

The interplay among self-regulation, emotions and teaching styles in higher education: a path analysis approach

Self-regulation,
emotions and
teaching styles

Tahereh Heydarnejad

Hakim Sabzevari University, Sabzevar, Iran, and

Azar Hosseini Fatemi and Behzad Ghonsooly

Ferdowsi University of Mashhad, Mashhad, Iran

Received 12 August 2020
Accepted 4 March 2021

Abstract

Purpose – For this purpose, Teacher Self-Regulation Scale (TSRS), Emotions Questionnaire for Teachers (EQT) and Grasha's Teaching Style Inventory (TSI) were employed to gauge the influences of teacher self-regulation on university teachers' emotions and preferred teaching style. The participants of this study were 320 university teachers, majored in different branches of English (English Literature, English Teaching, English Translation), teaching in different universities of Iran. To shed light on the causal associations, a path analysis was run using LISREL 8.80.

Design/methodology/approach – Following the pivotal role of effective teaching on educational well-being, the present study delve into three significant teacher-related variables i.e. teacher self-regulation, emotions and teaching style. For this purpose, TSRS, EQT, and Grasha's TSI were employed to gauge the influences of teacher self-regulation on university teachers' emotions and preferred teaching style. The participants of this study were 320 university teachers, majored in different branches of English (English Literature, English Teaching, English Translation), teaching in different universities of Iran. To shed light on the causal associations, a path analysis was run using LISREL 8.80.

Findings – Based on the findings, teacher self-regulation predicts pleasant emotions positively; whereas, it predicts unpleasant emotions in a negative direction. The results also demonstrate that teacher self-regulation positively and significantly predicts student-centred styles (Facilitator and Delegator), and the reverse is true for teacher-centred styles (Formal Authority, Personal Model, and Expert).

Research limitations/implications – Future studies may advance the possible relationships among the subscales of teacher self-regulation, teacher emotion and teaching style. Also, further investigations are suggested to target the teacher self-regulation, teacher emotion and teaching style in enhancing language learners' achievement.

Practical implications – The implications of this study may redound to the advantage of policy makers, curriculum designers, teacher educators, as well as university teachers.

Social implications – The implications of this study may redound to the advantage of policy-makers, curriculum designers, teacher educators, as well as university teachers.

The authors are grateful to all the EFL university teachers who participated in this research. The authors also wish to thank the anonymous reviewers for their constructive comments and suggestions. The authors received no funding for this research.

Declarations

Funding: This study was not funded.

Ethics approval: All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Consent to participate: Informed consent was obtained from all individual participants included in the study

Consent for publication: Not applicable.

Availability of data and material: Not applicable

Code availability: Not applicable

Conflicts of interest/Competing interests: The authors declare that they have no conflict of interest.



Journal of Applied Research in
Higher Education
© Emerald Publishing Limited
2050-7003
DOI 10.1108/JARHE-08-2020-0260

1. Introduction

Teaching is an enriching and inspiring career, although demanding and exhausting at times. The fundamental job of a teacher is not only to distribute information but also to encourage students to want to learn. If they are successful in creating that desire, the next thing is to help students learn how to use them by developing their abilities to think critically, creatively and reflectively. To accomplish this, teachers as the centre of the successful educational system must productively navigate the curriculum, manage the classroom materials, engage students to learn, and in short, prepare effective learning. Effective teaching identifies in many ways; teachers' behaviour, knowledge and beliefs are among some of them (Good *et al.*, 2009). Thus, due to the considerable role of teachers in successful education, it is worthwhile to study the factors which lead to their effectiveness.

One of the crucial factors influencing the effectiveness of teaching is teacher self-regulation. Self-regulation as a compass to professional improvement (Davis and Gray, 2007) refers to autonomous activities and attitudes, which involves monitoring oneself to achieve the ultimate targets (Zimmerman and Kitsantas, 1999). As Baylor *et al.* (2001) stipulated, teacher self-regulation can foster their expertise in lesson planning and advance students' learning. Self-regulation is also the first step in teaching students about their monitoring and helping them to co-regulate using a variety of strategies. Owing to what was noted on the potent role of teacher self-regulation and concerning the lack of research in this domain, it seems essential to explore the factors that may contribute to its development.

The present study also sought to probe into teacher emotion, the all-to-often neglected issue (Author *et al.*, 2018). How teachers manage emotions in the classroom is an integral part of maintaining their well-being and professional performance in an educational setting. Previous studies have mirrored that emotions are highly relevant to effective teaching (Chen, 2019; Azari Noughabi *et al.*, 2020). Furthermore, previous studies only focused qualitatively on teachers' emotions (Chen, 2019; Burić *et al.*, 2019) or only focused on enjoyment, anger and anxiety (Keller *et al.*, 2014). Moreover, most of the studies examined teachers' emotions in general educational contexts (Schutz and Pekrun, 2007). Hence, it has been found that teachers' emotions are different in various subjects and with diverse groups of students (Frenzel *et al.*, 2015).

Another critical factor in the effectiveness of teachers is their teaching styles. Both a teacher's conception of efficiency and his/her teaching style are significant in achieving educational goals (Saracho, 2001). The ways teachers can lead, are as varied as teachers themselves. Teachers assume a wide range of roles to support the school and students' success. Teachers' emotional experiences have some bearings on the teaching styles teachers adopt in their classes (Author *et al.*, 2017a). This is in accord with Chen (2018), who found the closed relationships between teacher emotions and teaching approaches.

