia, Hoogly and Nadia). For collecting the necessary data 120 teachers were selected as sample. Then, students of their classes were asked to evaluate their teachers. Likewise, at least, 10 students were selected for each teacher. Total 1303 students participated in this study.

### a) Construction of Teacher Interpersonal Behaviour Scale

To measure the interpersonal teacher behaviour, "Questionnaire on Teacher Interaction (QTI)" has been used globally. In India, Australian 48-item version of QTI was adapted to study the interpersonal behaviour (Koul, 2003). In the present research, "Teacher Interpersonal Behaviour Scale" was constructed by adapting the Australian 48-item version of QTI, for teachers in West Bengal, India. The adaptation process have been done based on the translation and back-translation process, and experts' judgement.

### b) Standardization of Teacher Interpersonal Behaviour Scale

#### i. Translation and back-translation

According to a study conducted by Gorecki et al. in 2014, the process of translation and back-translation is a highly effective method for adapting any tool or instrument. In their research, they employed this procedure to adapt the Questionnaire on Teacher Interaction, which originally consisted of 48 items in English, into a Bengali version.

To begin with, the original questionnaire was translated from English to Bengali by a professional translator who was proficient in both languages. This initial translation aimed to capture the essence and meaning of each item accurately. Once the Bengali version was created, it was then distributed to five subject experts who possessed in-depth knowledge and expertise in the field of education.

These subject experts carefully examined the Bengali version of the questionnaire and provided their judgments and feedback. Based on their suggestions, necessary modifications were made to enhance the clarity and appropriateness of the translated items. The goal was to ensure that the Bengali version accurately captured the intended constructs and concepts of the original English questionnaire.
After incorporating the experts' recommendations, the Bengali version of the questionnaire underwent another round of translation. The same professional translator who initially translated the questionnaire from English to Bengali was now

tasked with translating it back from Bengali to English. This back-translation was carried out to compare the retranslated English version with the original English questionnaire.

A thorough comparison was conducted between the retranslated English version and the original English questionnaire. This step aimed to identify any discrepancies or confusions that might have arisen during the translation process. Terms or phrases that created confusion due to the translation were carefully examined and resolved using a bilingual approach. This involved considering the usage and context of the terms in both languages to ensure accurate and meaningful representation.

Once the reconciliation process was completed, the final version of the questionnaire, now in Bengali, was sent once again to the subject experts for their approval. Their expertise and insights were crucial in validating the adapted questionnaire and ensuring its appropriateness for the Bengali-speaking population.

**ii. Content Validity**

To ensure the content validity of the "Teacher Interpersonal Behaviour Scale", experts' judgements were collected. Initially the questionnaire was sent to five experienced subject experts who were selected from the department of education of three Universities from West Bengal. They returned the questionnaire on time with their opinion in proper format. Based on their ratings, Content Validity Index (CVI) has been calculated. The Content Validity Index for the Teacher Interpersonal Behaviour Scale is 0.95, which clearly indicate high content validity of the scale.

**iii. The ability of the instrument to differentiate between classes**

The ability of the instrument to differentiate between classes has been measured through the calculation of ANOVA eta-square, which ranged from 0.23 to 0.38. The highest eta-square value is of student freedom, and the lowest value is of strictness. These values indicated that the scales can successfully differentiate between the classes.

**Table 1: ANOVA eta-square and Alfa reliability coefficient**

| ANOVA eta-square | | | Alfa reliability coefficient |
|---|---|---|---|
| | No of Items | Eta Squared | |
| Leadership | 6 | 0.31 | .593 |
| Helpful/Friendly | 6 | 0.37 | .679 |
| Understanding | 6 | 0.32 | .686 |
| Student Freedom | 6 | 0.38 | .533 |
| Uncertain | 6 | 0.26 | .589 |
| Dissatisfied | 6 | 0.23 | .628 |
| Admonishing | 6 | 0.30 | .530 |
| Strict | 6 | 0.26 | .618 |
| Class N = 120 | | | |

**iv. Inter-scale correlation**

Results of the inter-scale correlation from the study reflect the circumplex nature of the Teacher Interpersonal Behaviour Scale.

