



# Investigating the role of teacher concern in EFL students' motivation, anxiety, and language achievement through the lens of self-determination theory

Saba Hasanzadeh<sup>a</sup>, Shaghayegh Shayesteh<sup>a,\*</sup>, Reza Pishghadam<sup>a,b</sup>

<sup>a</sup> Department of English, Faculty of Letters and Humanities, Ferdowsi University of Mashhad, Mashhad, Iran

<sup>b</sup> Gulf College, Oman

## ARTICLE INFO

### Keywords:

Teacher concern  
Motivation  
Self-determination theory  
Anxiety  
Foreign language achievement

## ABSTRACT

While it is important for teachers to care about students' academic performance and mental health, controlling and overprotective behavior can have long-term negative effects on students. Despite extensive research on the relationship between student achievement and teachers' caring behavior, research has investigated students' actual experiences of the pressures they face from teachers' expectations and concerns. To this aim, 400 Iranian English as a Foreign Language (EFL) institute students participated in this study. EFL teachers were chosen for the challenges and anxiety that learning a language brings to the students. In many countries, English is considered important for academic and professional success, and as a result, students and teachers place high expectations and emphasis on performance in this area. Surveys were completed to examine student active and passive motivation, anxiety, and teachers' level of concern. This study found that teacher concern was a significant predictor of student motivation, while teacher metapathy and empathy negatively predicted anxiety, and teacher apathy positively predicted anxiety. Furthermore, teacher apathy negatively predicted foreign language learning outcomes, whereas teacher concern, mediated by motivation, directly predicted foreign language learning outcomes. In conclusion, caring and supportive teachers who foster a sense of belonging align with self-determination theory, boosting student motivation and improving outcomes. This study highlights the important role of such teachers in student success and the need to integrate self-determination theory into educational practice.

## 1. Introduction

Numerous studies have consistently demonstrated a strong link between teacher concern (TC) and students' performance (Cornelius-White, 2007; Derakhshan, 2022; Chetty et al., 2014; Jackson, 2012). Students' attitudes towards learning (Rosenfeld et al., 2000), academic success (Klem & Connell, 2004), and feeling of belonging in the classroom (Solomon et al., 2000) are all impacted by the level of care they perceive from their teacher, in line with the principles of self-determination theory (Deci & Ryan, 1985). Therefore, it is crucial to explore the potential relationship between teacher concern, student motivation, anxiety, and academic performance to enhance student outcomes and achievement.

\* Corresponding author.

E-mail addresses: [hasanzade.sabaa@gmail.com](mailto:hasanzade.sabaa@gmail.com) (S. Hasanzadeh), [shayesteh@um.ac.ir](mailto:shayesteh@um.ac.ir) (S. Shayesteh), [pishghadam@um.ac.ir](mailto:pishghadam@um.ac.ir) (R. Pishghadam).

Although teacher concern and support typically have a positive impact on students' academic performance and emotional health (Derakhshan et al., 2023; Song & He, 2021; Tindan et al., 2023; Tsigilis et al., 2023), it is crucial to acknowledge the potential negative consequences of excessive control and over-involvement. While genuine concern and support are beneficial, an excessive level of control and involvement may inadvertently hinder students' development of independence, self-efficacy, and problem-solving skills. This can lead to a long-lasting negative influence on students' ability to navigate challenges and make autonomous decisions. Teachers can create a positive learning environment by balancing support and fostering independence (Anderson et al., 2020).

Previous studies (Dewaele et al., 2022; Li et al., 2021; Sun, 2021; Wang et al., 2022) have examined the relationship between teacher caring behavior, student motivation, learning anxiety, and foreign language achievement. A more complex view of the interpersonal relationship between teachers and students and how it affects student outcomes is offered by this innovative paradigm. Existing research has primarily focused on general measures of teacher concern or empathy, without delving into the distinct levels of concern that teachers may exhibit towards their students. By incorporating the five levels of teacher concern, this study will shed light on how different levels of teacher concern and understanding (ranging from apathy to transpathy) influence student motivation, learning anxiety, and ultimately, their foreign language achievement. Particularly, it quantitatively tested the validity of the teacher concern scale (TCS) (Pishghadam et al., 2022) and investigated whether teacher concern could predict students' motivation, anxiety, and foreign language achievement.

The selection of these variables was deliberate because of their importance in the field of acquiring a second language. Motivation is crucial as it impacts students' readiness to participate and dedicate effort to learning a new language (Smith, 2010). Anxiety can hinder communication skills and overall language learning experience (MacIntyre & Gardner, 2016). Foreign language achievement is an indicator of progress and proficiency (Dörnyei, 2005). The study aims to understand how teacher concern affects students' motivation, anxiety, and language achievement. Other variables such as self-efficacy and classroom environment are also relevant (Freeman, 2002) but not the main focus. The chosen variables have been extensively studied and are known to have associations with teacher-student interactions and language learning outcomes (Dörnyei & Ushioda, 2011; Papi & Teimouri, 2014). The research seeks to conduct a detailed examination of how teacher worry affects these particular elements of students' learning and achievement in studying EFL.

## 2. Theoretical background

### 2.1. Concern types

A glance at the literature reveals that student success can be affected by student-teacher relationships and teacher behavior (Groves et al., 2015). While having interaction with teachers, students experience stable emotions, attitudes, and adequate emotional support, leading to better learning (Pekrun & Schutz, 2007). One of the things that provide emotional support for language learners is the interaction between teachers and students. Establishing this relationship is actually realized as the most useful way that teachers can apply to develop a satisfying environment for students' learning (Strachan, 2020; Xie & Derakhshan, 2021). Therefore, being a caring teacher is an essential component of creating a positive learning environment. Caring teachers not only cultivate supportive relationships with their students but also help promote emotional and academic growth (Hascher et al., 2018; Joshi & Mohanty, 2019; Xie et al., 2018).

The primary way that people differ from one another is in how much they care about other people's feelings and how much they show them. Apathy is described as the inability to react emotionally and take action when confronted with a peer who is going through an emotional state. People that display uncaring behavior are considered to be in this state (Nobis & Husain, 2018). Humans also experience sympathy and empathy in reaction to the emotions of others, and they are also seen to be crucial elements of effective social interaction (Decety et al., 2016).

According to Lamm et al. (2019), despite using sympathy and empathy interchangeably in daily conversations, they are two quite distinct concepts. When one individual compares their situation to that of another, they feel sympathy, which is a feeling of sadness and anxiety for the other person (Eisenberg et al., 2015). As a result, while there is some concern in sympathy, it is not overly present. Conversely, empathy is seeking to put oneself in the shoes of the other person and seeing similarities between their circumstances and one's own.

Individuals' emotioncy and concerns can overlap, leading to a transition from apathy or lack of emotion to sympathy, including

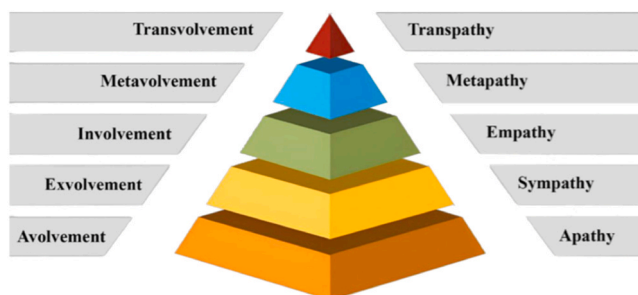


Fig. 1. Concern Types.

audio, visual, and kinesthetic emotioncy, and empathy, including inner and arch emotioncy (Pishghadam et al., 2013). Beyond empathy, humans seem to have another emotional reaction, causing the emotioncy level to shift from involvement to metainvolvement, which represents a more practical and profound emotional response, showcasing a person's expertise and capacity to generate and share content (Pishghadam et al., 2019).

In light of this, Pishghadam et al. (2022) proposed the concept of metapathy as the condition of emotional metainvolvement or overengagement that occurs when people do not show a simple reaction or do not only soothe the feelings of others but also choose a more considered reaction that will benefit others' future well-being (Fig. 1). Although such a caring response may appear harsh at the time, its goal is to assist others in achieving a bright future. Transpathic people fully immerse themselves in others' lives, feeling joy in their success and sadness in their failures. Transpathic teachers may integrate their personal and professional lives, using their knowledge for teaching, monetization, or sharing their discoveries. Their high level of engagement often leads to academic achievements for their students and the spread of innovative ideas (Pishghadam et al., 2023).