The above-mentioned studies highlight the contributing effects of teacher self-regulation, emotion, and teaching style as well as on their practices and instructional behaviours; however, to the researchers' best knowledge, no study has ever considered these variables in a single study, especially among university teachers. Furthermore, ties between teachers' self-regulation, emotions and teaching styles have remained an untouched area of research. To shed light on any gaps in previous research and to follow the significance of teachers' self-regulation, emotional experiences, and adopted teaching style in fostering effective teaching and learning, this study was conducted among EFL university teachers in Iran. To this end, the following research questions were put forth in the current study:

-
- | | |
|--|--|
| <p>(1) To what extent EFL university teachers' self-regulation could predict their emotions?</p> <p>(2) To what extent EFL teachers' self-regulation could predict their teaching style preferences?</p> | <p>Self-regulation,
emotions and
teaching styles</p> |
|--|--|

Based on the research questions, the following null hypotheses could be formulated:

HO1. EFL university teachers' self-regulation has no impact on their emotions.

HO2. EFL university teachers' self-regulation has no impact on their teaching style preferences.

2. Literature review

2.1 Self-regulation

Self-regulation specifies thoughts and activities that are managed and modified to achieve the objectives (Zimmerman, 2000). In light of the existing literature on self-regulation, it can be concluded that self-regulation can develop gradually from external regulation to internal self-regulation (Schoore, 2000). Accordingly, the fundamental processes underlying self-regulation are settled by specific brain networks and mechanisms. Further approaches to the conceptualization of the self-regulation adopt a contextual stance with an emphasis on the situational stimulus of the behavioural self-regulation. Another view of self-regulation originates from social psychological studies, rooted in the interpersonal dimension of regulation. Recently, a growing body of research has emerged to support the idea that social factors have multiple influences on individuals' self-regulatory achievement (Vohs and Faber, 2007).

Approaches and theories about learner self-regulation in the educational context also generalize to teachers. At schools, both teachers and learners experience different challenges, which need to be controlled, monitored and regulated. That means effective teachers are those who adjust themselves to different encountering situations and circumstances. Teacher self-regulation can be evaluated from two viewpoints: personal and social (Delfino *et al.*, 2010). From the personal approach, teachers should be empowered with self-regulatory strategies to support their well-being and effectiveness. From the social approach, self-regulatory strategies enable teachers to adapt to various needs and changes in the modern and technological era (Author *et al.*, 2017b). In an empirical study, Yesim *et al.* (2009) developed Teacher Self-Regulation Scale (TSRS) based on Zimmerman's self-regulation model (2000). This model is basically about student self-regulation which was generalized to teachers. This scale was utilized in the current study.

All in all, a glance through the literature on self-regulation revealed that a significant body of the literature has devoted to the learners (Alvi and Gillies, 2020; Peel, 2020). They considered the teacher self-regulation as a way to stimulate self-regulatory skills in students (De la Fuenteand and Justicia, 2007). Therefore, the picture in the realm of teacher self-regulation is not rosy and this gap in the field calls for more studies.

2.2 Emotion

Leafing through the studies on emotions in educational settings, reveals two areas of research, namely students' emotions and teachers' emotions. A plethora of studies have been conducted on students' emotions (e.g. Goetz *et al.*, 2007; Rienties and Rivers, 2014), but in the area of teachers' emotions, the dearth is grave (Frenzel, 2014; Author *et al.*, 2018; Burić *et al.*, 2019; Azari Noughabi *et al.*, 2020). Based on Sutton and Wheatley (2003), there are two reasons for the grave dearth of such studies: (1) recent psychological attention to teachers' emotions and (2) the misbelief about emotion (connected to negative ideas like irrational,

primitive, and immature). Consistent with the above argument, Zembylas (2003) explained three reasons for which teacher emotion was neglected: (1) teaching is generally assumed as a cognitive affair not as an affective one; (2) emotions are thought as elusive and difficult to grasp; thus, they were ignored to be studied; (3) emotions are considered as a feminine concept, and consequently regarded worthless. Moreover, in Western culture, it was believed that the concept of emotion is improper to deal with (Oatley and Jenkins, 1996). This might be a reason for excluding emotion from the American Educational Research Association's annual meeting in the United States for some years (Elliott, 2005). A glance through the literature shows that psychological studies on emotion initiated in the early 1980s (Lewis and Haviland, 1993), yet in the field of teacher emotion, it was bloomed in the late 1990s (Sutton and Wheatley, 2003).

Emotion is stemmed from the Latin word, *emovere*, meaning to move out, to stir up (Hargreaves, 1998). According to Sutton and Wheatley (2003), pleasant emotions elevate the generation of effective teaching strategies, while negative emotions reduce teachers' intrinsic motivation (Ryan and Deci, 2000). One of the significant pleasant emotions endorsed by teachers is enjoyment, which may be due to activity-related enjoyment, outcome-related enjoyment or anticipatory joy (Frenzel, 2014). Based on the existing literature on teacher emotion, enjoyment is the most dominant emotion for teachers (e.g. Carson, 2007; Author *et al.*, 2017a, b; Khajavi *et al.*, 2018; Burić *et al.*, 2019). Among the sources of teachers' enjoyment, their learners' progress is proved to be the major one (Hargreaves, 1998; Sutton and Wheatley, 2003). Closely associated with enjoyment is pride, which can be self- or other-directed (Keller *et al.*, 2014). That is, teachers may experience this emotion because of their development or their learners' success.

