The Relationship between Teachers' Personalities and Students' Attitudes

Hubungan antara Personaliti Guru dan Sikap Pelajar

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ABSTRACT

Teachers have a fundamental influence on students' academic achievements and attitudes towards learning. However, understanding the extent of teachers' effects on students' attitudes requires further exploration, particularly given the importance of inner educational components in the digital age. This study investigates the connection between teachers' personalities and students' attitudes. Through a quantitative approach, data was collected via questionnaires from 118 randomly selected students in a public school. The survey assessed students' perceptions of mathematics teachers' personalities (conscientiousness, openness, agreeableness) and students' attitudes (interest, self-efficacy, self-control) towards mathematics, enabling comprehensive insights within the context. Results revealed students perceived mathematics teachers' personalities as high in conscientiousness (mean = 3.93, SD = 0.55), openness (mean = 3.91, SD = 0.62), and agreeableness (mean = 3.64, SD = 0.60). Conscientiousness, openness, and agreeableness demonstrated diligence and compassion in enhancing the teacher-student relationship. Besides, in terms of students' attitudes, it reported relatively high extrinsic motivation (mean = 3.87) in mathematics. Students exhibited moderate interest (mean = 3.39), self-concept (mean = 3.28), and anxiety (mean = 3.22), with self-efficacy being the lowest (mean = 2.81). This highlights the need for enhanced motivation and self-efficacy, particularly in challenging subjects. The study unveiled a moderately positive correlation (r = 0.450) between teachers' personalities and students' attitudes. Teachers' conscientiousness and openness fostered student engagement and interest, crucial for positive attitudes in challenging subjects. The study underscores the significance of teachers in creating positive environments. It also informs teachers about cultivating positive personalities, emphasising their role in shaping students' engagement, and developing attitudes conducive to learning.

Keywords: Teachers' personalities, students' attitudes, openness, conscientiousness, agreeableness, students' perceptions towards mathematics teachers.

ABSTRAK

Guru mempunyai pengaruh asas terhadap pencapaian akademik dan sikap pelajar terhadap pembelajaran. Walau bagaimanapun, untuk memahami sejauh mana kesan guru terhadap sikap pelajar, penerokaan lanjut perlu dijalankan, terutamanya tentang kepentingan komponen pendidikan dalaman ini dalam era digital. Kajian ini

menganalisa perkaitan antara personaliti guru dengan sikap pelajar. Melalui pendekatan kuantitatif, data dikumpul melalui soal selidik daripada 118 pelajar yang dipilih secara rawak di sebuah sekolah. Tinjauan itu menilai persepsi pelajar terhadap personaliti guru matematik (ketelitian, keterbukaan, persetujuan) dan sikap pelajar (minat, efikasi kendiri, kawalan kendiri) terhadap matematik, membolehkan pandangan menyeluruh dalam konteks ini. Keputusan kajian menunjukkan pelajar berpandangan bahawa personaliti guru matematik adalah tinggi dalam ketelitian (min = 3.93, SD = 0.55), keterbukaan (min = 3.91, SD = 0.62), dan persetujuan (min = 3.64, SD = 0.60). Sikap ketelitian, keterbukaan, dan persetujuan telah memaparkan nilai ketekunan dan belas kasihan dalam meningkatkan hubungan guru-murid. Selain itu, dari segi sikap pelajar, telah dilaporkan bahawa motivasi ekstrinsik yang agak tinggi (min = 3.87) dalam matematik. Pelajar menunjukkan kesederhanaan dalam minat (min = 3.39), konsep kendiri (min = 3.28), dan kebimbangan (min = 3.22), dengan efikasi kendiri paling rendah (min = 2.81). Ini menyerlahkan keperluan untuk meningkatkan motivasi dan efikasi kendiri, terutamanya dalam mata pelajaran yang mencabar. Kajian ini mendedahkan korelasi positif sederhana (r = 0.450) antara personaliti guru dan sikap pelajar. Sikap guru yang ketelitian dan keterbukaan untuk menarik penglibatan dan minat pelajar adalah penting untuk memupuk sikap positif dalam mata pelajaran yang mencabar. Kajian ini menekankan kepentingan guru dalam mewujudkan persekitaran dan memupuk personaliti positif, di samping menekankan peranan mereka dalam membentuk penglibatan pelajar, dan membangunkan sikap yang kondusif untuk pembelajaran.