## 2.2. Motivation

Motivation is connected to how people behave and the rewards they receive, as well as their internal drive to act. It can be classified as intrinsic or extrinsic based on the appeal of the results, and is influenced by social interactions and common behaviors (Arnold & Walker, 2008; Pishghadam et al., 2019; Staddon, 2001). Pishghadam et al. (2019) introduced the dual continuum model of motivation, which focuses on the level of engagement and involvement people have in something, offering a different perspective. Involvement is the act of directly experiencing something or researching it to learn more about it; emotioncy, or the feelings triggered by the senses employed to see something, is the basis of involvement (Pishghadam et al., 2016). The model is divided into active and passive parts and also four sub-parts, including passive demotivation, passive motivation, active demotivation, and active motivation due to the relationship between engagement and various levels of sensory participation (Pishghadam et al., 2019).

Particularly, active motivation refers to engaging in a task; active demotivation occurs when a task becomes mechanical because of a lack of mental engagement; passive demotivation involves no mental or physical effort toward a task, whereas passive motivation involves frequent thought about a task but no action. (Pishghadam et al., 2019) (Fig. 2).

## 2.3. Anxiety

In the last two decades, numerous studies have concentrated on foreign language anxiety. Marwan, (2007) research on language learning anxiety in Indonesian students revealed that most students experienced some level of anxiety. The primary causes of anxiety were a lack of readiness, low self-assurance, and a fear of making errors and not passing the course. Further, Latif et al. (2011) investigated the impact of several socio-psychological factors, including attitude, motivation, and anxiety on students' EFL proficiency. The findings revealed that the four variables and how well the students performed in the English course were strongly correlated. It demonstrated that whereas attitude and instrumental motivation have favorable effects on performance, anxiety has a negative effect.

## 2.4. EFL students' academic achievement

Teachers' behaviors can have an impact on students' performance and achievement. Among these behaviors, teacher concern has received less attention compared to other positive interpersonal behaviors in empirical studies. Ellis (2009) found that positive interpersonal behaviors of language teachers directly influence EFL students' enthusiasm and motivation. Similarly, Waldbuesser

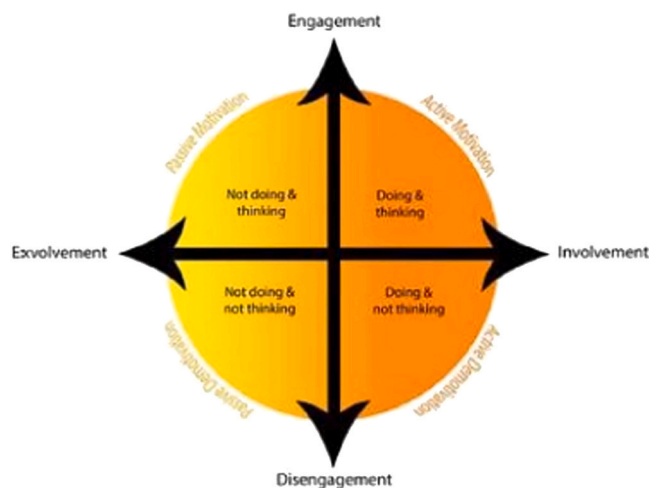


Fig. 2. The Dual Continuum Model of Motivation.

(2019) discovered a positive connection between student academic involvement and affirmation from language teachers, known as teacher stroke (Shirzadeh & Jajarmi, 2023). Baños et al. (2019) also found that EFL teachers can enhance students' engagement in a classroom environment filled with positive interactions. Additionally, research consistently shows the importance of students' sense of relatedness in their academic outcomes, as per the self-determination theory. Students who perceive positive and supportive relationships with their teachers and classmates tend to be more engaged, motivated, and successful in their academic pursuits (Hughes et al., 2012; Wentzel, 2016). When students feel a sense of relatedness, they experience a greater sense of belonging, leading to increased intrinsic motivation and a willingness to actively participate in classroom activities (Sadeghi Ordoubadi et al., 2023; Ryan & Deci, 2000).

Several studies have shown that English language teachers' caring behaviors, such as empathy and approachability, have a positive impact on students' language learning progress and motivation (Bembenutty & White, 2013; Ellis & Barkhuizen, 2005). Positive teacher-student relationships, characterized by caring behaviors, enhance students' perceived competence in English and foster their language learning progress (Jolliffe & Waugh, 2016). However, there is a lack of research on the role of teacher concern in students' development and academic achievements (Brok et al., 2005). This study aims to investigate how teacher caring behavior in the context of EFL is associated with students' motivation, anxiety, and language achievement.

### 2.5. Self-determination theory

SDT is a widely recognized framework that has been applied to various domains, including education, to explain individuals' motivation, behavior, and well-being. Developed by Deci and Ryan (1985), it posits that individuals have three basic psychological needs: autonomy, competence, and relatedness, which are crucial for fostering intrinsic motivation and optimal functioning. In the context of language learning, SDT has been employed to investigate factors that influence students' motivation, anxiety, and achievement. It proposes that students feel supported in meeting their psychological needs, they are more likely to experience higher levels of motivation, lower levels of anxiety, and greater academic success (Ryan & Deci, 2000). This framework suggests that teachers play a critical role in creating a supportive learning environment that facilitates students' intrinsic motivation and positive outcomes (Jang et al., 2010; Vansteenkiste et al., 2004).

In the present study, the focus was on exploring the role of teacher concern in EFL students' motivation, anxiety, and language achievement. By incorporating SDT as the primary theoretical foundation, this research attempted to understand how teachers' behaviors and attitudes towards students' psychological needs impact their language learning experiences. Specifically, the study aimed to investigate how teacher concern for students' autonomy, competence, and relatedness influences their motivation to learn English, their levels of anxiety in language classes, and their overall language achievement.

## 3. Methodology

### 3.1. Participants

400 Iranian students from English language-specific educational institutions (210 females and 190 males) participated in this study; their ages ranged from 18 to 28 ( $M = 21.02$ ,  $SD = 2.28$ ). Since this range is a very sensitive period and teachers can have a lot of emotional, psychological, or behavioral influences on these students, young adult learners were selected to participate in the current study. They were all intermediate to upper-intermediate level students based on the level of the courses they had and they were selected by convenient random sampling.

### 3.2. Instrumentation

#### 3.2.1. Teacher concern scale (TCS)

The TCS questionnaire, developed by Pishghadam et al. (2022), was used as the primary assessment tool, allowing participants twenty minutes to respond. This scale, comprising 24 items, utilizes a five-point Likert scale, ranging from strongly disagree to strongly agree, and is divided into four sub-constructs: apathy, sympathy, empathy, and metapathy, each containing six items. Its reliability and validity were reassessed in this study, as it was originally designed to gather Iranian students' opinions on their high school teachers' concerns.

#### 3.2.2. Active/Passive motivation measurement scale (APMS)

Based on the Continuum Model of Motivation (Pishghadam et al., 2019), the APMS (Alami, 2020) was utilized to evaluate the active and passive motivation of the participants. This scale comprises six components: cognitive active motivation (CA), cognitive passive motivation (CP), sociocultural active motivation (ScA), sociocultural passive motivation (ScP), sensory active motivation (SA), and sensory passive motivation (SP). Each of these sub-constructs consists of four items, totaling 24 items. Responses to the scale range from strongly agree to strongly disagree on a six-point Likert scale. The Cronbach alpha estimated for this scale was .99, indicating its reliability.

#### 3.2.3. Foreign language classroom anxiety scale (FLCAS)

Horwitz et al. (1986) FLCAS survey was the next tool used. The FLCAS is a widely recognized scale for assessing overall anxiety in foreign language classrooms (Sanaei, 2016). The 33-item FLCAS survey is a self-reported instrument that uses a five-point Likert scale

ranging from strongly disagree to strongly agree. The reliability estimates for the TCS, APMS, and FLCAS, as well as their underlying subconstructs, were reviewed and found to be at or above .90, which was deemed acceptable.

### 3.3. Procedure

Before starting the survey, participants were asked to sign a consent form and were informed that their participation was voluntary. After that, all the questionnaires mentioned earlier were given to the participants to collect the necessary data. The participants were given a 30-minute time frame to fill out the questionnaires. In this research, the dependent variables were students' motivation, anxiety, and foreign language achievement, while the independent variables were the sub-constructs of teacher concern, such as apathy, sympathy, empathy, and metapathy.

The TCS scale's construct validity was evaluated using Confirmatory Factor Analysis (CFA). Furthermore, Pearson product moment correlation coefficients were employed to identify potential correlations among the variables. The subsequent stage involved assessing the potential predictability of students' motivation, anxiety, and language achievement through each independent variable by proposing Structural Equation Modeling (SEM).

## 4. Results

### 4.1. The construct validity of the TCS

To substantiate the construct validity of the TCS, CFA was used. The scale includes four subconstructs of Apathy (6 items), Sympathy (6 items), Empathy (6 items), and Methapathy (6 items). Standardized factor loadings can be seen in Fig. 3. No items were removed from the scale for model fit.

### 4.2. Correlational analysis

To investigate the possible correlations between the variables, the Pearson product-moment correlation was used. As Table 1 reveals, some of the variables of the study were correlated with each other significantly.