The most dominant unpleasant emotion experienced by teachers in the classroom is anger (Sutton, 2007; Frenzel, 2014; Burić and Frenzel, 2019), which may be due to internal or external factors such as learners' inattention, failure, disciplinary problems, uncooperative colleagues, as well as irresponsible parents. Another prominent unpleasant emotion for teachers is anxiety. Teachers may feel anxious when they are not prepared for teaching, have problems with other colleagues or learners' parents, or unsatisfied with their own achievement (Darby, 2008; Khajavi *et al.*, 2018). The next two frequent unpleasant emotions for teachers in the educational contexts are shame and guilt (Frenzel, 2014). Despite the possibility that laypeople may utilize the two words as synonyms, but they differ. Shame is a social emotion relevant to the negative evaluation of people (Bibby, 2002). Guilt, on the other hand, is personal and may happen by the negative judgment of oneself (Lewis, 2001). Boredom is also considered as a frequent unpleasant emotion endorsed by teachers (Frenzel, 2014). This finding is confirmed by the recent study of Khajavi *et al.* (2018), who studied the antecedents of pleasant and unpleasant emotions EFL teachers encountered in their classrooms. Furthermore, in a qualitative study by Akbari *et al.* (2020), the nature of emotion regulation behaviour among EFL teachers was explored. As they stated, their study reflects a new light on the emotional experiences of language teachers.

2.3 Teaching style

Teaching style refers to a teacher's distinctive performance, views, values and personal approaches utilized for transmitting and receiving data to the learners (Kaplan and Kies, 1995). Similarly, Cooper (2001) defined teaching style as activities, methods and techniques teachers use in the class. This notion has evolved in the 1990s focusing on offering services for teaching methodologies, learning theories, and different variables in effective teaching (Filonova, 2008). Similar to the learners, who are different based on different learning styles, teachers vary. Some teachers preferred teacher-centred styles, while others may tend to learner-centred ones.

A review of the literature on teaching styles reveals different models for teaching style classification with various terminologies. For example, [Flanders \(1970\)](#) classified teaching styles as Direct or Indirect; [Bennett *et al.* \(1976\)](#) divided them into Formal-Informal; [Solomon and Kendall \(1979\)](#) categorized them as Open-Traditional. In the current research, Grasha's model was utilized due to its integrity and comprehensiveness. Grasha classified teaching styles into five categorizations based on teachers' typical orientations and strategies used in the educational context: Expert, Formal Authority (the Lecture Style), Personal Model, Facilitator, and Delegator styles of teaching ([Grasha, 1996](#)).

- (1) Expert: A teacher with expert style has a high level of knowledge or skill in a particular subject. He/She is concerned about the complete transfer of information for the learners.
- (2) Formal authority: A teacher with formal authority style is like an authority in the class, supervises learners critically. He/She emphasizes rules and standard procedures.
- (3) Personal model: A teacher adopted personal model style behaves to establish a model for learners' thinking and learning styles.
- (4) Facilitator: A teacher with facilitator style tries to facilitate learning by providing teacher-learner good rapport. He/She helps learners to make informed choices.
- (5) Delegator: A teacher with delegator style aims to develop autonomous and responsible learners. He/She is the source of any helps for the learners on any occasion.

The theoretical framework of this classification is rooted in the traditional polarity of teacher-centred and learner-centred teaching style classifications ([Grasha, 1996](#)). The expert style, the personal model style, and the formal authority style are among teacher-centred styles; contrarily, the facilitator style, and the delegator style are attributed to learner-centred styles. Teachers are not restricted to one style in their classes. They may use all or some of these styles, but the degree is different, and a particular teaching style is dominant in their teaching. According to Grasha's study ([1994](#)), with large classes, required and major courses, freshmen and sophomores learners, time pressure, or when preparing for a standard test is the aim, expert/formal teaching style was preferred. That is, the expert/formal authority cluster provides an acceptable way to, and it also helps easily meet the expectations of the course. On the other hand, teachers who use an expert/facilitative/delegative cluster of styles are more willing to take risks. This may be due to their belief in collaborative and active learning styles ([Grasha, 1994](#)). Similarly, [Tavakoli and Karimnia \(2017\)](#) claimed that teachers' educational and cultural background along with their teaching and learning experiences affects their teaching style preferences in Iranian EFL context. In the same vein, [Karimnia and Mohammadi \(2019\)](#) concluded a significant difference between EFL teachers with regard to the effects of teaching experience on teaching style preferences.

In a nutshell, researchers view teacher self-regulation, emotion, and teaching style to be effective in improving teachers' well-being and professional development ([Peel, 2020](#); [Khajavy *et al.*, 2018](#)). In spite of the significance of these three concepts, scrutinizing the related literature on language teacher self-regulation mirrored the scarcity of empirical data, particularly among EFL university teachers. Furthermore, self-regulation is associated with self-monitoring and self-evaluation ([Yesim *et al.*, 2009](#)). Thus, this study is a response to the call for better understanding of teacher self-regulation and its predictive power of emotion evaluation and monitoring effective teaching style in higher education.

3. Method

The methodological steps, which were taken in conducting this study, are as follows.

