IUB Journal of Social Sciences

# Mathematics Teacher's Behaviour and Student's Anxiety: A Study at Secondary Level 

Fahd Naveed Kausar (i)

| Keywords: <br> Mathematics, <br> Teachers, <br> Behaviour, | ABSTRACT <br> Students' anxiety, <br> Secondary level <br> different times. Behaviour is defined as one's conduct, manner of carrying <br> oneself, or what one does, particularly in reaction to external stimuli. The <br> study's goal is to investigate secondary school students' perceptions of <br> teacher conduct and anxiety in mathematics. The secondary school pupils <br> in Lahore made up the study's population. 250 secondary school students |
| :--- | :--- |
| made up the study's sample. The researcher created the questionnaire. |  |
| Article History: |  |
| Received: <br> September 22, 2023 <br> Revised: <br> December 25, 2023 <br> Available Online: <br> December 26, 2023 <br> subsequently examined using software (SPSS). The data was firsed entered <br> into SPSS (Statistical Package for Social Sciences) and categorised and <br> classified numerically, such as l, 2, 3. The study's conclusions showed that <br> students' nervousness and their opinions of the behaviour of their maths |  |
| lecturers were related to the degree of agreement. |  |

## 1 Introduction

Behaviour is the term used to describe the visible results of how students and teachers perform in various institutional activities. Behaviour might be productive or unproductive, beneficial or negative. One desired result is for students to succeed (Young- Jones, Burt, Dixon, \& Hawthorne, 2013). A behaviour is an action that varies depending on the situation. Behaviour comes in three flavours: acting, feeling, and thinking. The terms cognitive, emotional, and psychomotor are also commonly used to describe behaviour (Daniel \& Mugiraneza, 2023). Cognitive behaviour entails thinking, recalling, assessing, and solving problems for the learner. The attitudes and feelings of the learner are valued by affective behaviour. Psychomotor behaviours are those in which the student uses their muscles. Student accomplishment is impacted

[^0]
## Kausar

by the mathematics teacher's time management strategies (Haroon, Kausar, Ghazala, \& Khan, 2022).

High student achievement can result from effective classroom management. It entails efficient planning, setting fair, non-excessive norms, and setting up the classroom to facilitate effective education. Maintaining a well-managed classroom requires wittiness, group alerting, overlapping, applying the least intervention principle, and seamless transitions. They must to be capable of efficiently facilitating learning (Darge, 2008). This study's primary goal was to look at the relationship between secondary students' nervousness and the behaviour of maths teachers. There is a belief that mathematics is an innately challenging topic. Teachers rarely try to draw the links because many students are unable to see its application. According to Nelson (1987), because the material is cumulative and sequential, students who miss any part of it will probably never be able to fully understand it (Mantz, 2018).

The actions and visible results of a maths instructor are known as their behaviour. According to Thijs et al. (2015), a teacher's behaviour is determined by their teaching style, instructional technique, personality traits, management abilities, communication, and interpersonal skills. Quantities Students' anxiety levels can be raised or lowered by a teacher's actions. Positive classroom behaviour can help students study more effectively and achieve more success; on the other side, a harsh or nasty maths teacher might make pupils anxious, which can eventually lead to poor grades (Kyriakides, Creemers, \& Antoniou, 2009).

An extreme emotional experience of worry about one's capacity to comprehend and do mathematics is known as math anxiety. Individuals with math anxiety believe they are not capable of participating in math-related activities or classes. Some math-anxious people even have mathphobia, which is an actual dread of maths (Van Petegem, Creemers, Rossel, \& Aelterman, 2005). Anxiety related to maths arises when a student has had a bad or embarrassing encounter with maths or a maths teacher in the past. After such an encounter, a student may come to believe that their maths skills are lacking. A student may have bad performance as a result of this mindset, which would provide them with more proof. The self-fulfilling prophesy is the name given to this phenomenon. Instead of improving performance, math anxiety than the reverse (Hein, 2012).

It has been repeatedly demonstrated that mathematics anxiety has a crippling effect on mathematical achievement (Tigchelaar \& Korthagen, 2004). According to research, it is a taught behaviour that frequently appears early in a person's educational experience and, once established, has detrimental impacts that last throughout the academic years. More than just a distaste of the topic, math anxiety is a serious issue for pupils that causes the brain to become stuck in working memory and sets off a vicious cycle of avoidance, low achievement, and fear. This type of anxiety can appear as early as kindergarten, and about $50 \%$ of children in high school report having it (Rogers, 2015). The teacher is the most commonly mentioned factor, as found that they are the primary cause of students' stress. Anxious pupils fear giving answers in front of their peers because they perceive such circumstances as dangerous (Antoniou \& Kyriakides, 2013).

Instructors who complained about not having enough time for instruction would start getting their pupils ready for tests instead of understanding. When pupils come into unusual difficulties or as the mathematics gets more complex, this leads to increased strain. Furthermore, according to research, teachers who experience anxiety spend less time teaching mathematics and are more likely to instill their fear in their pupils (Harmsen, Helms-Lorenz, Maulana, \& Van Veen,
2018). Research on the effects of instructional strategies have yielded conflicting results. According to Benke and Medgyes (2005), lecture-based instruction was more comfortable for college students who struggled with mathematics, but he also discovered that traditional techniques increased students' anxiety. Pupils were more anxious when working in groups, and Preston concurred, pointing out that most teachers received direct guidance (Kyriakides, 2005).