### 4.3. The first model

To check the predictive power of the independent variables, structural equation modeling analysis was conducted. The first model (Fig. 4) verified the power of the subconstructs of TC in predicting students' motivation. As it illustrates, active motivation was positively predicted by metapathy ( $\beta = .50, p < 0.001$ ). Passive motivation was also positively predicted by metapathy ( $\beta = .33, p < 0.001$ ). However, apathy ( $\beta = -.43, p < 0.001$ ) negatively predicted active motivation. Moreover, passive motivation was

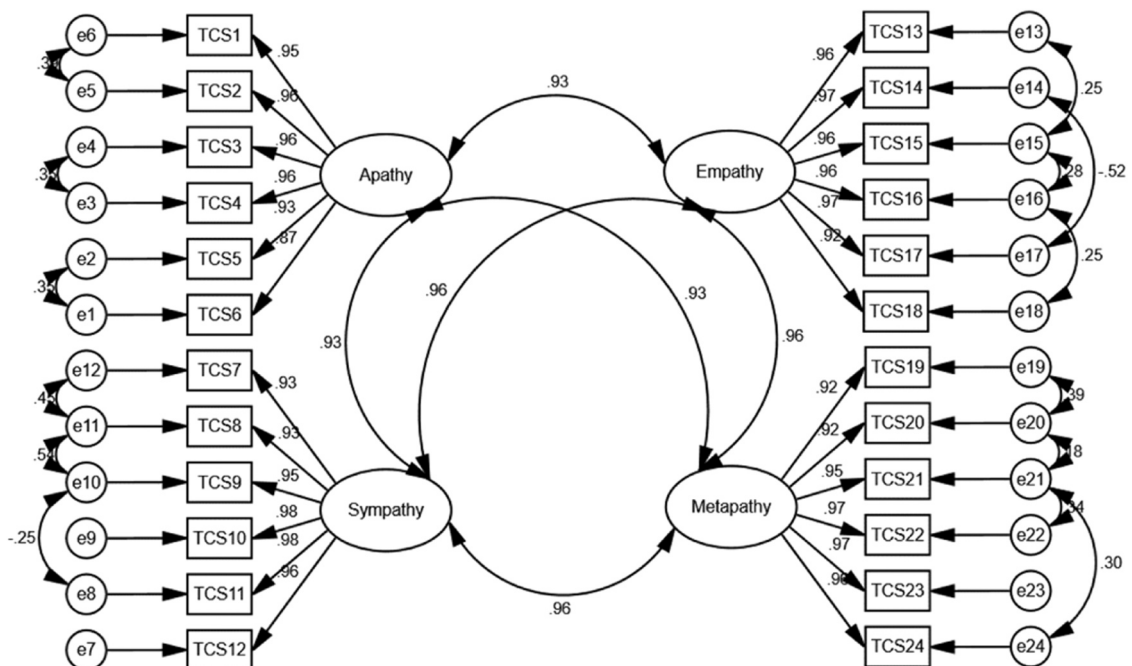


Fig. 3. Measurement Model for the TCS.

**Table 1**  
Correlational Analysis for the Variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. FLA	1													
2. TC	.73**	1												
3. Apathy	-.72**	-.95**	1											
4. Sympathy	.71**	.98**	-.91**	1										
5. Empathy	.71**	.98**	-.91**	.95**	1									
6. Metapathy	.71**	.97**	-.90**	.94**	.94**	1								
7. APM	.73**	.94**	-.91**	.91**	.91**	.92**	1							
8. CA	.71**	.90**	-.87**	.88**	.87**	.88**	.95**	1						
9. CP	.64**	.87**	-.86**	.84**	.84**	.86**	.95**	.89**	1					
10. ScA	.71**	.91**	-.89**	.88**	.88**	.89**	.97**	.90**	.91**	1				
11. ScP	.68**	.89**	-.88**	.86**	.86**	.87**	.95**	.83**	.91**	.93**	1			
12. SA	.72**	.91**	-.89**	.89**	.88**	.89**	.97**	.91**	.89**	.92**	.90**	1		
13. SP	.72**	.91**	-.88**	.89**	.90**	.88**	.96**	.89**	.87**	.92**	.91**	.95**	1	
14. FLCA	-.66**	-.82**	.79**	-.80**	-.81**	-.80**	-.82**	-.83**	-.72**	-.80**	-.72**	-.82**	-.81**	1

†Note. \*\* . Correlation is significant at the 0.01 level (2-tailed).

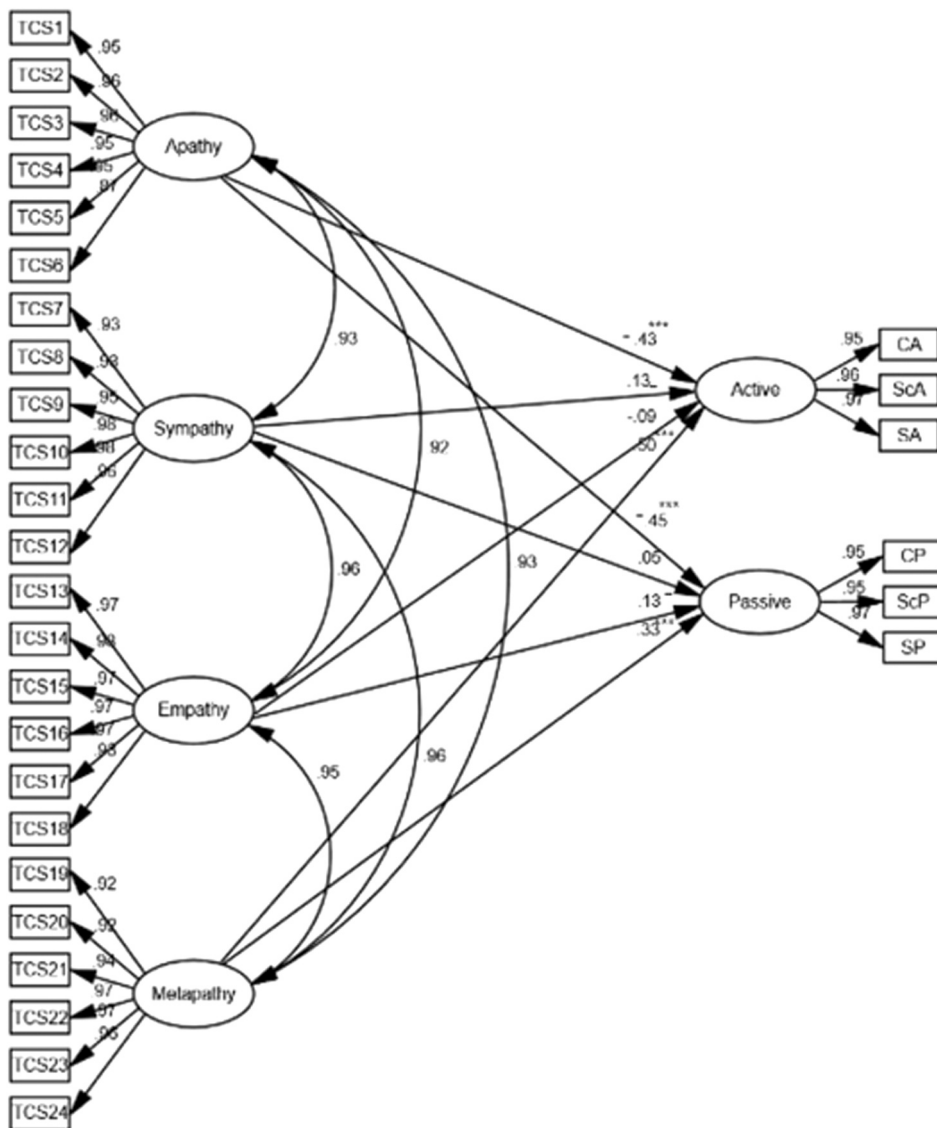


Fig. 4. The Schematic Representation of the Relationships among the Subconstructs of TC and Students' Motivation.

negatively predicted by apathy ( $\beta = -.45, p < 0.001$ ). Therefore, metapathy was a better predictor of both active and passive motivations.

4.4. The second model

The second model (Fig. 5) verified the power of TC (as a whole) in predicting students' motivation. As it illustrates, TC was a positive predictor of students' active motivation ( $\beta = .96, p < 0.001$ ) and passive motivation ( $\beta = .96, p < 0.001$ ).

4.5. The third model

The third model (Fig. 6) verified the power of the subconstructs of TC in predicting students' FLCA. As it illustrates, while metapathy ( $\beta = -.40, p < 0.01$ ) and empathy ( $\beta = -0.28, p < 0.05$ ) were negative predictors of FLCA, sympathy did not predict students' FLCA ( $\beta = -.01, p > 0.05$ ). Also, apathy ( $\beta = .33, p < 0.01$ ) was a positive predictor of FLCA. Among the significant predictors, metapathy predicted students' FLCA more strongly.