3.1 Participants

320 university teachers (123 male and 185 female) took part in this study, twelve teachers did not specify their gender. The participants were chosen based on convenience sampling, who were all university teachers majored in different branches of English: English Literature (115), English Teaching (132), English Translation (48), and 25 teachers were Ph.D. candidates in English Teaching. They were chosen from different age groups, with various years of teaching experiences, and both genders to assure generalizability with 1–26 years of teaching experience.

3.2 Instruments

A battery of three questionnaires was used in the present study as follows:

- (1) Teacher Self-Regulation Scale (TSRS)
- (2) Emotions Questionnaire for Teachers (EQT)
- (3) Grasha's Teaching Style Inventory (TSI)

3.2.1 Teacher self-regulation scale (TSRS). Teacher Self-Regulation Scale (TSRS) developed and validated by [Yesim et al. \(2009\)](#), was utilized to measure teacher self-regulation. It contains 40 items and nine subscales in the following sequence: goal setting, intrinsic interest, performance goal orientation, mastery goal orientation, self-instruction, emotional control, self-evaluation, self-reaction, and help-seeking. This inventory is on a six-point Likert type scale, ranging from "strongly disagree" to "strongly agree." Furthermore, one item as a filter was added to these 40 items and was not assessed in following analyses. In this study, the reliability of TSRS estimated via Cronbach's alpha was 0.883, which showed acceptable reliability ([Table 1](#)).

3.2.2 Emotions questionnaire for teachers (EQT). [Frenzel et al. \(2013\)](#) designed and validated Emotions Questionnaire for Teachers (EQT) to assess enjoyment, anxiety, and anger. Moreover, [Khajavi et al. \(2016\)](#), by reviewing the literature developed items for pride, shame, and boredom. This Questionnaire include 24 items with six subscales. Each emotion is measured by four items and must be answered on a six-point Likert scale ranging from "strongly disagree" to "strongly agree." The results of Cronbach's alpha test ([Table 1](#)) indicated acceptable reliability for all components of EOT (ranged from 0.786 to 0.891).

T1

Subscales	Cronbach's alpha
Anger	0.831
Anxiety	0.839
Boredom	0.858
Enjoyment	0.891
Pride	0.786
Delegator	0.891
Expert	0.885
Facilitator	0.869
Formal authority	0.886
Personal model	0.896
Self-regulation	0.883

Table 1.
The results of
Cronbach's alpha

3.2.3 *Grasha's teaching style inventory (TSI)*. For measuring teaching style preferences, Grasha's Teaching Style Inventory (1996) was employed. It comprises 40 items on a seven-point Likert type scale with five components as following: expert, formal authority, personal model, facilitator and delegator teaching style. The present study reported acceptable reliability (assessed via Cronbach's alpha) for all sub-scales of TSI ranged from 0.869 to 0.896 (Table 1).

3.3 Procedure

This study was undertaken through a web-based platform from January to December 2019. The English university teachers received Teacher Self-regulation Scale (TSRS), Emotions Questionnaire for Teachers (EQT), and Grasha's Teaching Style Inventory (TSI) in English versions, while all of them were experienced English users. Conducting the electronic survey provide a large set of data from different regions and varying experiences of teaching. In total, 320 forms were completed (return rate 5 65%), and there were no missing data due to the design of the electronic survey.

3.4 Data analysis

At first, the reliability of the questionnaires is assessed via Cronbach's alpha formula. Then, to describe the collected data, descriptive statistics are presented. Also, Kolmogorov–Smirnov Test is used to test the normality distribution of the scores and to decide whether parametric methods could be applied or not. Finally, Lisrel 8.8 was employed to analyse the data and these relationships were described via path analysis.

4. Results

T2 **Table 2** displays the descriptive statistic for Teacher Self-regulation. This table includes mean, standard deviation, minimum, and maximum.

T3 **Table 3** shows the descriptive statistics of EFL university teachers' emotions (enjoyment, anxiety, anger, pride, shame, boredom).

T4 **Table 4** demonstrated the descriptive statistics of teaching style preferences of Iranian EFL teachers (expert, formal authority, personal model, facilitator and delegator).

Inventory	N	Mean	Minimum	Maximum	Std. deviation
Teacher.Self.Regulation	320	4.892	1.077	1.750	6.500

Note(s): The descriptive statistics of EFL university teacher self-regulation is as follows: (M 5 4.892, SD 5 6.500)

Table 2.
Descriptive statistics:
EFL university teacher
self-regulation

Teacher emotion	N	Mean	Minimum	Maximum	Std. deviation
Enjoyment	320	4.812	1.055	1.750	6.250
Anxiety	320	3.265	1.509	1.000	6.000
Anger	320	2.740	1.558	1.000	6.000
Pride	320	4.356	1.128	1.000	6.250
Shame	320	3.465	1.409	1.000	6.000
Boredom	320	2.742	1.536	1.000	5.750

Note(s): As this table presented, enjoyment (M 5 4.812, SD 5 6.250), and pride (M 5 4.356, SD 5 6.250) have the highest means. The other subscales demonstrated lower means as follows: Shame (M 5 3.465, SD 5 6.000), Anxiety (M 5 3.265, SD 5 6.000), Anger (M 5 2.740, SD 5 6.000), Boredom (M 5 2.742, SD 5 5.750)

Table 3.
Descriptive statistics:
emotional experiences

To inspect the normality distributions of the data, the Kolmogorov–Smirnov Test was applied.