### 1.1 Objective of the study

Objectives of the study were to:

1. Explore student's opinion about teacher behaviour and anxiety in mathematics at secondary level.
2. Investigate the relationship between teacher's behaviour and student's anxiety in mathematics at secondary level.
3. Find out the effect of demographics variables (e.g. gender, school type) on student's opinion about teacher behaviour and anxiety in mathematics.

## 2 Research Methodology

The study was quantitative in nature, and the survey approach was applied. Our research methodology is primarily descriptive in nature. In order to ascertain whether the theory's prediction generalisations hold true, quantitative research involves "an inquiry into a social or human problem based on testing a theory composed of variables, measured with numbers, and analysed with statistical procedures" (Creswell, 1994). The secondary school pupils in Lahore made up the study's population. The study's target group consisted of secondary school students who expressed a readiness to answer questions regarding the conduct of their math teachers and their own arithmetic anxieties. 250 secondary school students made up the study's sample. The convenient sampling method is employed to choose a sample of the study. 150 female students and 100 male pupils were enrolled. There were 158 students from the public sector and 98 from the private sector. A questionnaire was used as the study's tool.

## 3 Data Analysis and Interpretation

The data was collected for the purpose of checking the perceptions of students regarding the teacher's behaviour and student's anxiety in mathematics at secondary level. Recorded set of data shows the following frequency and percentage patterns by secondary school students:
Table 1
Frequency and percentage of students' responses about student class anxiety

| Class Anxiety |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Statements | SA | $\mathbf{A}$ | $\mathbf{N}$ | DA | SDA |
|  | $\mathbf{\%}$ | $\mathbf{\%}$ | $\mathbf{\%}$ | $\mathbf{\%}$ | $\boldsymbol{\%}$ |
| Mathematics makes me feel uncomfortable. | 25 | 65 | 38 | 81 | 41 |
|  | $10.0 \%$ | $26.0 \%$ | $15.2 \%$ | $32.4 \%$ | $16.4 \%$ |
| I usually do not worry about my ability to | 44 | 87 | 33 | 61 | 25 |
| solve math problem. | $17.6 \%$ | $34.8 \%$ | $13.2 \%$ | $24.4 \%$ | $10.0 \%$ |
| I feel a lot of pressure/stress in mathematics | 28 | 66 | 38 | 72 | 46 |
| subject. | $11.2 \%$ | $26.4 \%$ | $15.2 \%$ | $28.8 \%$ | $18.4 \%$ |
| I couldn't do my mathematics assignment | 37 | 74 | 53 | 64 | 22 |
| alone. | $14.8 \%$ | $29.6 \%$ | $21.2 \%$ | $25.6 \%$ | $8.8 \%$ |

Kausar

| I feel tense while solving mathematics | 36 | 77 | 35 | 80 | 22 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| problem. | $14.4 \%$ | $30.8 \%$ | $14.0 \%$ | $32.0 \%$ | $8.8 \%$ |
| I fear failing in mathematics class. | 75 | 63 | 21 | 46 | 45 |
|  | $30.0 \%$ | $25.2 \%$ | $8.4 \%$ | $18.4 \%$ | $18.0 \%$ |
| I face difficulty in understanding | 31 | 59 | 44 | 90 | 26 |
| mathematics concept. | $12.4 \%$ | $23.6 \%$ | $17.6 \%$ | $36.0 \%$ | $10.4 \%$ |
| Whenever I cannot understand question I | 29 | 39 | 28 | 78 | 76 |
| prefer memorizing it. | $11.6 \%$ | $15.6 \%$ | $11.2 \%$ | $31.2 \%$ | $30.4 \%$ |
| I could hardly concentrate in mathematics | 26 | 48 | 26 | 95 | 55 |
| class. | $10.4 \%$ | $19.2 \%$ | $10.4 \%$ | $38.0 \%$ | $22.0 \%$ |
| I avoid math by not attending class. | 11 | 12 | 13 | 69 | 145 |
|  | $4.4 \%$ | $4.8 \%$ | $5.2 \%$ | $27.6 \%$ | $58 \%$ |

Table 1 shows that $36 \%$ students feel uncomfortable during math class while $48.8 \%$ students feel comfortable $52.4 \%$ students do not worry about their ability to solve math problems while $34.4 \%$ students worry about their ability to solve math problem. $37.6 \%$ students feel stress in math subject while $47.2 \%$ students do not feel stress in math. $44.4 \%$ students cannot do math assignment alone while $34.4 \%$ students can do their math assignment alone. $45.2 \%$ students feel tense in solving mathematics problem while $40.8 \%$ do not feel tense in solving mathematics problem. $55.2 \%$ students fear failing in math class while $36.4 \%$ students do not fear failing in math class. $36 \%$ students face difficulty in understanding math concept while $46.4 \%$ students do not face difficulty in understanding math concept. $27.2 \%$ students prefer memorizing question whenever they cannot understand while $61.6 \%$ students do not memorize question whenever they cannot understand it. $29.6 \%$ students could hardly concentrate in math class while $60 \%$ students can easily concentrate in math class. $9.2 \%$ avoid math by not attending the class while $8.6 \%$ students do not avoid math class.