Kata Kunci: Personaliti guru, sikap pelajar, keterbukaan, ketelitian, persetujuan, persepsi pelajar terhadap guru matematik.

INTRODUCTION

Teachers play a pivotal role in shaping students' academic success and fostering positive attitudes towards learning. The efforts exerted by teachers, particularly in providing specific guidance to comprehend challenging concepts, significantly impact students' educational outcomes (Teoh et al., 2023), signifying their readiness for teaching (Abdullah et al., 2019). By implementing effective strategies, employing motivational techniques, and facilitating clear communication, teachers' efforts reflect their personalities and skills in effectively navigating the complexities of teaching. The ultimate goal of these efforts is to enhance students' engagement and willingness to learn, leading to positive attitudes towards learning (Dweck, 2016). However, a comprehensive understanding of the extent to which teachers' factors influence students' attitudes necessitates additional information and references. Moreover, in light of current technological advancements, it is increasingly crucial to prioritise the development of students' inner educational components, such as attitudes (Mazana et al., 2019). Therefore, this study aims to bridge the existing research gap by investigating the relationship between teachers' personalities and students' attitudes, unveiling the influential factors that shape the learning attitudes of students.

PROBLEM STATEMENT

While the literature acknowledges that teachers play a pivotal role in influencing students' academic success and attitudes towards learning (Valli et al., 2007), there remains a research gap in terms of clarifying the multifaceted relationship between teachers' personalities and students' attitudes. Despite the fact that some studies have examined isolated aspects of this relationship, there has been limited examination of the complex factors that link these variables. Prior research has focused primarily on instructional techniques and pedagogical approaches, ignoring the potential influence of instructors' personalities on students' attitudes in more specific ways. In addition, as the educational landscape changes as a result of technological advancements, it is necessary to reevaluate the factors that contribute to positive learning attitudes in addition to the motivational aspects discussed in the previous study (Khalilzadeh & Khodi, 2021). Even though the current emphasis in the teaching of learning is on technological elements, teachers' dispositions and attitudes have a significant impact on students' perceptions of learning outcomes (Wittmann & Wulf, 2023) .This study aims to cover this gap by examining the complex relationships between teachers' personalities and students' attitudes, shedding light on the mechanisms through which educators' individual traits can influence students' perceptions

of and engagement with the learning process. This study intends to contribute to the field of educational psychology and inform pedagogical practices by conducting a systematic investigation into the relationship between instructors' personalities and their students' positive learning attitudes.

LITERATURE REVIEW

According to the Big Five theories (Goldberg, 1992), certain personality traits, such as agreeableness, openness, and conscientiousness, are associated with success in a variety of domains. Extensive research indicates that positive personality traits have a substantial effect on academic achievement. Similarly, it is widely acknowledged that instructors have the greatest impact on students' learning attitudes. In mathematics education, it is believed that teachers play a crucial role in guiding students to cultivate positive attitudes. Consequently, the personalities of instructors have been observed to have a direct impact on their willingness to actively engage students.

Teachers' Personalities

An effective learning environment is dependent on teachers' ability to promote learning. Hence, it is essential for teachers to be positive in showing openness, agreeableness, and consciousness in creating in a good environment (Ackerman, 2017). The environment provides opportunities for students to show constructive reactions and behaviours in learning mathematics, which can be observed internally (Das & Ali, 2023). Their willingness to learn may lead them to preserve and be confident towards the learning.