As Table 5 indicated, the estimated p -value test for all the inventories and their subscales are lower than 0.05, which showed that the data had been normally distributed. Thus, it implied that parametric methods could be utilized. The LISREL 8.80 statistical package was employed to test the structural relations in the proposed model. The fit indices examined to evaluate the model fit were in what follows: the chi-square magnitude, the Root Mean Square Error of Approximation (RMSEA), the comparative fit index (CFI), and the normed fit index (NFI). The acceptable criteria for fit indices are shown in Table 6.

Furthermore, it could be inferred that Teacher Self-regulation affects all emotion constituents because t value for each one is higher than 1.96. Put it another way, Teacher Self-

T6

Table 4. Descriptive statistics: teaching style preferences

Teaching style	N	Mean	Minimum	Maximum	Std. deviation
Expert	320	5.022	1.397	2.000	7.000
Formal.authority	320	4.859	1.350	2.000	7.000
Personal.model	320	4.981	0.998	1.880	7.000
Facilitator	320	5.383	1.062	2.130	7.000
Delegator	320	5.097	1.388	1.880	7.000

Note(s): Based on Table 4, Facilitator (M 5.383, SD 7.000) and Delegator (M 5.097, SD 7.000) got the highest mean score among all teacher emotion components. The other subsequent teaching styles preferences were as following: Expert (M 5.022, SD 7.000), Personal model (M 4.981, SD 7.000), and Formal Authority (M 4.859, SD 7.000)

Table 5. The results of the K–S test

Inventory	Sub-scales	Statistic	Sig
Teaching style	Expert	0.158	0.200
	Formal. authority	0.164	0.200
	Personal. model	0.230	0.054
	Facilitator	0.153	0.200
	Delegator	0.159	0.200
Teacher emotion	Enjoyment	0.218	0.058
	Anxiety	0.206	0.065
	Anger	0.180	0.200
	Pride	0.196	0.075
	Shame	0.159	0.200
Teacher self-regulation	Boredom	0.212	0.068
	Teacher. Self. Regulation	0.208	0.063

Table 6. Acceptable criteria for fit indices

Chi-square χ^2	1216.05
Chi-square/df ratio	2.874
Df	423
RMSEA	0.077
CFI	0.92
NFI	0.90

Note(s): According to Figures 1 and 2, it could be concluded that Teacher Self-regulation influences all teaching style components because t value for each one was higher than 1.96. In other words, Teacher Self-regulation significantly and negatively influenced expert (β 5–0.83, t 5 –9.87), Formal Authority (β 5–0.78, t 5 –4.075), and Personal Model (β 5–4.02, t 5 –5.17). By contrast, it significantly and positively influenced Facilitator (β 5 1.07, t 5 4.08) and Delegator (β 5 0.87, t 5 12.27)

regulation significantly and positively affects Enjoyment ($\beta = 0.80, t = 15.05$) and Pride ($\beta = 0.84, t = 15.91$). In contrast, it significantly and negatively affects Anxiety ($\beta = -0.35, t = -4.11$), Anger ($\beta = -0.29, t = -4.56$), Shame ($\beta = -0.22, t = -3.84$), and Boredom ($\beta = -0.16, t = 2.26$).

To determine the relationship among EFL teacher self-regulation, emotions and teaching styles, a Pearson product-moment correlation was run.

T7 Based on Table 7, the relationships between Teacher Self-regulation and Teaching Style subscales are as follows: correlated strongly positively with Delegator ($r = 0.669, p < 0.05$), and Facilitator ($r = 0.652, p < 0.05$), moderately negatively with Expert ($r = -0.497, p < 0.05$), Formal Authority ($r = -0.448, p < 0.05$), and Personal Model ($r = -0.429, p < 0.05$). Moreover, Teacher Self-regulation correlated strongly positively with Enjoyment ($r = 0.647, p < 0.05$), and moderately positively with Pride ($r = 0.422, p < 0.05$). But, between self-regulation and Anxiety ($r = -0.583, p < 0.05$), Shame ($r = -0.398, p < 0.05$), Boredom ($r = -0.187, p < 0.05$), and Anger ($r = -0.124, p < 0.05$), there are negative correlations.

5. Discussion

The first objective of this study was to delve into the impacts of EFL university teachers' self-regulation on their emotional experiences. This association has not been explored before, especially in the Iranian EFL context among university teachers. Based on the findings, teachers' self-regulation predicts pleasant emotional experiences; in contrast, it predicts unpleasant emotions in a negative direction. It can be concluded that self-regulatory strategies play a mediating role in promoting of emotional control and the effectiveness of teachers in the classroom. According to Gross (2002), emotions and emotional reactions are part of everyone's life, but there are occasions when emotional responses are more detrimental than beneficial. In such situations, they need to find convenient strategies to amplify and reduce the intensity of their emotional experiences (Hargreaves, 2000). They need the ability to control their skills and regulate the expression of their emotions. Teachers are in dire need of better emotional management ability; a firm intellectual understanding of self-regulated teaching skills to regulate their pleasant and unpleasant emotions as well as their students' emotions. A teacher's emotion is an educational tool that is directly affected by self-regulatory strategies.