Table 2
Frequency and percentage of students' responses about student test/exam anxiety

| Test/Exams Anxiety |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Statements | $\begin{gathered} \mathbf{S A} \\ \% \\ \hline \end{gathered}$ | $\begin{aligned} & \mathbf{A} \\ & \% \end{aligned}$ | $\begin{aligned} & \hline \mathbf{N} \\ & \% \end{aligned}$ | $\begin{gathered} \hline \mathbf{D A} \\ \% \end{gathered}$ | $\begin{gathered} \text { SDA } \\ \% \end{gathered}$ |
| I feel my heartbeat faster whenever I take mathematics exam. | $\begin{gathered} \hline 48 \\ 19.2 \% \end{gathered}$ | $\begin{gathered} 77 \\ 30.8 \% \end{gathered}$ | $\begin{gathered} 41 \\ 16.4 \% \end{gathered}$ | $\begin{gathered} 53 \\ 21.2 \% \end{gathered}$ | $\begin{gathered} 31 \\ 12.4 \% \end{gathered}$ |
| My mind seems to go blank during mathematics quiz and exams. | $\begin{gathered} \hline 20 \\ 8.0 \% \end{gathered}$ | $\begin{gathered} 49 \\ 19.6 \% \end{gathered}$ | $\begin{gathered} 39 \\ 15.6 \% \end{gathered}$ | 87 34.85 | $\begin{gathered} 55 \\ 22.0 \% \end{gathered}$ |
| I couldn't sleep well the night before mathematics exams. | $\begin{gathered} 45 \\ 18.0 \% \end{gathered}$ | $\begin{gathered} 64 \\ 25.6 \% \end{gathered}$ | $\begin{gathered} 32 \\ 12.8 \% \end{gathered}$ | $\begin{gathered} 61 \\ 24.4 \% \end{gathered}$ | $\begin{gathered} \hline 48 \\ 19.2 \% \end{gathered}$ |
| I sweat a lot whenever I cannot find the answer during mathematics exams. | $\begin{gathered} 38 \\ 15.2 \% \end{gathered}$ | $\begin{gathered} 56 \\ 22.4 \% \end{gathered}$ | $\begin{gathered} 36 \\ 14.4 \% \end{gathered}$ | $\begin{gathered} 79 \\ 31.6 \% \end{gathered}$ | $\begin{gathered} 41 \\ 16.4 \% \end{gathered}$ |
| It is my worst nightmare to fail in mathematics exams. | $\begin{gathered} 67 \\ 26.8 \% \end{gathered}$ | $\begin{gathered} 80 \\ 32.0 \% \end{gathered}$ | 23 $9.2 \%$ | 43 $17.2 \%$ | 37 $14.8 \%$ |


| During exam I make mistakes in easy | 17 | 33 | 43 | 81 | 76 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| questions or put mathematics answers in | $6.8 \%$ | $13.2 \%$ | $17.2 \%$ | $32.4 \%$ | $30.4 \%$ |
| wrong places.  36 90 34 | $14.4 \%$ | $36.0 \%$ | 13.65 | $24.4 \%$ | $11.6 \%$ |
| I panic before or during mathematics test. |  | 43 | 41 | 45 | 79 |

Table 2 shows that $50 \%$ students feel their heartbeat faster during math exam while $33.6 \%$ students do not feel their heartbeat faster during math exam. $27.6 \%$ student's mind go blank during exam while $56.8 \%$ students mind do not go blank during exam. $43.6 \%$ students could not sleep well the night before exam while $43.6 \%$ students can sleep well the night before exam. $37.6 \%$ students sweat a lot when they cannot find answer during exam while $48 \%$ students do not sweat while they cannot find answer in exam. $58.8 \%$ student's worst nightmare is to fail in math exam while $32 \%$ students do not fear failing in math exam. $20 \%$ students make mistakes in easy questions and put answers in wrong places during exam while $62.8 \%$ students do not make mistakes and put answers in right places. $50.4 \%$ students panic before or during math test while $36 \%$ students do not panic before or during math test. $25.6 \%$ students read paper and think they cannot solve any of the questions while $56.4 \%$ students feel they can solve math problems. $35.6 \%$ students face trouble in choosing answers during exam while $43.2 \%$ students can easily choose answers during exam. $30 \%$ students feel hesitant when they have to take math quiz while $55.2 \%$ students do not feel hesitant of math quiz.
Table 3
Frequency and percentage of students' responses about student mathematics syllabus anxiety