4.6. The fourth model

The fourth model (Fig. 7) verified the power of the subconstructs of TC in predicting students' FLA. As it illustrates, among the subconstructs of TC, only apathy could negatively predict students' FLA ( $\beta = -.68, p < 0.001$ ).

4.7. The fifth model

The fifth model (Fig. 8) verified the power of TC, mediated by students' motivation, in predicting students' FLA. As it illustrates, TC predicted FLA both directly ( $\beta = .42, p < 0.05$ ) and indirectly. However, its direct prediction power was stronger than the indirect ones. In particular, mediated by active motivation, TC was a positive predictor of FLA ( $\beta = .28, p < 0.05$ ). Moreover, mediated by passive motivation, TC was a positive predictor of FLA ( $\beta = .29, p < 0.05$ ).

4.8. The sixth model

The sixth model (Fig. 9) verified the power of TC, mediated by students' FLCA, in predicting students' FLA. As Table 2 shows, the model did not fit the data.

To see whether the models (Figs. 3, 4, 5, 6, 7, 8, & 9) fit the data, goodness of fit indices were calculated using Amos. In the present study, values for  $\chi^2/df$  should have been less than 5 (Schumacker & Lomax, 2010), TLI and CFI were over .90, and RMSEA and SRMR were equal to or less than .08 (Browne & Cudeck, 1993).

5. Discussion

This study aimed to investigate the role of teacher concern in students' motivation, anxiety, and foreign language achievement. The study had five hypotheses to examine: 1. To assess if the teacher concern scale enjoys psychometric validity in this study. 2. To examine if teacher concern can significantly predict students' motivation. 3. To determine if teacher concern significantly predicts students' anxiety. 4. To investigate if teacher concern significantly predicts students' foreign language achievement. 5. To determine if students' foreign language achievement can be predicted by teacher concern, students' motivation, and anxiety.

In relation to the first hypothesis, it was confirmed that the teacher concern scale demonstrated acceptable validity in this research. The correlational analyses indicated a significant and positive relationship between foreign language achievement and teacher concern (excluding apathy subconstruct) as well as students' active/passive motivation. This discovery aligns with numerous studies that underscore the crucial role of teacher interpersonal behaviors in enhancing students' motivation and academic success (Dewaele &

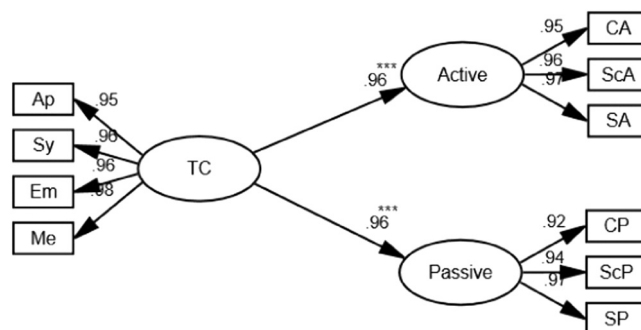


Fig. 5. The Schematic Representation of the Relationships between TC and Students' Motivation.



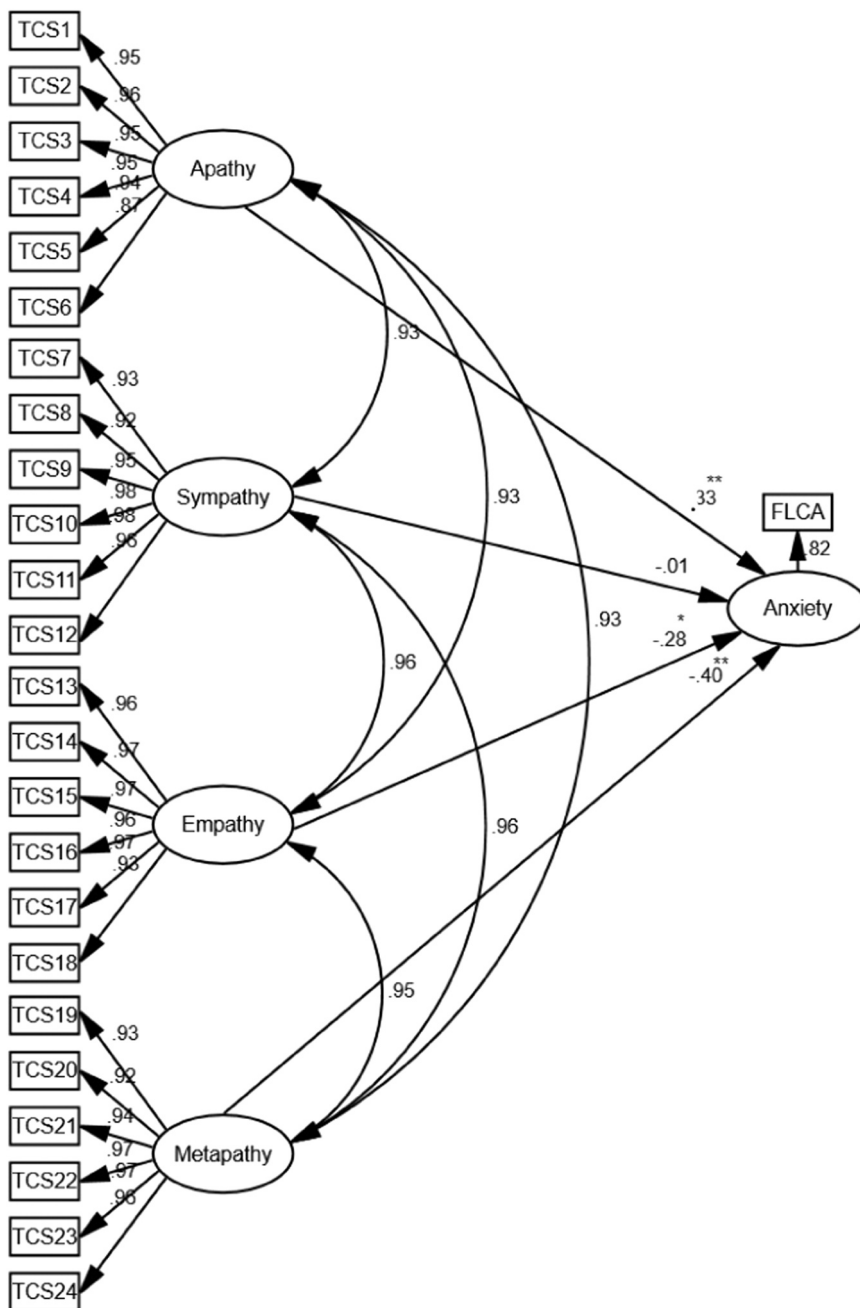


Fig. 6. The Schematic Representation of the Relationships among the Subconstructs of TC and Students' FLCA.

MacIntyre, 2019; Dewaele & Dewaele, 2020; Elahi Shirvan & Talebzadeh, 2020; Elahi Shirvan et al., 2021; Pan & Zhang, 2021; Talebzadeh et al., 2020). Also, similar to Ansari et al. (2020), the negative correlation between language achievement and teacher apathy revealed that students may get demotivated, leading to a weak performance because of their teacher's uncaring behaviors. As Engels et al. (2019) stated, negative teacher interpersonal behaviors result in conflict and can impede students' success.

Given the positive correlation between teacher concern and students' language achievement, when the opposite of this happens in the classroom and a teacher does not show that concern for his/her students' goals, problems, and future well-being, demotivation may be seen which might have negative effects on students' performance. The reason for this may be related to human beings' desire to be heard, seen, and understood (Pishghadam & Karami, 2017). Furthermore, the research discovered that there was a negative relationship between foreign language proficiency and anxiety, aligning with the findings of Latif et al. (2011). This revealed that students learn better when they are emotionally and psychologically safe Verschuereen & Koomen, 2012). It was also similar to Mazzone's et al. (2007) and Sena's et al. (2007) findings where anxiety had a major role in students' learning and academic performance.