The assumption of a direct effect of self-regulation on teachers' pleasant and unpleasant emotions can be backed up by previous experimental studies. For instance, prior researches indicate that learning self-regulatory strategies help teachers to develop efficient working styles and reduces their emotional exhaustion (Khajavi *et al.*, 2018). Additionally, Fried (2011) investigated the importance of emotion regulation in the educational contexts and how it can be reinforced. This finding is in accord with Goetz *et al.*'s argument (2013) that the quality of instruction is relevant to emotional experiences in the classroom. In a similar vein, Azari *et al.* (2020) concluded that Iranian EFL teachers' emotions could predict language teacher immunity significantly. While teaching, teachers are subjected to a vast range of emotional experiences that are assumed by the teacher as pleasant and are freely expressed, or they may be considered unpleasant and are hidden or down-regulated (Chen, 2019). Thus, the more EFL university teachers armed with the self-regulatory strategies, the more likely they can control their emotions. In addition to this, both pleasant and unpleasant emotions that teachers experience in an educational context may affect the application of different teaching styles (learner-centred styles or teacher-centred ones). That means pleasant emotional experiences turn teachers toward cultivating effective classrooms, a stronger teacher–student relationship, more exploratory and independent learning situations (facilitator and delegator styles).

The present study also examined the predictive effects of EFL university teachers' self-regulation on their preferred teaching styles. The results displayed that teachers'

	Expert	Personal model	Formal authority	Facilitator	Delegator	Enjoyment	Pride	Anger	Anxiety	Shame	Boredom
Expert	1										
Formal. authority	0.709*	1									
Personal. model	0.711*	0.706*	1								
Facilitator	−0.570*	−0.573*	−0.591*	1							
Delegator	−0.570*	−0.563*	−0.564*	0.854*	1						
Enjoyment	−0.467*	−0.407*	−0.464*	0.647*	0.650*	1					
Pride	−0.531*	−0.516*	−0.468*	0.455*	0.511*	0.475*	1				
Anger	0.360*	0.332*	0.294*	−0.235*	−0.248*	−0.224*	−0.191*	1			
Anxiety	0.533*	0.505*	0.529*	−0.571*	−0.564*	−0.652*	−0.388*	0.272*	1		
Shame	0.575*	0.497*	0.471*	−0.407*	−0.443*	−0.413*	−0.732*	0.201*	0.421*	1	
Boredom	0.323*	0.309*	0.275*	−0.195*	−0.260*	−0.166*	−0.138*	0.811*	0.226*	0.158*	1
Teacher self. regulation	−0.497*	−0.448*	−0.429*	0.652*	0.669*	0.647*	0.422*	−0.124*	−0.583*	−0.398*	−0.187*

Table 7.
The correlation coefficients among teacher self-regulation, emotions and teaching style

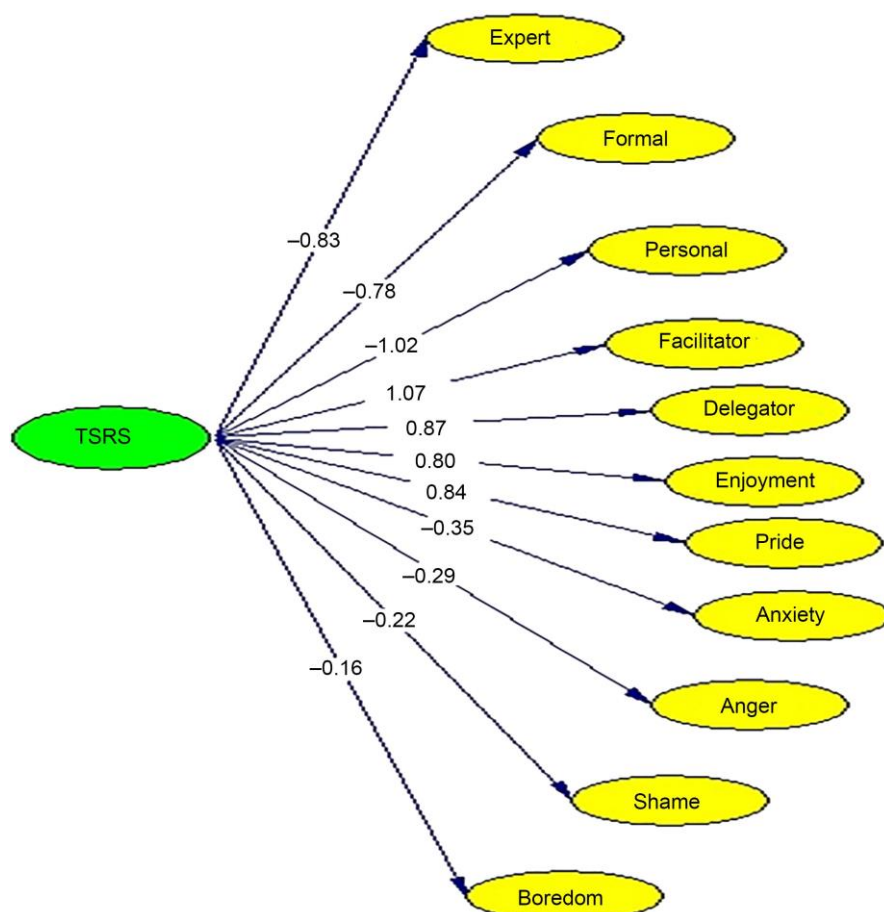


Figure 1.
Path coefficient values
for teacher self-
regulation influences
on teaching styles and
teacher emotions

self-regulation strategies are influential in choosing effective teaching styles. This is consistent with previous theoretical and experimental surveys, though limited in L2 settings and quite rare among Iranian EFL university teachers. According to *Yesim et al. (2009)*, self-regulation refers to self-judgment and self-evaluation. Thus, a teacher who practices self-regulated skills evaluates their organizational framework based on a reciprocal relationship with his/her previous activities, learner feedback, and their goals. As a result of these evaluation processes, they evaluate their teaching styles to be in greater likelihood to use self-regulatory strategies. Given together, self-regulation is an important variable to consider within the domain of teaching due to its impact on every procedure and activity applied by teachers in a classroom.