| Mathematics syllabus Anxiety |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Statements | SA | $\mathbf{A}$ | N | DA | SDA |
|  | $\mathbf{\%}$ | $\mathbf{\%}$ | $\mathbf{\%}$ | $\%$ | $\%$ |
| Math syllabus is too wide. | 76 | 105 | 33 | 17 | 19 |
|  | $30.4 \%$ | $42.0 \%$ | $13.2 \%$ | $6.8 \%$ | $7.6 \%$ |
| Math demands too much of calculations. | 85 | 117 | 15 | 20 | 13 |
|  | $34.0 \%$ | $46.8 \%$ | $6.0 \%$ | $8.0 \%$ | $5.2 \%$ |
| It is difficult to understand algebraic | 60 | 85 | 29 | 51 | 25 |
| formulas and equations. | $24.0 \%$ | $34.0 \%$ | $11.6 \%$ | $20.4 \%$ | $10.0 \%$ |
|  |  |  |  |  |  |
| There are more failures in math examination | 43 | 78 | 48 | 55 | 26 |
| than passes. | $17.2 \%$ | $31.2 \%$ | $19.2 \%$ | $22.0 \%$ | $10.4 \%$ |

Kausar

| I am scared by math theorems. | 31 | 64 | 39 | 72 | 44 |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | $12.4 \%$ | $25.6 \%$ | $15.6 \%$ | $28.8 \%$ | $17.6 \%$ |
| Math is too abstract the way teacher teaches | 32 | 60 | 41 | 67 | 50 |
| it. | $12.8 \%$ | $24.0 \%$ | $16.4 \%$ | $26.8 \%$ | $20.0 \%$ |
| Math is too abstract because we have not | 42 | 66 | 60 | 44 | 38 |
| seen anything being taught. | $16.8 \%$ | $26.4 \%$ | $24.0 \%$ | $17.6 \%$ | $15.2 \%$ |
| I don't like math because there is no | 29 | 48 | 29 | 75 | 69 |
| practical work in mathematics. | $11.6 \%$ | $19.2 \%$ | $11.6 \%$ | $30.0 \%$ | $27.6 \%$ |
| A difficult geometry diagram scares me. | 32 | 57 | 35 | 76 | 50 |
|  | $12.8 \%$ | $22.8 \%$ | $14.0 \%$ | $30.4 \%$ | $20.0 \%$ |
| I prefer memorizing theorem rather than | 51 | 74 | 43 | 54 | 28 |
| understanding it. | $20.4 \%$ | $29.6 \%$ | $17.2 \%$ | $21.6 \%$ | $11.2 \%$ |

As far as students' mathematics syllabus anxiety is concerned, $72.4 \%$ students think math syllabus is too wide while $14.4 \%$ students think math syllabus is not wide. $80.8 \%$ students think math demands too many calculations while $13.2 \%$ students do not think math demands too many calculations. $58 \%$ students find algebraic formulas and equations difficult to understand while $30.4 \%$ students do not find algebraic formulas and equations difficult. $48.4 \%$ students think there are more failure than passes in math exam while $32.4 \%$ students think more students pass than fail in exam. $38 \%$ students are scared of math theorems while $46.4 \%$ students are not scared of theorems. $36.8 \%$ students find mathematics abstract subject because of teaching method while $46.8 \%$ students do not think mathematics an abstract subject because of teaching method. $43.2 \%$ students find math an abstract because they have not seen anything being taught while $32.8 \%$ students do not think math is an abstract subject. $30.8 \%$ students do not like math because of no practical work while $57.6 \%$ students do not dislike math because of no practical work. $35.6 \%$ students are scared of difficult geometry diagrams while $50.4 \%$ students do not find geometrical diagrams difficult. $50 \%$ students prefer memorizing theorems rather than understanding it while $32.8 \%$ students prefer understanding theorems.

Table 4
Frequency and percentage of students' responses about teachers' organizational behaviour

| Organizational Behaviour |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Statements | $\begin{gathered} \hline \text { SA } \\ \% \end{gathered}$ | $\begin{aligned} & \mathrm{A} \\ & \% \end{aligned}$ | $\begin{aligned} & \mathbf{N} \\ & \% \end{aligned}$ | $\begin{gathered} \hline \text { DA } \\ \% \end{gathered}$ | $\begin{gathered} \text { SDA } \\ \% \end{gathered}$ |
| Teacher use physical punishment when students don't give right answers. | $\begin{gathered} 29 \\ 11.6 \% \end{gathered}$ | $\begin{gathered} 46 \\ 18.4 \% \end{gathered}$ | $\begin{gathered} 31 \\ 12.4 \% \end{gathered}$ | $\begin{gathered} 67 \\ 62.8 \% \end{gathered}$ | $\begin{gathered} 77 \\ 30.8 \% \end{gathered}$ |
| Are there strict rules about effective class learning environment? | $\begin{gathered} 50 \\ 20.0 \% \end{gathered}$ | $\begin{gathered} 111 \\ 44.4 \% \end{gathered}$ | 39 $15.6 \%$ | $\begin{gathered} 25 \\ 10.0 \% \end{gathered}$ | $\begin{gathered} 25 \\ 10.0 \% \end{gathered}$ |
| Does teacher enforces these rules consistently? | $\begin{gathered} 37 \\ 14.8 \% \end{gathered}$ | 84 | 51 | 50 | 28 |