A teacher who shows openness is approachable, receptive, and transparent in their communication with students. They are willing to listen and engage themselves with their students' perspectives, ideas, and concerns, and are responsive to their needs with a sense of adaptability (Nekljudova, 2019). Such a teacher creates a safe and non-judgmental learning environment where students feel comfortable asking questions, sharing their thoughts, and engaging in discussion. Teachers' caring encourages engagement in learning (Amerstorfer & Freiin von Münster-Kistner, 2021). Caring teachers are usually Caring teachers are usually willing to demonstrate flexibility and adaptability in their teaching strategies. Willing to adapt to new approaches to better meet the diverse learning needs of their students. They welcome feedback and suggestions for improvement and are open to constructive criticism from their students. Hence, more efforts are always demonstrated among the teachers who are showing openness. Among the efforts are inclusion of added values such as fostering inclusive and collaborative learning to meet the diversity of their students. They promote active participation and engagement in learning and create opportunities for students to work together and learn from one another.

Similarly, a teacher who is highly agreeableness is typically warm, empathetic, and cooperative, and strives to build positive relationships with their students. Such a teacher is often approachable and supportive and is skilled at managing conflict and promoting collaboration in the classroom, with empathy (Furnham, 2017). Hence, they are agreeable and open and are always in high conscientiousness.

A conscientious teacher is often dependable since they consistently meet their commitments to their students and colleagues. Their conscientiousness encapsulates the will and shows necessary behaviour towards the achievement of teaching (Kim et al., 2016), such as striving to maintain high standards of quality in their teaching by engaging in self-evaluation and seeking feedback. Hence, a teacher who is high in conscientiousness is often seen as a dedicated and effective educator who is committed to promoting student learning and success. They create a structured and organized learning environment that is conducive to achieving learning outcomes and promoting academic growth.

Students' Attitudes in Learning Mathematics

Mathematics requires a great deal of cognitive effort and problem-solving abilities. It frequently entails complex and abstract concepts that are difficult for students to grasp. Therefore, students must be robust enough to tackle any challenge. For some students, the difficulty of mathematics can be a source of frustration and anxiety, leading to negative attitudes towards the subject (Mehmet & Hulya, 2021).

However, for others, the challenge of mathematics can be a source of motivation and interest (Middleton & Spanias, 1999).

Positive attitudes towards mathematics can have a significant impact on students' academic success. Students who have a positive attitude towards mathematics tend to be more engaged and motivated in the subject, leading to better performance and achievement (Chen et al., 2018). Additionally, positive attitudes can help students develop a growth mindset (Limeri et al., 2020), which is the belief that one's abilities and intelligence can be developed through hard work and persistence, and hence develop interest,

In contrast, negative attitudes towards mathematics can hinder students' academic progress and future success. Students with negative attitudes may avoid mathematics altogether or put forth minimal effort with less interest, leading to poor performance and achievement. Negative attitudes can also contribute to a fixed mindset, where students believe that their abilities and intelligence are predetermined and cannot be changed through effort.

Therefore, it is important for educators to promote positive attitudes towards mathematics among their students. This can be achieved through a variety of methods, such as creating a supportive learning environment, using engaging and relevant examples, and providing opportunities for students to collaborate and problem-solve together. By promoting positive attitudes towards mathematics, educators can help students develop the skills and confidence needed to succeed in this challenging subject by focusing on interest towards mathematics; hindering from mathematics anxiety; developing self-efficacy (Kuppusamy & Musa, 2021).

Low achiever in mathematics students with a high level of interest in mathematics are more likely to be willing to engage in the subject, even if they encounter challenges (Wong & Wong, 2019). In contrast, students with low levels of interest in studying mathematics may be less willing to engage in the subject, leading to lower levels of academic achievement. It causes high anxiety, negatively affects their performance in the subject. Furthermore, anxiety towards mathematics has been found to be a strong predictor of students' attitudes towards mathematics, with negative attitudes towards mathematics being more common among students with high levels of mathematics anxiety and low level of self-confidence (Yenilmez et al., 2007).

Self-confidence is closely related to self-efficacy, as it refers to a student's belief in their ability to succeed in a specific task or domain. Students with high levels of self-confidence tend to be more motivated and engaged in the subject, leading to higher levels of academic achievement (Bandura, 1997). Furthermore, extrinsic motivation, which is motivation that comes from external factors such as rewards or grades, has been found to be negatively correlated with perseverance and intrinsic motivation (Ryan & Deci, 2000). In contrast, intrinsic motivation, which comes from within the student, is positively correlated with perseverance and self-confidence, as students who are intrinsically motivated tend to persist through difficulties and see challenges as opportunities for growth (Deci & Ryan, 1985; Ryan & Deci, 2000).