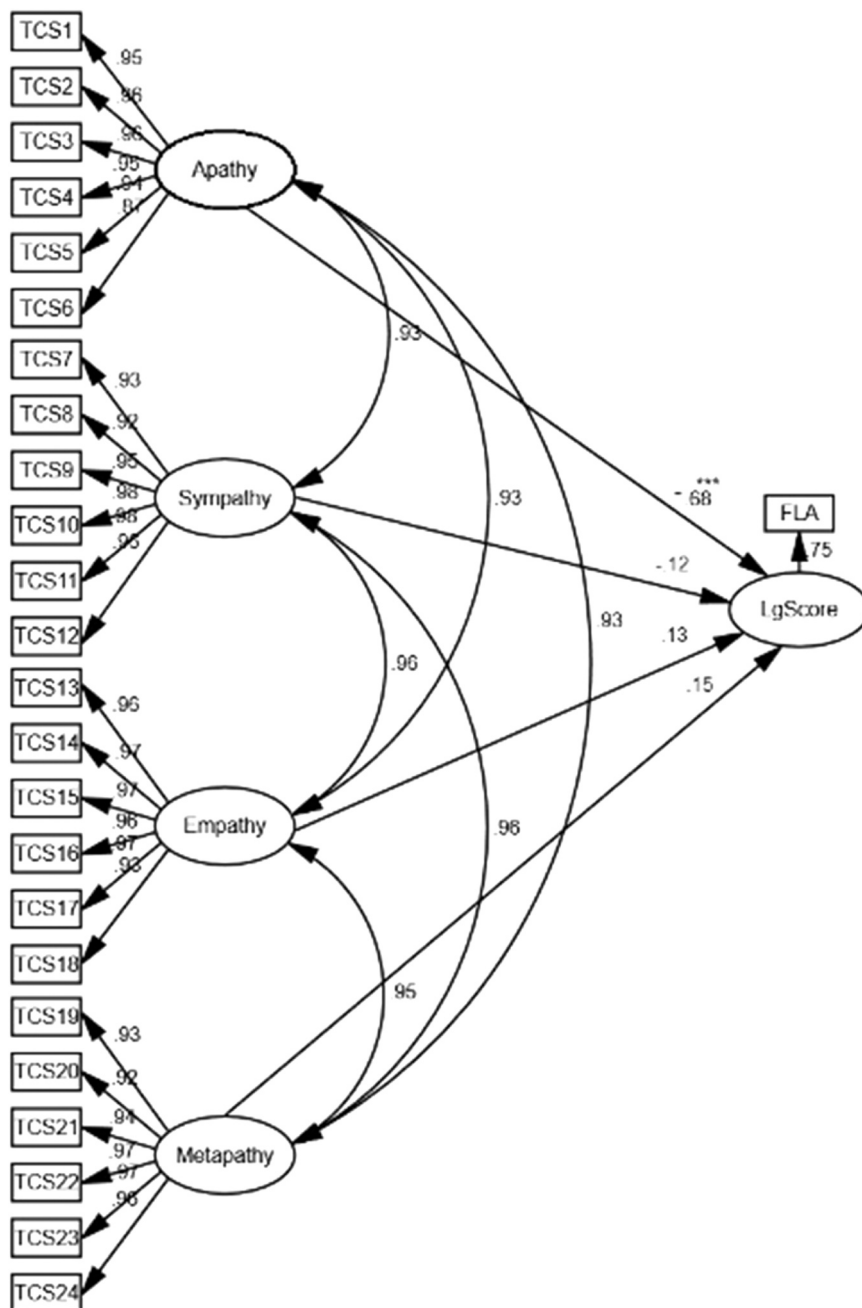


Fig. 7. The Schematic Representation of the Relationships among the Subconstructs of TC and Students' FLA.

Moreover, teacher concern (except apathy) was positively correlated with students' active and passive motivations which were similar to the findings of Campbell et al. (2009) and Ellis (2009). However, they considered motivation as a unitary term. This study revealed that when teachers care about their students' emotions, problems, and future well-being, students' motivation increases in getting involved in both doing something (active) and thinking about it (passive). Teacher concern as a type of teacher interpersonal behavior can result in students' enthusiasm and motivation in practicing and learning a foreign language since students may feel psychologically supported by their teachers which might lead them to be more encouraged and involved in their learning process. Just as Pishghadam and Khajavy (2014) stated, "when educators pay attention to their learners and ask them to take part in classroom activities, learners can gain a higher level of motivation and better performances" (p. 6). Thus, teachers can inspire students to attempt foreign language learning by creating supportive and promising educational contexts. The opposite of this situation (i.e., teacher apathy) may decrease students' motivation, as it had a negative correlation with students' motivation in this study.

This study found that there is a connection between teacher concern (excluding apathy) and students' language anxiety, which

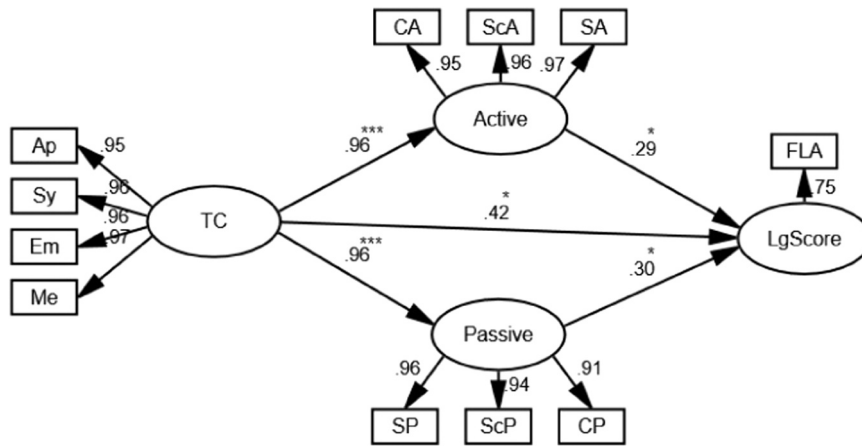


Fig. 8. The Schematic Representation of the Relationships among TC, Students' Motivation and their FLA.

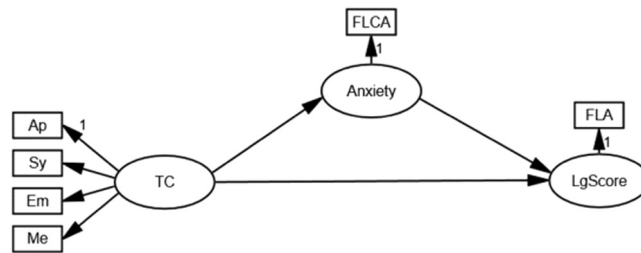


Fig. 9. The Schematic Representation of the Relationships among TC, Students' FLCA and their FLA.

Table 2

Goodness of Fit Indices for the Models.

Models	$\chi^2/df$	df	CFI	TLI	RMSEA	SRMR	
CFA (Fig. 3)	2.88	208	.98	.97	.07	.01	Fit
Model 1 (Fig. 4)	2.80	345	.98	.97	.07	.01	Fit
Model 2 (Fig. 5)	3.40	20	.99	.98	.08	.01	Fit
Model 3 (Fig. 6)	2.87	229	.98	.97	.07	.01	Fit
Model 4 (Fig. 7)	2.86	229	.98	.97	.07	.01	Fit
Model 5 (Fig. 8)	3.19	29	.99	.98	.07	.01	Fit
Model 6 (Fig. 9)	6.17	9	.66	.51	.12	.06	Non-fit

aligns with the findings of Goetz et al. (2021). Therefore, creating a supportive learning environment in the classroom, which fosters motivation and a collaborative atmosphere, could potentially reduce students' anxiety (Dörnyei, 2001; Alderman, 2004; Gregersen, 2003). Additionally, the study also revealed a negative relationship between students' active/passive motivation and their anxiety. According to Gardner et al. (1992), anxiety decreases as motivation increases, and high levels of anxiety can hinder motivation. Similar results were reported by Brown et al. (1996) and Khodadady and Khajavy (2013), who observed that students with low motivation are more likely to display anxious behavior.

The study, enjoying SEM, also indicated that teacher concern was a significant positive predictor of students' active/passive motivation which confirmed the second hypothesis of the study. Teacher metapathy positively predicted students' motivation, whereas teacher apathy negatively predicted students' motivation. This result emphasized the important role of teacher concern in an educational context. The findings align with the self-determination theory, which emphasizes the role of autonomy, competence, and relatedness in fostering motivation. teacher concern likely contributes to students' sense of relatedness, making them feel valued and connected in the learning environment. This sense of belonging can improve students' active motivation, as they are more likely to engage actively when they perceive a supportive and caring atmosphere (Shen & Guo, 2022). The highest rate of teacher concern, referring to the fact that while a teacher cares too much about the students' future and well-being in a way that sometimes students may feel that their teacher is going hard on them, may result in students' motivation because students like to be acknowledged and seen by their teachers. This amount of concern makes a feeling that their teachers are worried about their success so students will feel supported and will be motivated both actively and passively to work harder to meet their teachers' expectations. However, students' active/passive motivation will diminish when this supportive atmosphere is not created in the classroom. When teachers do not care

about students' emotions, classroom problems, and beyond-classroom issues, students might gradually lose that enthusiasm for attending class and learning the language since they may feel that they are not important to their teachers. This of course could depend on the students' characteristics. Sometimes students are highly and intrinsically self-determined and motivated in a way that teacher apathy may not affect their passion for learning the language. One possible explanation for this relationship is the social exchange theory, which suggests that individuals are more likely to engage in positive behaviors when they perceive that their efforts are reciprocated and valued by others (Amerstorfer & Frein von Münster-Kistner, 2021).