Kausar

|  |  | $33.6 \%$ | $20.4 \%$ | $20.0 \%$ | $11.2 \%$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Teacher's rules are fair for all students. | 101 | 85 | 19 | 29 | 16 |
|  | $40.4 \%$ | $34.0 \%$ | $7.6 \%$ | $11.6 \%$ | $6.4 \%$ |
| Does teacher ever change a rule because of | 39 | 46 | 42 | 80 | 43 |
| any exceptional condition? | $15.6 \%$ | $18.4 \%$ | $16.8 \%$ | $32.0 \%$ | $17.2 \%$ |
| Does teacher encourages pupil to identify | 74 | 93 | 29 | 30 | 24 |
| anything annoying them in class | $29.6 \%$ | $37.2 \%$ | $11.6 \%$ | $12.0 \%$ | $9.6 \%$ |
| environment? | 52 | 98 | 39 | 32 | 29 |
| Does teacher arrange group works? | $20.8 \%$ | $39.2 \%$ | $15.6 \%$ | $12.8 \%$ | $11.6 \%$ |
|  |  | 43 | 56 | 38 | 66 |
| Teacher threatens to punish me when I | $17.2 \%$ | $22.4 \%$ | $15.2 \%$ | $26.4 \%$ | $18.8 \%$ |
| cannot find the correct answer. | 56 | 93 | 27 | 43 | 31 |
|  | $22.4 \%$ | $37.2 \%$ | $10.8 \%$ | $17.2 \%$ | $12.4 \%$ |
| My teacher corrects me when I misbehave. | 85 | 98 | 15 | 30 | 22 |
|  | $34.0 \%$ | $39.2 \%$ | $6.0 \%$ | $12.0 \%$ | $8.8 \%$ |
| When I misbehave my teacher explains to |  |  |  |  |  |
| me why my behaviour was wrong. | 25 | 32 | 36 | 75 | 82 |
| It is easy to get my teacher to talk about | $10.0 \%$ | $12.8 \%$ | $14.4 \%$ | $30.0 \%$ | $32.8 \%$ |
| something besides class topic. |  |  |  |  |  |

As far as teachers' organizational behavior is concerned, $53.2 \%$ students cannot tell the right algebraic formula to use in question while $35.2 \%$ students cannot tell the right algebraic formula to use in question. $30 \%$ students think teachers use physical punishment when students do not give right answer while $57.6 \%$ students think teacher does not use physical punishment. $64.4 \%$ students think there are rules for effective class learning environment while $20 \%$ students think there are no rules for effective environment. $48.4 \%$ students think teacher enforces these rules consistently while $31.2 \%$ students think teacher does not enforce these rules consistently. $74.4 \%$ students think teachers' rule are fair for all students while $18 \%$ students think teacher does favoritism. $34 \%$ students think teacher changes rules for exceptional cases while $49.2 \%$ students think teacher does not change rule under any circumstances. $66.8 \%$ students think teacher encourages student to indicate annoying things in class while $21.6 \%$ students think teacher discourage to indicate annoying things in class. $60 \%$ students think teacher arranges group works while $24.4 \%$ students think teacher does not arrange group work. $39.6 \%$ students think teacher threatens to punish them when they cannot find right answer while $45.2 \%$ students think teacher does not threat to punish them. $59.6 \%$ students think teacher corrects them when they misbehave while $29.6 \%$ students think teacher does not correct them when they misbehave. $73.2 \%$ students think teacher explains their wrong behaviour while $20.8 \%$ students think teacher does not explain them what was wrong in their behaviour when they misbehave.

Kausar

Table 5
Frequency and percentage of students' responses about teachers'socio-emotional behaviour

| Socio-emotional behaviour |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Statements | SA | A | N | DA | SDA |
|  | $\%$ | $\%$ | $\%$ | $\%$ | $\%$ |
| My teacher smiles at me when I see her out | 41 | 66 | 52 | 45 | 46 |
| of the class. | $16.4 \%$ | $26.4 \%$ | $20.8 \%$ | $18.0 \%$ | $18.4 \%$ |
| My teacher also talks to me before or after | 50 | 94 | 35 | 47 | 24 |
| the mathematics class. | $20.0 \%$ | $37.6 \%$ | $14.0 \%$ | $18.8 \%$ | $9.6 \%$ |
| Teacher asks me about my interests. | 53 | 85 | 45 | 38 | 29 |
|  | $21.2 \%$ | $34.0 \%$ | $18.0 \%$ | $15.2 \%$ | $11.6 \%$ |
| My teacher asks me about school related | 42 | 83 | 47 | 40 | 38 |
| problems. | $16.8 \%$ | $33.2 \%$ | $18.8 \%$ | $16.0 \%$ | $15.2 \%$ |
| My teacher asks me about non -school | 32 | 59 | 46 | 68 | 45 |
| related problems. | $12.8 \%$ | $23.6 \%$ | $18.4 \%$ | $27.2 \%$ | $18.0 \%$ |
| Teacher individually helps me out when I | 107 | 96 | 21 | 12 | 14 |
| cannot understand something. | $42.8 \%$ | $38.4 \%$ | $8.4 \%$ | $4.8 \%$ | $5.6 \%$ |