METHODOLOGY

In this study, a quantitative approach was employed to collect data using a questionnaire. The sample consisted of 118 students who were randomly selected from a public school. The survey research aimed to investigate students' perceptions about teachers' personalities and their own attitudes towards mathematics. The questionnaire was adapted from previous studies for measurement of attitudes (Tahar et al., 2010) and teachers' personalities (Marha & James, 2018). The items were designed to assess the variables, namely students' perceptions of teachers' personalities (conscientiousness, openness, agreeableness) and their attitudes (interest, self-efficacy, self-control). The use of a questionnaire allowed for the efficient collection of data from a relatively large sample size, providing a broad understanding of students' perceptions and attitudes within the given context.

The items underwent validation by a panel of three experts, including a lecturer from UITM and two secondary school teachers based in Selangor. The first and second experts represent secondary school teachers, while the third expert is affiliated with UITM. As a result of the validation, 18 items were modified. Table 1 shows samples of the modified items.

Table 1: Samples of the Original and Modified Items with Expert Comments on Students' Perceptions of Teachers' Personalities and Attitudes towards Mathematics

Dimension	Original item	Modified item	Comment
Openness	1. My teacher's ability to be innovative during lessons makes me attentive during mathematics classes.	1. My mathematics teacher has the ability to be innovative during lessons, which makes me attentive during mathematics classes.	Expert 3: change the teacher to mathematics teacher because this research is specifically about mathematics.
	2. My teacher has good knowledge of topics in mathematics makes me enjoy the class.	2. My mathematics teacher has good knowledge of topics in mathematics which makes me enjoy learning in the class.	Expert 3: Change the teacher to a mathematics teacher and correct the grammar in the sentence.
	3. My teachers level of creativity during the lesson makes me excited during mathematics lessons.	3. My mathematics teacher develop creativity during the lesson makes me excited during mathematics lessons.	Expert 3: Change the teacher to a mathematics teacher and correct the sentence structure.
	4. My teachers teaching does not motivate me during mathematics lessons	4. My mathematics teacher's teaching does not motivate me during mathematics lessons.	Expert 3: Change the teacher to a mathematics teacher.
	5. My teacher engages only one teaching method during lessons, this makes lessons boring.	5. My mathematics teacher engages only one teaching method during lessons, this makes lessons boring.	Expert 3: Change the teacher to a mathematics teacher.
	6. My teacher seems to be confused during mathematics lessons.	6. My mathematics teacher seems to be confused during mathematics lessons.	Expert 3: Change the teacher to a mathematics teacher and correct the grammar in the sentence.

FINDINGS AND DISCUSSIONS

Finding 1 Teachers' Personalities

The following descriptive analyses were conducted to answer the following research question:
Research question one: What are mathematics teachers' personalities as perceived by students?

The mean scores and standard deviations are reported in Table 2. It demonstrates the levels of openness, agreeableness, and conscientiousness among the teachers in the sample. Notably, the interpretation of the levels of personalities was further discussed based on the descriptive summary of the data. Since the scales used were distributed within '1' to '5', the three grades were based on comparison descriptive statistics. Hence, relatively, the mean closed to '1' was considered 'low'; the mean closed to '2' was considered 'below average'; the mean closed to '3' was considered 'below average'; and the mean closed to '4' and above was considered 'high'. The result showed that the students rated their mathematics teachers' personalities above average in 'consciousness' with a mean of 3.93 (standard deviation = 0.55); 'openness 'with a mean of 3.91 (standard deviation = 0.62); and 'agreeableness' with a mean of 3.64 (standard deviation = 0.60). The dimension of 'consciousness' was comparatively higher than the

other two dimensions.