6. Conclusions and pedagogical implications

This study was an attempt to contribute to the sparse knowledge on the interplay among self-regulation, emotions, and teaching styles in educational context, particularly in higher education. The results of this study suggested that self-regulatory strategies play a mediating role in emotional management and consequently, the effectiveness of teachers in the classroom. The implication is that, the more teachers skilled in self-regulatory strategies,

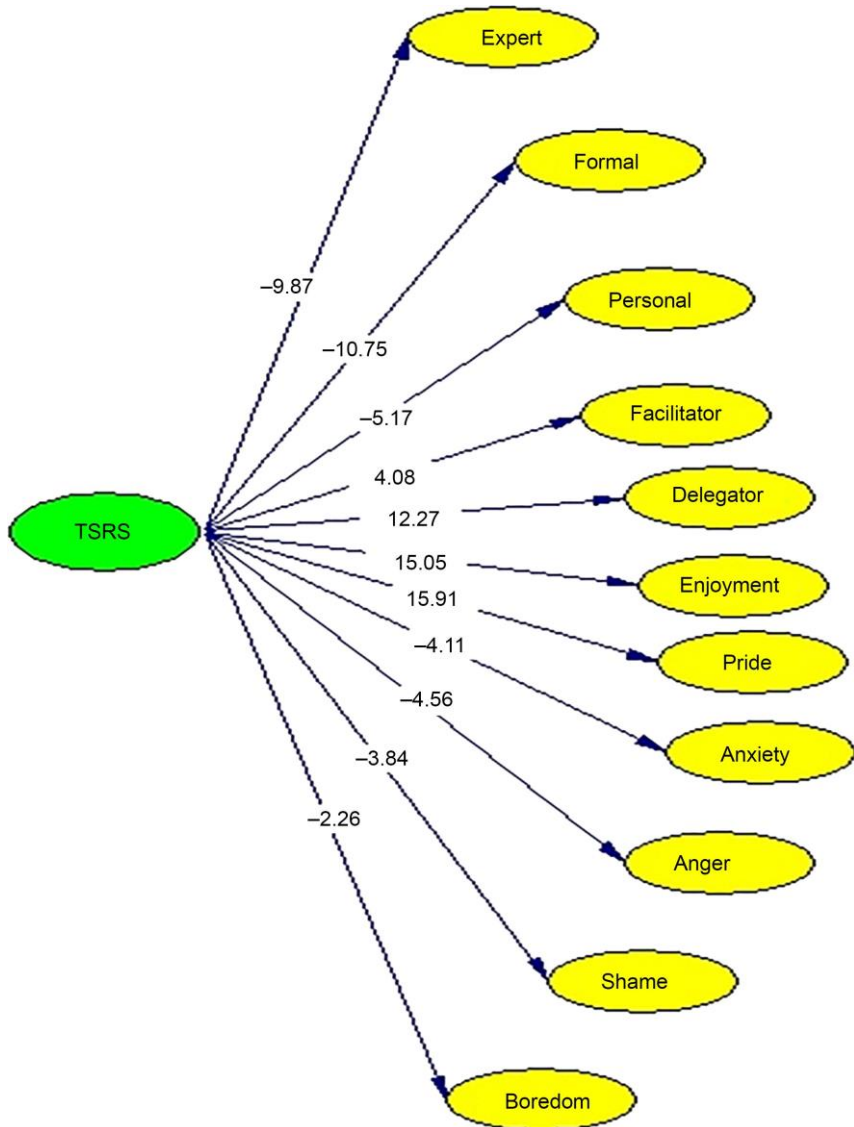


Figure 2.
Schematic
representation of t
values of the path
coefficient for teacher
self-regulation
influences on teaching
styles and teacher
emotions

the more likely they tend to emotion regulation. Moreover, it is concluded that self-regulatory strategies empower university teachers to employ efficient teaching styles in their classes.

Adding the implications of the current study in pre-service and in-service teacher training programs can pave the way for providing university teachers with skills and knowledge needed to implement self-regulatory strategies. It may also imply that teachers who preferred learner-centred styles seem to care more about regulation their unpleasant emotions to provide active learning situations for their students. Furthermore, these implications can be of great help for policymakers and curriculum designers to consider in second or foreign

language teacher education, planning, and the psychology of language teaching and learning in universities, language institutes, and schools. Future studies may advance the possible relationships among the subscales of teacher self-regulation, teacher emotion, and teaching style. Also, more investigations are suggested to target the teacher self-regulation, teacher emotion, and teaching style in enhancing language learners' achievement.