As far as teachers' socio-emotional behavior is concerned, $22.8 \%$ students think it is easy to divert teacher from teaching while $62.8 \%$ students think it is difficult to divert teacher from teaching. $42.8 \%$ students think their teacher smiles at them outside the class also while $36.4 \%$ students think their teacher does not smile at them outside the class. $57.6 \%$ students think teacher talk to them before or after the class also while $28.4 \%$ students think their teacher does not talk to them before or after the class. $55.2 \%$ students think their teachers ask them about their interest while $26.8 \%$ students think their teacher does not ask them about their interests. $50 \%$ students think their teacher ask them about school related problems while $31.2 \%$ students think teacher does not ask them about school related problems. $36.4 \%$ students think their teacher ask them about non-school related problems while $45.2 \%$ students think teacher does not ask about noschool related problems.

Table 6
Frequency and percentage of students' responses about teachers' motivational behaviour

| Motivational behaviour |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Statements | SA | A | N | DA | SDA |
|  | $\boldsymbol{\%}$ | $\mathbf{\%}$ | $\%$ | $\%$ | $\boldsymbol{\%}$ |
| Does teacher encourage students to share | 61 | 106 | 42 | 21 | 20 |
| their own ideas? | $24.4 \%$ | $42.4 \%$ | $16.8 \%$ | $8.4 \%$ | $8.0 \%$ |
| Does teacher call parents to report good or | 110 | 101 | 11 | 17 | 11 |
| bad behaviour of students? | $44.0 \%$ | $40.4 \%$ | $4.4 \%$ | $6.8 \%$ | $4.4 \%$ |


| Does teacher appreciate students to bring in | 72 | 115 | 36 | 17 | 10 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| personal experiences related to topic? | $28.8 \%$ | $46.0 \%$ | $14.4 \%$ | $6.8 \%$ | $4.0 \%$ |
| Teacher appreciates students for giving | 111 | 95 | 23 | 10 | 11 |
| right answers. | $44.4 \%$ | $38.0 \%$ | $9.2 \%$ | $4.0 \%$ | $4.4 \%$ |
| Teacher pays attention to me when I state | 70 | 119 | 31 | 12 | 18 |
| my opinion during class. | $28.0 \%$ | $47.6 \%$ | $12.4 \%$ | $4.8 \%$ | $7.2 \%$ |
| Teacher treats every student in class | 97 | 88 | 15 | 31 | 19 |
| equally. | $38.8 \%$ | $35.2 \%$ | $6.0 \%$ | $12.4 \%$ | $7.6 \%$ |
| My teacher lacks innovation, | 26 | 24 | 49 | 73 | 98 |
| encouragement and resourcefulness. | $10.4 \%$ | $9.6 \%$ | $11.6 \%$ | $29.2 \%$ | $39.2 \%$ |

As far as teachers' motivational behavior is concerned, $81.2 \%$ students think teacher help them individually when they cannot understand something while $10.4 \%$ students think teacher does not help them individually. $66.8 \%$ students think teacher encourages students to share their own ideas while $16.4 \%$ students think teacher discourages students to share their own ideas. $84.4 \%$ students think teacher call parents to report good or bad behaviour of student while $11.2 \%$ students think teacher does not call parents to report good or bad behaviour of student. $74.8 \%$ students think teacher appreciate students to bring in personal experiences related to topic while $10.8 \%$ students think teacher discourage students to bring in personal experiences. $82.4 \%$ students think teacher appreciates students for giving right answers while $8.4 \%$ students think teacher does not appreciates students for giving right answers. $75.6 \%$ students think teacher pays attention to them when they state their opinion during class while $12 \%$ students think teacher does not pays attention to their opinion. $74 \%$ students think teachers treat every student in class equally while $20 \%$ students think teacher does not treat every student equally.
Table 7
Frequency and percentage of students' responses about teachers'instructional behaviour

| Instructional behaviour |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | SA | $\mathbf{A}$ | $\mathbf{N}$ | DA | SDA |
| Statements | $\%$ | $\%$ | $\%$ | $\%$ | $\%$ |
|  | 94 | 93 | 32 | 11 | 20 |
| Teacher makes sure I understand the | $37.6 \%$ | $37.2 \%$ | $12.8 \%$ | $4.4 \%$ | 8.0 |
| concept before moving to new one. | 107 | 93 | 21 | 15 | 14 |
| Teacher breaks complex mathematics | $42.8 \%$ | $37.2 \%$ | $8.4 \%$ | $6.0 \%$ | $5.6 \%$ |
| questions into smaller steps. | 100 | 114 | 11 | 13 | 12 |
| Teacher guides me with my assignment for | $40.0 \%$ | $45.6 \%$ | $4.4 \%$ | $5.2 \%$ | $4.8 \%$ |
| mathematics class. | 117 | 95 | 8 | 19 | 11 |
| If I do not understand something teacher | $46.8 \%$ | $38.0 \%$ | $3.2 \%$ | $7.6 \%$ | $4.4 \%$ |
| explains it in another way. | 92 | 87 | 22 | 28 | 21 |
| Teacher gives me extra time and clear my |  |  |  |  |  |
| doubts if have problem in understanding the | $36.8 \%$ | $34.8 \%$ | $8.8 \%$ | $11.2 \%$ | $8.4 \%$ |
| procedure. |  |  |  |  |  |
| Teacher does not make use of teaching aids | 25 | 60 | 61 | 67 | 37 |
| while teaching. | $10.0 \%$ | $24.0 \%$ | $24.4 \%$ | $26.8 \%$ | $14.8 \%$ |