Further, it was revealed that teacher metapathy and empathy negatively predicted students' language anxiety, whereas teacher apathy positively predicted language anxiety. This result also confirmed the third hypothesis of this study. Due to the opposing relationship between motivation and anxiety, when students' motivation increases in a supportive and caring context built by their teacher, their anxiety decreases accordingly. While teachers show too much care for their students and put themselves in their shoes to understand what they have been going through, students will perceive how important they are to their teachers (Goetz et al., 2021). This helps a lot in creating a strong teacher-student relationship which results in a relaxed and stress-free environment for the students. But teacher apathy can lead to a nervous classroom. The more neutral and uncaring the teacher looks, the more anxious and worried the student might be. This finding aligned with previous research that has highlighted the importance of teacher support in reducing students' anxiety levels (Pekrun, 2006; Putwain et al., 2012).

Moreover, the study indicated that only teacher apathy was a significant negative predictor of foreign language achievement, which was in line with the studies of Fauth et al. (2014) and Wentzel (2002). This again verifies how much teachers can have a major role in students' performance in the classroom. When teachers show their concern and love to their students, a feeling of intimacy is established which assists students' learning and performance in the classroom. This result also confirmed the fourth hypothesis of this study. Without this intimacy and positive teacher-student relationship, students may show weak performance because they get this negative impression that their teacher does not care about them and does not value them. Similarly, Mabunda and Mulovhedzi (2020) emphasized the significance of the close relationship between teachers and students in influencing the academic achievement of students.

Considering the last hypothesis of the study, it was confirmed that teacher concern, mediated by active/passive motivation, directly and positively predicted foreign language achievement. This discovery was consistent with the self-determination theory, which emphasizes the significance of internal motivation in academic accomplishments (Ryan & Deci, 2017). This was in line with prior research that has shown how important teacher support is in improving students' motivation and academic performance (Jang et al., 2016; Patrick et al., 2011). Teacher concern can strengthen students' performance and lead them to better achievement, in case teacher concern makes students motivated and encouraged to get involved in both doing a task and thinking about it in the first place. Just as Hussain et al. (2021) mentioned that motivated students, perceiving teacher care, are eager to be attentive and hardworking which leads them to better learning outcomes. Further, the study illustrated that teacher concern, mediated by foreign language anxiety, could not predict language achievement. There might be conceptual reasons for this finding, such as the effect of environmental and sociocultural factors on students' performance nowadays. The environmental and cultural factors might have more influence on the psychological state of the students which was reflected in the language scores in the context of the current study.

In summary, dedicated teachers who truly prioritize their students are committed to promoting their success and overall welfare, both within and beyond the educational setting. It is shown that fostering strong connections and ensuring students feel appreciated can establish a favorable learning atmosphere, resulting in greater engagement and academic progress. This aligns well with established psychological theories, particularly the self-determination theory, highlighting the significance of fostering a sense of belonging and relatedness for enhanced motivation and learning outcomes in students. However, some teachers may become overly concerned and believe that their decisions are what's best for their students, even if they may seem challenging. This excessive caring can create pressure and negatively impact the student-teacher relationship, causing anxiety, stress, low self-esteem, and poorer performance.

Since this study highlighted the importance of teacher concern and its role in students' motivation, anxiety, and foreign language achievement, the pedagogical implications include the significance of teacher behavior, fostering positive teacher-student relationships, addressing language anxiety, individualizing instruction, engaging in professional development and self-reflection, and fostering collaboration and peer support. By implementing these strategies, teachers can create a supportive learning environment that promotes student motivation, reduces language anxiety, and enhances foreign language achievement.

Moreover, the study focused solely on Iranian EFL institute students, which may limit the generalizability of the findings. Convenient sampling was used to select participants based on ease of access and availability. The study was limited by time constraints, preventing a longitudinal study or inclusion of more participants. Further research should explore the influence of teacher concern on various aspects of language learning, examine cultural factors, investigate the effectiveness of interventions targeting teacher concern, study the longitudinal effects of teacher concern, consider the perspectives of different stakeholders, and explore the role of technology in enhancing teacher concern. By addressing these research suggestions, scholars can deepen their understanding of the relationship between teacher concern, motivation, anxiety, and language learning outcomes, leading to the development of more effective instructional practices and support systems for language learners.

## 6. Conclusion

The study found a strong positive connection between foreign language achievement and teacher caring behaviors, highlighting the positive effect of teachers showing genuine concern for their students' development. Additionally, the study revealed a strong correlation between student motivation and language achievement, and how teacher concern can help alleviate students' language anxiety. The study also found that teacher concern positively predicts students' motivation, while teacher apathy negatively affects

motivation, language anxiety, and proficiency in a foreign language. The study highlighted the subjective nature of teacher concern and its impact on students. Teachers should recognize that different students may respond differently to their concern. It is essential to individualize instruction and tailor teaching approaches to meet the needs and preferences of each student. This can be achieved through differentiated instruction, varied learning activities, and providing opportunities for student voice and choice in the classroom. To conclude, this study provides valuable insights into the critical role of teacher behavior in shaping students' motivation, language anxiety, and foreign language achievement. By recognizing the significance of teacher concern and addressing issues of apathy, teachers can create a positive and supportive learning environment that fosters students' motivation and facilitates their language learning journey.

### Author agreement statement

We declare that this manuscript is original, has not been published before and is not currently being considered for publication elsewhere.

We confirm that the manuscript has been read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed. We further confirm that the order of authors listed in the manuscript has been approved by all of us.

We understand that the Corresponding Author, Dr. Shaghayegh Shayesteh, is the sole contact for the Editorial process. She/he is responsible for communicating with the other authors about progress, submissions of revisions and final approval of proofs.

### CRedit authorship contribution statement

**Saba Hasanzadeh:** Writing – original draft. **Reza Pishghadam:** Supervision. **Shaghayegh Shayesteh:** Writing – review & editing, Supervision.

### Declaration of Competing Interest

None.

### Data Availability

The data that has been used is confidential.

### References

- Alderman, M. K. (2004). *Motivation for achievement: Possibilities for teaching and learning* (2nd ed.). Lawrence Erlbaum Associates Publishers.
- Amerstorfer, C. M., & Frein von Münster-Kistner, C. (2021). Student perceptions of academic engagement and student-teacher relationships in problem-based learning. *Frontiers in Psychology, 12*, 4978.
- Anderson, V., Rabello, R., Wass, R., Golding, C., Rangi, A., Eteuati, E., ... Waller, A. (2020). Good teaching as care in higher education. *Higher Education, 79*, 1–19.
- Ansari, A., Hofkens, T. L., & Pianta, R. C. (2020). Teacher-student relationships across the first seven years of education and adolescent outcomes. *Journal of Applied Developmental Psychology, 71*, 101–200. <https://doi.org/10.1016/j.appdev.2020.101200>
- Arnold, L. S., & Walker, R. (2008). Co-constructing classroom environments that improve academic outcomes. *Motivation and practice for the classroom* (pp. 165–184). Brill.
- Baños, J. H., Noah, J. P., & Harada, C. N. (2019). Predictors of student engagement in learning communities. *Journal of Medical Education and Curricular Development, 6*, 1–6. <https://doi.org/10.1177/2382120519840330>
- Bembenutty, H., & White, M. C. (2013). Academic performance and perceptions of teacher support in high school: The mediating role of motivational variables. *School Psychology Quarterly, 28*(3), 222–235.
- Brok, P., Brekelmans, M., & Wubbels, T. (2005). Interpersonal teacher behavior and student outcomes. *School Effectiveness and School Improvement, 16*(4), 407–442. <https://doi.org/10.1080/09243450512331383262>
- Brown, R., Pressley, M., Van Meter, P., & Schuder, T. (1996). A quasi-experimental validation of transactional strategies instruction with low-achieving second-grade readers. *Journal of Educational Psychology, 88*(1), 18–37. <https://doi.org/10.1037/0022-0663.88.1.18>
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen, & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Sage.
- Chetty, R., Friedman, J. N., & Rockoff, J. E. (2014). Measuring the impacts of teachers II: Teacher value-added and student outcomes in adulthood. *The American Economic Review, 104*(9), 2633–2679. <https://doi.org/10.1257/aer.104.9.2633>
- Cornelius-White, J. (2007). Learner-centered teacher-student relationships are effective: A meta-analysis. *Review of Educational Research, 77*(1), 113–143. <https://doi.org/10.3102/003465430298563>
- Decety, J., Bartal, I., Uzevovsky, F., & Knafo-Noam, A. (2016). Empathy as a driver of prosocial behaviour: Highly conserved neurobehavioural mechanisms across species. *Philosophical Transactions of the Royal Society B: Biological Sciences, 371*(1686), 1–11. <https://doi.org/10.1098/rstb.2015.0077>
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination theory in human behavior*. Springer Science & Business Media.
- Derakhshan, A. (2022). *The "5Cs" positive teacher interpersonal behaviors: Implications for learner empowerment and learning in an L2 context*. Springer.
- Derakhshan, A., Wang, Y., Wang, Y., & Ortega-Martín, J.-L. (2023). Towards innovative research approaches to investigating the role of emotional variables in promoting language teachers' and learners' mental health. *International Journal of Mental Health Promotion, 25*(7), 823–832.
- Dewaele, J. M., & Dewaele, L. (2020). Are foreign language learners' enjoyment and anxiety specific to the teacher? An investigation into the dynamics of learners' classroom emotions. *Studies in Second Language Learning and Teaching, 10*(1), 45–65. <https://doi.org/10.14746/ssllt.2020.10.1.3>
- Dewaele, J. M., & MacIntyre, P. (2019). The predictive power of multicultural personality traits, learner and teacher variables on foreign language enjoyment and anxiety. In M. Sato, & S. Loewen (Eds.), *Evidence-based second language pedagogy: A collection of Instructed Second Language Acquisition studies*. Routledge.
- Dewaele, J.M., Saito, K., & Halimi, F. (2022). How teacher behaviour shapes foreign language learners' enjoyment, anxiety and attitudes/motivation: A mixed modelling longitudinal investigation. *Language Teaching Research, 13*621688221089601.
- Doirney, Z. (2001). *Motivational strategies in the language classroom*. Cambridge University Press.
- Doirney, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition*. Routledge.