**Table 2: Inter-scale Correlations for Teacher Interpersonal Behaviour Scale**

| Scales | Lea | Hel | Und | SF | Unc | Dis | Adm | Str |
|---|---|---|---|---|---|---|---|---|
| Leadership | 1 | | | | | | | |
| Helpful/Friendly | .278 | 1 | | | | | | |
| Understanding | .639 | .579 | 1 | | | | | |
| Student Freedom | -0.009 | .746 | .219 | 1 | | | | |
| Uncertain | -0.145 | .365 | -0.17 | .639 | 1 | | | |
| Dissatisfied | 0.087 | -0.095 | -.215 | 0.136 | .342 | 1 | | |
| Admonishing | 0.084 | -0.124 | -.239 | -0.002 | .393 | .599 | 1 | |
| Strict | .442 | -0.136 | 0.159 | -0.093 | -0.084 | .492 | .322 | 1 |
| N = 120 Classes | | | | | | | | |

The circumplex model predicts that association between adjacent scales are expected to be positive and the opposite scale to be negative. Data presented in Table 2 indicates that the highest correlation for all the scale is with its' adjacent scale, but it gradually decreases as the scale move further apart until opposite scale are negatively correlated. For example, understanding scale is correlated high positively with Leadership (.64), and Helpful/Friendly (.58), but the correlation

gradually decrease with other scale with the highest negative correlation of -.24 with Admonishing scale. This circumplex nature of the scale indicates that Teacher Interpersonal Behaviour Scale is a valid instrument for measuring teacher interpersonal behaviour in West Bengal.

**v. Reliability coefficient**

The reliability result of the Teacher interpersonal behaviour scale that was presented in the table ranged between .53 to .68. This indicates that Teacher interpersonal behaviour scale can be considered as a reliable tool for measuring interpersonal behaviour of the teachers in secondary schools of West Bengal.

**vi. Scoring procedures**

The scale was prepared for collecting data from the students about interpersonal teacher behaviour of their teachers. A five-point rating scale ranging from Almost always (5), Often (4), Sometimes (3), Seldom (2) and almost never (1), have been used for collecting the students view. Students are given instruction to read each item and provide their response in that five-point scale.

**vii. Analysis of the scores**

The evaluation of the scores has been conducted using dimension assessments (Influence and Proximity). Initially, eight sets of scale scores are derived from each filled-out questionnaire. These scale scores represent the cumulative scores of all the items. Afterward, these scale scores are adjusted to fit within a range of 0 to 1 through a process known as normalization. Subsequently, the normalized scale scores of students belonging to the same class are combined to determine the class averages. Finally, employing the formula suggested by Den Brok, Fisher, and Koul (2005), the "Influence" and "Proximity" scores are computed based on the eight scale scores.

Influence: (.92×DC) + (.38×CD) – (.38×CS) – (.92×SC) – (.92×SO) – (.38×OS) + (.38×OD) + (.92×DO)

Proximity: (.38×DC) + (.92×CD) + (.92×CS) + (.38×SC) – (.38×SO) – (.92×OS) – (.92×OD) – (.38×DO)

Here, .92 and .38 are two vectors. Higher of these scores, indicates more Dominance (DS) and Cooperation (CO) in the behaviour of a teacher.

## Discussion of the results

This study examined teacher interpersonal behaviour in secondary schools located in the state of West Bengal. The primary objective of the study was to develop an instrument that could effectively measure the interpersonal behaviour of teachers in this context. To achieve this goal, the researchers adapted the “Questionnaire on Teacher Interaction,” a 48-item scale originally developed by Fisher, Fraser, and Wubbels (1992) in Australia. It is worth noting that this instrument had been previously employed in an Indian context, specifically in Kashmir. Consequently, the present study sought to determine if this instrument could serve as a valid and reliable measure of interpersonal behaviour among secondary school teachers in West Bengal, India. Interestingly, the findings of this study were consistent with those of a prior investigation conducted by Brok, Fisher, and Koul (2005), thus providing further support for their conclusions.

Overall, the results of this study indicate that the adapted teacher interpersonal behaviour scale can effectively measure the interpersonal behaviour of secondary school teachers in West Bengal, India. This signifies the importance of considering interpersonal dynamics within the classroom, as teachers play a crucial role in shaping the educational experiences of their students. By utilizing a standardized instrument, researchers and educators can gain valuable insights into the interactions between teachers and students, thereby facilitating the development of strategies to enhance the overall quality of education.

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