## Kausar

| Teacher solves most of the questions on | 115 | 86 | 18 | 16 | 15 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| board of difficult exercise. | $46.0 \%$ | $34.4 \%$ | $7.2 \%$ | $6.4 \%$ | $6.0 \%$ |

As far as teachers' instructional behavior is concerned, $20 \%$ students think teacher lacks innovation, encouragement and resourcefulness while $68.4 \%$ students think teacher have the ability of innovation, encouragement and resourcefulness. $74.8 \%$ students think teacher make sure everyone understand the concept before moving to new one while $12.4 \%$ students think teacher does not make sure everyone understand the concept before moving to new one. $80 \%$ students think teacher breaks complex math questions into smaller steps while $11.6 \%$ students think teacher solve complex questions in one junk. $85.6 \%$ students think teacher guides them with their assignment while $10 \%$ students think teacher does not guide them with their assignment. $84.8 \%$ students think when they cannot understand something teacher explains it in another way while $12 \%$ students think teacher use same method every time. $71.6 \%$ students think teacher gives them extra time and clear their doubts individually while $19.6 \%$ students think teacher does not pay attention individually. 34\% students think teacher does not make use of teaching aids while $41.6 \%$ students think teacher makes use of teaching aids. $80.4 \%$ students think teacher solves most of the difficult questions on board while $12.4 \%$ students think teacher give difficult questions as assignment.

## 4 Discussion and Conclusion

The association between secondary school students' mathematical anxiety and the behaviour of their maths teachers was the focus of this study. The study's findings support the conclusion that, of the behaviours examined, organizational behaviour has the strongest correlation with students' mathematical anxiety, whereas socio-emotional behaviour had the smallest. Thus, the behaviour of the mathematics teacher is an independent variable, and the anxiety of the students in the subject is a dependent variable.

Based on the results of this study, it can be said that most students find maths class uncomfortable and worry about their capacity to handle problems. They struggle with maths and find it difficult to complete projects by themselves. Most pupils experience anxiety when tackling maths problems and worry that they won't pass the test. When faced with a notion in mathematics, they find it difficult to understand and instead opt to commit problems to memory. The conclusion is that students find it difficult to focus in maths class and choose to skip it altogether.

Additionally, it is found that the majority of students experience a quicker heartbeat, mental blankness, and difficulty sleeping the night before a maths exam. Most pupils perspire a lot when they are unable to find the solution. The majority of students' worst dread is to perform poorly on their maths exam. Additionally, it is determined that students worry either before or during tests, make mistakes, and enter answers in the incorrect areas. Most students who read papers believe they are incapable of answering queries. During exams, they have difficulty selecting answers, and during quizzes, they feel uncertain. They believe that the maths curriculum is overly extensive and requires an excessive amount of computation. The majority of them have trouble understanding mathematical equations and formulas (Maulana, Helms-Lorenz, \& van de Grift, 2015). They find mathematics to be an abstract topic and dislike it because there is no practical application. They also find maths theorems scary and would rather memorise them than understand them. Difficult geometrical diagrams terrify students. Students are unable to determine which algebraic formula to utilise to solve a given problem.

Our study's findings indicate that the majority of pupils believe that teachers physically punish them when they don't provide the correct response. It is determined that the instructor implements a set of rules in the classroom that have an impact on learning and that these rules are fair to all students, with the exception of exceptional circumstances, as demonstrated by the favourable responses. According to Okoronkwo, Onyia-Pat, Agbo, Okpala, and Ndu (2013), the teacher encourages pupils to point out anything that annoys them in the classroom. Group work is assigned by the teacher, who also threatens to discipline them if they don't locate the answers. The majority of kids believe that their teachers discipline them when they disobey and also explain why their actions were inappropriate. Students believe that distracting a teacher from their lesson is difficult.

The majority of students believe that their teachers only inquire about school-related issues and do not inquire about issues unrelated to their studies. Pupils responded favourably to the teacher's one-on-one assistance, and it was determined that the teacher encourages them to express their own opinions (Chou, Shen, Hsiao, \& Shen, 2019). Most students say that teachers phone parents to report either excellent or bad behaviour on the part of the kids. Teachers also value it when students share personal experiences that are relevant to the material and when they provide accurate responses. The majority of students believe that their teachers listen to them when they voice their opinions in class and give each pupil the same attention. They responded well to their teacher's smiles when they were outside.

Students believe that the teacher is innovative, supportive, and resourceful. They also draw the conclusion that the teacher breaks down difficult questions into manageable pieces and ensures that everyone understands the material before going on to the next one. Students expressed gratitude for the teacher's assistance in completing their assignments, and it was determined that when a student needed more time to ask questions or needed clarification on a concept, the teacher provided it in a different way. It is determined that teachers utilise instructional tools and handle the majority of challenging inquiries on the board on their own.