- Doirneyi, Z., & Ushioda, E. (2011). *Teaching and researching motivation* (2nd ed.). Routledge.
- Eisenberg, N., VanSchyndel, S. K., & Hofer, C. (2015). The association of maternal socialization in childhood and adolescence with adult offspring's sympathy/caring. *Developmental Psychology*, 51(1), 7–16. <https://doi.org/10.1037/a0038137>
- Elahi Shirvan, M., & Talebzadeh, N. (2020). Tracing the signature dynamics of foreign language classroom anxiety and foreign language enjoyment: A retrodictive qualitative modeling. *Eurasian Journal of Applied Linguistics*, 6(1), 23–44. <https://doi.org/10.32601/ejal.710194>
- Elahi Shirvan, M., Taherian, T., Shahnama, M., & Yazdanmehr, E. (2021). A longitudinal study of foreign language enjoyment and L2 grit: A latent growth curve modeling. *Frontiers in Psychology*, 12, Article 720326. <https://doi.org/10.3389/fpsyg.2021.720326>
- Ellis, R. (2009). Understanding interpersonal relationships in the Chinese context. *Journal of Intercultural Communication*, 20(3).
- Ellis, R., & Barkhuizen, G. (2005). *Analyzing learner language*. Oxford University Press.
- Engels, M. C., Pakarinen, E., Lerkanen, M. K., & Verschuere, K. (2019). Students' academic and emotional adjustment during the transition from primary to secondary school: A cross-lagged study. *Journal of School Psychology*, 76, 140–158. <https://doi.org/10.1016/j.jsp.2019.07.012>
- Fauth, B., Decristan, J., Rieser, S., Klieme, E., & Büttner, G. (2014). Student ratings of teaching quality in primary school: Dimensions and prediction of student outcomes. *Learning and Instruction*, 29, 1–9. <https://doi.org/10.1016/j.learninstruc.2013.09.002>
- Freeman, D. (2002). The hidden side of the work: Teacher knowledge and learning to teach. *Language Teaching*, 35(1), 1–13.
- Gardner, R. C., Day, J. B., & MacIntyre, P. D. (1992). Integrative motivation, induced anxiety, and language learning in a controlled environment. *Studies in Second Language Acquisition*, 14, 197–214. <https://doi.org/10.1017/S0272263100010822>
- Goetz, T., Bieleke, M., Gogol, K., van Tartwijk, J., Mainhard, T., Lipnevich, A. A., & Pekrun, R. (2021). Getting along and feeling good: Reciprocal associations between student-teacher relationship quality and students' emotions. *Learning and Instruction*, 71, Article 101349. <https://doi.org/10.1016/j.learninstruc.2020.101349>
- Gregersen, T. S. (2003). To err is human: A reminder to teachers of language-anxious students. *Foreign Language Annals*, 36(1), 25–32. <https://doi.org/10.1111/j.1944-9720.2003.tb01929.x>
- Groves, T., Strachan, R., Pekrun, R., Schutz, P. A., Malaimakuni, A., Li, M., Yang, J., Xie, Y., Derakhshan, A., Pishghadam, R., & Khajavi, D. (2015). Teacher concern, student motivation, anxiety, and language achievement. *Journal of Educational Psychology*, 107(4), 1076–1091. <https://doi.org/10.1037/edu0000018>
- Hascher, T., Hagenauer, G., & Volet, S. (2018). Teacher-student relationship at university: An important yet under-researched field. *Studies in Higher Education*, 43(7), 1239–1253.
- Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign language classroom anxiety. *The Modern Language Journal*, 70(2), 125–132. <https://doi.org/10.2307/327317>
- Hughes, J. N., Luo, W., Kwok, O. M., & Loyd, L. K. (2012). Teacher-student support, effortful engagement, and achievement; A 2-year longitudinal study. *Journal of Educational Psychology*, 104(4), 974–986.
- Hussain, A., Mkpjojiogu, E., & Ezekwudo, C. (2021). Improving the academic self-efficacy of students using mobile educational apps in virtual learning: A review. *International Journal of Interactive Mobile Technologies*, 15, 149–160. <https://doi.org/10.3991/ijim.v15i06.20627>
- Jackson, P. A. (2012). Rethinking the relationship between school socioeconomic composition and student achievement in public schools. *American Journal of Education*, 118(2), 215–248. <https://doi.org/10.1086/665736>
- Jang, H., Kim, E. J., & Reeve, J. (2016). Longitudinal test of self-determination theory's motivation mediation model in a naturally occurring classroom context. *Journal of Educational Psychology*, 108(6), 897–912. <https://doi.org/10.1037/edu0000117>
- Jolliffe, W. G., & Waugh, R. F. (2016). The role of teacher-student relationships in the formation of school connectness: A literature review. *Children & Schools*, 38(3), 165–173. <https://doi.org/10.1093/cs/cdw018>
- Jang, H., Kim, E. J., & Reeve, J. (2010). Longitudinal test of self-determination theory's motivation mediation model in a naturally occurring classroom context. *Journal of Educational Psychology*, 102(4), 933–944.
- Joshi, R., & Mohanty, P. (2019). Teacher-student relationship and its impact on academic achievement of students. *International Journal of Social Sciences and Humanities*, 3(1), 45–56.
- Khodadady, E., & Khajavy, G. H. (2013). Exploring the role of anxiety and motivation in foreign language achievement: A structural equation modeling approach. *Porta Linguarum*, 20, 269–286. <https://doi.org/10.30827/DigiBug.20240>
- Lamm, C., Rütgen, M., & Wagner, I. C. (2019). Imaging empathy and prosocial emotions. *Neuroscience Letters*, 693(6), 49–63. <https://doi.org/10.1016/j.neulet.2017.06.054>
- Latif, L. A., Fadzil, M., Bahroom, R., Mohamad, W., & San Ng, M. (2011). The role of motivation, attitude, anxiety and instrumental orientation in influencing learners' performance in English as a second language in OUM. *Global Learn* (pp. 1659–1668). Association for the Advancement of Computing in Education (AACE).
- Li, C., Huang, J., & Li, B. (2021). The predictive effects of classroom environment and trait emotional intelligence on foreign language enjoyment and anxiety. *System*, 96, Article 102393.
- Mabunda, N. R., & Mulovhedzi, S. A. (2020). The impact of teacher-learner's interpersonal relationship on learners' academic success in primary school of Soutpansberg West Circuit. *Gender Behaviour*, 18, 16034–16041.
- MacIntyre, P. D., & Gardner, R. C. (2016). Anxiety and second language learning: Toward a theoretical clarification. *Language Learning*, 66(2), 202–233.
- Marwan, A. (2007). Investigating students' foreign language anxiety. *Malaysian Journal of ELT Research*, 3, 37–55.
- Mazzone, L., Ducci, F., Scoto, M. Ch, Passaniti, E., D'Arrigo, V. G., & Vitiello, B. (2007). The role of anxiety symptoms in school performance in a community sample of children and adolescents. *BMC Public Health*, 7(347). <https://doi.org/10.1186/1471-2458-7-347>
- Nobis, L., & Husain, M. (2018). Apathy in Alzheimer's disease. *Current Opinion in Behavioral Sciences*, 22, 7–13. <https://doi.org/10.1016/j.cobeha.2017.12.007>
- Pan, C., & Zhang, X. (2021). A longitudinal study of foreign language anxiety and enjoyment. *Language Teaching Research*, 1–24. <https://doi.org/10.1177/1362168821993341>
- Papi, M., & Teimouri, Y. (2014). Language learning motivation from a dynamic systems perspective: Exploring the role of timing of motivation. *Modern Language Journal*, 98(3), 775–795.
- Patrick, H., Anderman, L. H., Ryan, A. M., Edelin, K. C., & Midgley, C. (2011). Teachers' communication of goal orientations in four fifth-grade classrooms. *Elementary School Journal*, 111(2), 328–358. <https://doi.org/10.1086/660702>
- Pekrun, R. (2006). The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice. *Educational Psychology Review*, 18(4), 315–341. <https://doi.org/10.1007/s10648-006-9029-9>
- Pekrun, R., & Schutz, P. A. (2007). Where do we go from here? Reactions to achievement emotions research. *Educational Psychologist*, 42(1), 1–4. <https://doi.org/10.1080/00461520701263368>
- Pishghadam, R., Adamson, B., & Shayesteh, S. (2013). Emotion-based language instruction (EBLI) as a new perspective in bilingual education. *Multilingual Education*, 3(1), 1–16. <https://doi.org/10.1186/2191-5059-3-9>
- Pishghadam, R., Al Abdwani, T., Kolahi Ahari, M., Hasanzadeh, S., & Shayesteh, S. (2022). Introducing metapathy as a movement beyond empathy: A case of socioeconomic status. *International Journal of Society, Culture & Language*, 10(2), 35–49. <https://doi.org/10.22034/ijsc.2022.252360>
- Pishghadam, R., Ebrahimi, S., Rajabi Esterabadi, A., & Parsae, A. (2023). Emotions and success in education: From apathy to transpathy. *Journal of Cognition. Emotion & Education*, 1(1), 1–16. <https://doi.org/10.22034/cee.2023.172495>
- Pishghadam, R., Ebrahimi, S., & Tabatabaiean, M. (2019). *A novel approach to psychology of language education*. Ferdowsi University of Mashhad Press.
- Pishghadam, R., Jajarmi, H., & Shayesteh, S. (2016). Conceptualizing sensory relativism in light of emotiony: A movement beyond linguistic relativism. *The International Journal of Society, Culture and Language*, 4(2), 11–21.
- Pishghadam, R., & Karami, M. (2017). Probing language teachers' stroking and credibility in relation to their success in class. *Alberta Journal of Educational Research*, 63(4), 378–395. <https://doi.org/10.11575/ajer.v63i4.56431>
- Pishghadam, R., & Khajavy, G. H. (2014). Development and validation of the student stroke scale and examining its relation with academic motivation. *Studies in Educational Evaluation*, 43, 109–114. <https://doi.org/10.1016/j.stueduc.2014.03.004>