Table 2: Mathematics Teachers' Personality Characteristics

Dimension	**Mean (M)**	**Std. Deviation (SD)**
Consciousness (Items: Q16, Q17, Q18, Q19, Q20, Q21)	3.93	0.55
Openness (Items: Q4, Q5, Q6, Q7, Q8, Q9)	3.91	0.62
Agreeableness (Items: Q10, Q11, Q12, Q13, Q14, Q15)	3.64	0.60
Overall (18 items)		

The mean score of 3.93, which represents a relatively high level of conscientiousness, showed that mathematics teachers placed more emphasis on their willingness to put in a lot of effort. In terms of openness, the mean score of 3.91 indicates that, on average, mathematics teachers tend to possess a moderately high level of openness. Also, the moderate level of agreeableness among mathematics teachers, indicated by the mean score of 3.64, suggests that they possess traits associated with being cooperative, compassionate, and considerate.

Mathematics is complicated, and hence more efforts, such as adapting to different teaching strategies are required as described in interpretation of effective teaching (Ismail et al., 2015). Teachers with higher levels of conscientiousness are organized, responsible, and diligent, which positively influences their instructional practices. These teachers are likely to plan and deliver well-structured lessons, set clear expectations, and maintain consistent routines. Such characteristics contribute to a stable and predictable positive and encouraging learning environment, which can enhance student interest and self-efficacy (You et al., 2021). Similarly, these teachers possess traits associated with openness and agreeableness since their character of consciousness offers willingness for all classroom matters, includes providing encouragement, creating a supportive environment, allowing students to feel comfortable expressing their thoughts, seeking assistance for any clarification of mathematics misconceptions, and hence building strong relationships with students (Eryılmaz, 2014).

Hence, the findings showed the confluence of the common personalities of mathematics teachers who are patient enough. Consequently, personalities of conscientiousness, openness, and agreeableness shape teachers who are not only effective in managing the complexities of teaching mathematics, but they are also creating a space where students are provided opportunities to develop confidence and engage actively with the subject matter. The interplay of these personality dimensions further underscores the intricate role that teachers play in moulding students' attitudes towards learning mathematics and, ultimately, their overall educational experiences.

Finding 2:

The following descriptive analyses were conducted to answer the following research question:
Research question two: What are students' attitudes towards mathematics as perceived by students?

The mean scores and standard deviations are reported in Table 3. It demonstrates the levels of interest, anxiety, self-efficacy, and self-concept among the students in the sample. Notably, the interpretation of the levels of attitudes can be further discussed based on the descriptive summary of the data. Since the scales used were distributed within '1' to '5', the three grades were based on comparison descriptive statistics. Hence, relatively, the mean closed to '1' was considered 'low'; the mean closed to '2' was considered 'below average'; the mean closed to '3' was considered 'below average'; and the mean closed to '4' and above was considered 'high'. The results show that the students' mathematics attitudes were above average in 'extrinsic motivation' with a mean of 3.87 (standard deviation = 0.74); 'interest in mathematics 'with a mean of 3.39 (standard deviation = 0.73);'self-concept' with a mean of 3.28 (standard deviation = 0.52); and 'anxiety' with a mean of 3.22 (standard deviation = 0.75). The

dimension of' self-efficacy' was the lowest, with a mean of 2.81 (standard deviation = 0.49).

Table 3: Students Attitude Toward Mathematics

Dimension	Mean (M)	Std. Deviation (SD)
Extrinsic motivation (Items: Q16, Q17, Q18)	3.87	0.74
Interest in mathematics (Items: Q1, Q2, Q3, Q4)	3.39	0.73
Self-concept (Items: Q19, Q20)	3.28	0.52
Anxiety toward mathematics (Items: Q5, Q6, Q7, Q8, Q9, Q10)	3.22	0.75
Self-Efficacy (Items: Q11, Q12, Q13, Q14, Q15)	2.81	0.49
Overall (20 items)		