## References

Antoniou, P., \& Kyriakides, L. (2013). A dynamic integrated approach to teacher professional development: Impact and sustainability of the effects on improving teacher behaviour and student outcomes. Teaching and teacher education, 29, 1-12. doi:https://doi.org/10.1016/j.tate.2012.08.001
Benke, E., \& Medgyes, P. (2005). Differences in teaching behaviour between native and nonnative speaker teachers: As seen by the learners. In Non-native language teachers: Perceptions, challenges and contributions to the profession (pp. 195-215): Springer.
Chou, C.-M., Shen, C.-H., Hsiao, H.-C., \& Shen, T.-C. (2019). Factors influencing teachers' innovative teaching behaviour with information and communication technology (ICT): The mediator role of organisational innovation climate. Educational Psychology, 39(1), 65-85. doi:https://doi.org/10.1080/01443410.2018.1520201
Creswell, J. W. (1994). Research Design: Qualitative and Quantitative Approaches: SAGE Publications.
Daniel, N., \& Mugiraneza, F. (2023). Teaching and Learning Methods and Student's Performance in Mathematics in Public Secondary Schools in Rwanda: A Case of Nyamasheke District. doi:https://doi/10.47760/cognizance.2023.v03i10.017
Darge, R. (2008). The Mediating Role of Teacher and Student Academic Behaviors in Explaining Relations between Teacher Expectations and Academic Performance: Implications for Classroom Instruction. The Ethiopian Journal of Education, 28(2), 45-72.

## Kausar

Harmsen, R., Helms-Lorenz, M., Maulana, R., \& Van Veen, K. (2018). The relationship between beginning teachers' stress causes, stress responses, teaching behaviour and attrition. Teachers and Teaching, 24(6), 626-643. doi:https://doi.org/10.1080/13540602.2018.1465404
Haroon, A., Kausar, F. N., Ghazala, N., \& Khan, A. M. (2022). Role of Teachers' Behaviour on Students' Motivation and Learning at Secondary level in District Lahore. doi:https://doi.org/10.21015/vtess.v10i3.1306
Hein, V. (2012). The effect of teacher behaviour on students motivation and learning outcomes: A review. Acta Kinesiologiae Universitatis Tartuensis, 18, 9-19. doi:https://doi.org/10.12697/akut.2012.18.02
Kyriakides, L. (2005). Drawing from teacher effectivess research and research into teacher interpersonal behaviour to establish a teacher evaluation system: A study on the use of student ratings to evaluate teacher behaviour. The Journal of Classroom Interaction, 4466.

Kyriakides, L., Creemers, B. P., \& Antoniou, P. (2009). Teacher behaviour and student outcomes: Suggestions for research on teacher training and professional development. Teaching and teacher education, 25(1), 12-23. doi:https://doi.org/10.1016/j.tate.2008.06.001
Mantz, J. (2018). Activity bursts in the special education classroom: Teachers'perceptions of student engagement and behavior.
Maulana, R., Helms-Lorenz, M., \& van de Grift, W. (2015). Development and evaluation of a questionnaire measuring pre-service teachers' teaching behaviour: A Rasch modelling approach. School Effectiveness and School Improvement, 26(2), 169-194. doi:https://doi.org/10.1080/09243453.2014.939198
Okoronkwo, I. L., Onyia-Pat, J.-L., Agbo, M.-A. E., Okpala, P. U., \& Ndu, A. C. (2013). Students' perception of effective clinical teaching and teacher behaviour. doi:http://www.scirp.org/journal/PaperInformation.aspx?PaperID=28725
Rogers, B. (2015). Classroom behaviour: A practical guide to effective teaching, behaviour management and colleague support: Sage.
Thijs, J., Krastev, T., Weidinger, S., Buckens, C. F., de Bruin-Weller, M., Bruijnzeel-Koomen, C., . . . Hijnen, D. (2015). Biomarkers for atopic dermatitis: a systematic review and metaanalysis. Current opinion in allergy and clinical immunology, 15(5), 453-460. doi:https://doi.org/10.1097/ACI.0000000000000198
Tigchelaar, A., \& Korthagen, F. (2004). Deepening the exchange of student teaching experiences: implications for the pedagogy of teacher education of recent insights into teacher behaviour. Teaching and teacher education, 20(7), 665-679. doi:https://doi.org/10.1016/j.tate.2004.07.008
Van Petegem, K., Creemers, B. P., Rossel, Y., \& Aelterman, A. (2005). Relationships between teacher characteristics, interpersonal teacher behaviour and teacher wellbeing. The Journal of Classroom Interaction, 34-43.
Young- Jones, A. D., Burt, T. D., Dixon, S., \& Hawthorne, M. J. (2013). Academic advising: does it really impact student success? Quality Assurance in Education, 21(1), 7-19. doi:https://doi.org/10.1108/09684881311293034


[^0]:    ${ }^{1}$ Assistant Professor, School of Education, Minhaj University Lahore, Pakistan.
    $\square$ fahdnaveed1 @ hotmail.com