- Pishghadam, R., Makiabadi, H., Shayesteh, S., & Zeynali, S. (2019). Unveiling the passive aspect of motivation: Insights from English language teachers' habitus. *International Journal of Society, Culture & Language*, 7(2), 15–26.
- Putwain, D. W., Connors, L., Symes, W., & Douglas-Osborn, E. (2012). Is academic buoyancy anything more than adaptive coping? *Anxiety, Stress & Coping*, 25(3), 349–358. <https://doi.org/10.1080/10615806.2011.608040>
- Rosenfeld, L. B., Richman, J. M., & Bowen, G. L. (2000). Social support networks and school outcomes: The centrality of the teacher. *Child and Adolescent Social Work Journal*, 17(3), 205–226. <https://doi.org/10.1023/A:1007535930286>
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78.
- Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Press.
- Sadeghi Ordoubadi, M., Tabatabaeian, M., & Farkhondehfar, E. (2023). Communication apprehension, privacy preferences and L2 willingness to communicate: Can they predict communication ability. *Journal of Business, Communication & Technology*, 2(2), 39–53. <https://doi.org/10.56632/bct.2023.2204>
- Sanaei, O. (2016). Investigating anxiety symptoms and reactions within EFL learners' oral narratives: The case of intermediate level students. *Journal of Language Teaching and Research*, 7(5), 902.
- Schumacker, R. E., & Lomax, R. G. (2010). *A beginner's guide to structural equation modeling* (3rd ed.,.). Routledge Academic.
- Sena, J. D. W., Lowe, P. A., & Lee, S. W. (2007). Significant predictors of test anxiety among students with and without learning disabilities. *Journal of Learning Disabilities*, 40(4), 360–376. <https://doi.org/10.1177/00222194070400040601>
- Shen, Y., & Guo, H. (2022). Increasing Chinese EFL learners' grit: the role of teacher respect and support. *Frontiers in Psychology*, 13, Article 880220.
- Shirzadeh, F., & Jajarmi, H. (2023). Teachers' stroking behavior in anxiety, willingness to communicate, and achievement. *Journal of Cognition, Emotion & Education*, 1(1), 43–57. <https://doi.org/10.22034/cee.2023.172167>
- Smith, J. (2010). The role of motivation in language learning. *Language Teaching*, 43(4), 385–395.
- Solomon, D., Battistich, V., Watson, M., Schaps, E., & Lewis, C. (2000). A six-district study of educational change: Direct and mediated effects of the child development project. *Social Psychology of Education*, 4(1), 3–51. <https://doi.org/10.1023/A:1009609606692>
- Song, X., & He, X. (2021). Teachers' dispositions toward mindfulness in EFL/ESL classrooms in teacher-student interpersonal relationships. *Frontiers in Psychology*, 12, Article 754998.
- Staddon, J. (2001). *The new behaviorism: Mind, mechanism, and society*. Psychology Press.
- Strachan, R. (2020). Exploring the relationship between teacher concern, student motivation, anxiety, and language achievement. *Journal of Educational Research*, 115(3), 320–336. <https://doi.org/10.1080/00220671.2020.1749732>
- Talebzadeh, N., Elahi Shirvan, M., & Khajavy, G. H. (2020). Dynamics and mechanisms of foreign language enjoyment contagion. *Innovation in Language Learning and Teaching*, 14(5), 399–420. <https://doi.org/10.1080/17501229.2019.1614184>
- Sun, Y. (2021). The effect of teacher caring behavior and teacher praise on students' engagement in EFL classrooms. *Frontiers in Psychology*, 12, 3840.
- Tindan, T. N., Abubakari, M. A., Antwi, V., Dorsah, P., & Kwakye, D. O. (2023). Gender perspective of interpersonal relationships in pre-tertiary schools as a teacher motivator. *Mediterranean Journal of Social Sciences*.
- Tsigilis, N., Karamane, E., & Gregoriadis, A. (2023). Examination of student-teacher interpersonal relationships circumplex model in the Greek educational context. *Psychological Reports*, 126(2), 984–1002.
- Vansteenkiste, M., Simons, J., Lens, W., Sheldon, K. M., & Deci, E. L. (2004). Motivating learning, performance, and persistence: The synergistic effects of intrinsic goal contents and autonomy-supportive contexts. *Journal of Personality and Social Psychology*, 87(2), 246–260.
- Verschueren, K., & Koomen, H. M. (2012). Teacher-child relationships from an attachment perspective. *Attachment & Human Development*, 14(3), 205–211. <https://doi.org/10.1080/14616734.2012672260>
- Waldbuesser, C. (2019). *Extending emotional response theory: Testing a model of teacher communication behaviors, student emotional processes, student academic resilience, student engagement, and student discrete emotions*. [Doctoral dissertation, Ohio University].
- Wang, J., Zhang, X., & Zhang, L. J. (2022). Effects of teacher engagement on students' achievement in an online English as a foreign language classroom: The mediating role of autonomous motivation and positive emotions. *Frontiers in Psychology*, 13, Article 950652.
- Wentzel, K. R. (2002). Are effective teachers like good parents? Teaching styles and student adjustment in early adolescence. *Child Development*, 73(1), 287–301. <https://doi.org/10.1111/1467-8624.00402>
- Wentzel, K. R. (2016). Teacher-student relationships and adolescent competence at school. In *Handbook of Adolescent Development* (pp. 247–266). Springer.
- Xie, F., & Derakhshan, A. (2021). A conceptual review of positive teacher interpersonal communication behaviors in the instructional context. *Frontiers in Psychology*, 12, Article 708490. <https://doi.org/10.3389/fpsyg.2021.708490>
- Xie, Y., Shen, J., & Liu, Y. (2018). Teacher-student relationship and student outcomes: Evidence from middle schools in China. *Children and Youth Services Review*, 91, 343–351. <https://doi.org/10.1016/j.childyouth.2018.06.040>