The relatively higher level of extrinsic motivation in learning mathematics, reflected by a mean score of 3.87, suggests that students were more driven by external factors such as rewards, grades, use of technological tools, or praise when it comes to their motivation in mathematics. This finding is in line with research that has highlighted the influence of extrinsic motivators in educational settings (Ryan & Deci, 2000). This finding offers a comprehensive insight into the attitude landscape within the sampled students. On the other hand, they needed more motivation since mathematics is a tough subject that requires self-discipline, particularly self-efficacy and self-concept, so that they are comfortable to remaining in mathematics endeavours. Keeping on 'interest in mathematics' reflects a commendable level of engagement and enthusiasm among students. This study proved students gained a mixture of attitudes while learning mathematics. Due to the nature of mathematics, they were interested in the learning, yet at the same time they showed anxiety. Educators can capitalise on the attitudes to confidently increase interest, even though students also showed anxiety as measured in self-efficacy. It indicates that deep understanding may occur with a mixed feeling of anxiety and interested. The challenge was captured in the level of anxiety, even though they rated their interest moderately high. This indicated that despite being interested in learning, they were anxious as indicated with a low level of self-efficacy.

Finding 3:

The following analyses were conducted to answer the following research question:
Research question three: Is there any relationship between mathematics teachers' personalities and students' attitudes?

Table 4 summarises the teachers' personalities (mean = 3.83, standard deviation = 0.49) and students' attitudes towards mathematics (mean = 3.31, standard deviation = 0.37). Further analysis on correlation was conducted in Table 5.

Table 4: Descriptive Statistics results between teachers' personality characteristics and students' attitude toward mathematics

	Mean (M)	**Std. Deviation (SD)**
Teachers' Personality	3.83	0.49
Students' Attitude toward Mathematics	3.31	0.37

Table 5: Correlation between teachers' personalities and students' attitudes towards mathematics

		Students' Attitude toward Mathematics
Teachers' Personality	Pearson Correlation	0.450**
	Sig.(2-tailed)	<0.001
	N	120

The Pearson correlation coefficient between teachers' personalities and students' attitudes towards mathematics is 0.450. The correlation coefficient indicates a moderately positive relationship between these two variables. The significance level was reported at level of significance 0.001. This indicates that the correlation coefficient was statistically significant at a high level of confidence ($p < 0.001$). In other words, there was strong evidence to suggest that the observed correlation between teachers' personalities and students' attitudes toward mathematics was unlikely to have occurred by chance.

The impact of teachers' personality traits on students' attitudes has been observed specifically in the learning of mathematics. Teachers who actively focus on cultivating positive attitudes are usually willing and prepared to assist students. Notably, creative and conscientious teachers willingly engage in leading students towards developing positive attitudes (Blazar & Kraft, 2017). They demonstrate creativity in their teaching strategies, enabling them to overcome challenges while shaping students' attitudes. When students enjoy their time in the classroom with such teachers, they are expected to feel confident and exhibit positive attitudes. On the other hand, the feature of extrinsic is becoming an additional element of culturing mathematics lessons. The advance of technology has promoted dependent of extrinsic value in developing mathematical thinking. Students are more assisted in understanding difficult concepts when technological tools are used. Hence, extrinsic motivation played an essential role while they are looking for enjoyment and fostering fulfilment of studying mathematics.

Creating a positive learning environment is crucial for cultivating good attitudes, and teachers play a vital role in this process, especially when it comes to learning difficult subjects like mathematics. Teachers who display higher levels of consciousness and openness tend to foster greater interest and engagement among students. Building a positive environment is essential for developing good attitudes (Getie, 2020). Since teachers are highly dependent on constructing a positive learning environment, especially for challenging subjects like mathematics, their consciousness and openness become even more important in fostering student interest and engagement.

CONCLUSION AND IMPLICATION OF THE STUDY

This study highlights the significant role that teachers play in ensuring students' progress and success. The findings emphasise the importance of positive personalities among teachers, as they encourage increased interaction within the classroom. Despite the inherent challenges presented by mathematics concepts and questions, the presence of a positive mindset among teachers proves crsucial in maintaining their awareness of these challenges. Moreover, the study underscores the direct and indirect influence of teachers' supportive efforts on shaping students' attitudes towards learning. Additionally, this study emphasises the need for ongoing professional development programs that address the psychological and emotional aspects of teaching. Equipping teachers with strategies to maintain a positive mindset and effectively handle difficulties can enhance their overall effectiveness in the classroom.

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