Self-regulation,
emotions and
teaching styles

References

- Akbari, R., Ghafar Samar, R., Kiany, G.R. and Tahernia, M. (2020), "A qualitative study of EFL teachers' emotion regulation behavior in the classroom", *Theory and Practice in Language Studies*, Vol. 7 No. 4, pp. 311-321, doi: [10.17507/tpls.0704.10](https://doi.org/10.17507/tpls.0704.10).
- Alvi, E. and Gillies, R.M. (2020), "Teachers and the teaching of self-regulated learning (SRL): the emergence of an integrative, ecological model of SRL-in-context", *Education Sciences*, Vol. 10, p. 98, doi: [10.3390/educsci10040098](https://doi.org/10.3390/educsci10040098).
- Author *et al.* (2017a).
- Author *et al.* (2017b).
- Author *et al.* (2018).
- Azari Noughabi, M., Amirian, S.M.R., Adel, S.M.R. and Zareian, G. (2020), "The association of experienced in-service EFL teachers' immunity with engagement, emotions, and autonomy", *Current Psychology*, Vol. 39 No. 4, pp. 220-238, doi: [10.1007/s12144-020-01066-8](https://doi.org/10.1007/s12144-020-01066-8).
- Baylor, A., Kitsantas, A. and Chung, H. (2001), "The instructional planning self-reflective tool (IPSRT): a method for promoting effective lesson planning", *Educational Technology*, Vol. 41 No. 2, pp. 56-59.
- Bennett, N., Jordan, J., Long, G. and Wade, B. (1976), *Teaching Styles and Pupil Progress*, Open Books Publishing, London.
- Bibby, T. (2002), "Shame: an emotional response to doing mathematics as an adult and a teacher", *British Educational Research Journal*, Vol. 28 No. 5, pp. 705-721.
- Burić, I. and Frenzel, A.C. (2019), "Teacher anger: new empirical insights from multimethod approach", *Teaching and Teacher Education*, Vol. 86, p. 102895, doi: [10.1016/j.tate.2019.102895](https://doi.org/10.1016/j.tate.2019.102895).
- Burić, I., Slišković, A. and Penezić, Z. (2019), "Understanding teacher well-being: a cross-lagged analysis of burnout, negative student-related emotions, psychopathological symptoms, and resilience", *Educational Psychology*. doi: [10.1080/01443410.2019.1577952](https://doi.org/10.1080/01443410.2019.1577952).
- Carson, R.L. (2007), "Exploring the episodic nature of teachers' emotions as it relates to teacher burnout", Retrieved from ProQuest Information & Learning (AAI 3232157).
- Chen, J. (2018), "Exploring the impact of teacher emotions on their approaches to teaching: a structural equation modeling approach", *British Journal of Educational Psychology*. doi: [10.1111/bjep.12220](https://doi.org/10.1111/bjep.12220).
- Chen, J. (2019), "Research review on teacher emotion in asia between 1988 and 2017: research topics, research types, and research methods", *Frontiers in Psychology*, Vol. 10, p. 1628, doi: [10.3389/fpsyg.2019.01628](https://doi.org/10.3389/fpsyg.2019.01628).
- Cooper, T.C. (2001), "Foreign language style and personality", *Foreign Language Annals*, Vol. 34, pp. 301-316, doi: [10.1111/j.1944-9720.2001.tb02062.x](https://doi.org/10.1111/j.1944-9720.2001.tb02062.x).
- Darby, A. (2008), "Teachers' emotions in the reconstruction of professional self-understanding", *Teaching and Teacher Education*, Vol. 24, pp. 1160-1172.
- Davis, S.G. and Gray, E.S. (2007), "Going beyond test-taking strategies: building self-regulated students and teachers", *Journal of Curriculum and Instruction*, Vol. 1 No. 1, pp. 31-47.
- De La Fuente, J. and Justicia, F. (2007), "The teacher DEDEPRO model of regulated teaching and learning: recent advances", *Electronic Journal of a Research I Educational Psychology*, Vol. 5 No. 3, pp. 535-564.

- Delfino, M., Dettori, G. and Persico, D. (2010), "An online course fostering self-regulation of trainee teachers", *Psicothema*, Vol. 22 No. 2, pp. 299-305.
- Elliot, A.J. (2005), "A conceptual history of the achievement goal construct", in Elliot, A.J. and Dwek, C.S. (Eds), *Handbook of Competence and Motivation*, The Guilford Press, New York, NY, p. 5272.
- Filonova, L. (2008), "Teaching style survey", *Journal of Education*, Vol. 7, pp. 3-14.
- Flanders, A. (1970), *Analyzing Teacher Behavior*, Addition-Wesley Publishing Company, MA.
- Frenzel, A.C. (2014), "Teacher emotions", in Linnenbrink-Garcia, L. and Pekrun, R. (Eds), *Handbook of Emotions in Education*, Routledge, New York, NY, pp. 494-519.
- Frenzel, A.C., Pekrun, R. and Goetz, T. (2013), *Emotions Questionnaire for Teachers (EQT) – User's Manual*, University of Munich: Department of Psychology.
- Fried, L. (2011), "Teaching teachers about emotion regulation in the classroom", *Australian Journal of Teacher Education*, Vol. 36 No. 3, doi: [10.14221/ajte.2011v36n3.1](https://doi.org/10.14221/ajte.2011v36n3.1).
- Goetz, T., Frenzel, A.C., Pekrun, R., Hall, N.C. and Lüdtke, O. (2007), "Between- and within-domain relations of students' academic emotions", *Journal of Educational Psychology*, Vol. 99, pp. 715-733, doi: [10.1037/0022-0663.99.4.715](https://doi.org/10.1037/0022-0663.99.4.715).
- Goetz, T., Lüdtke, O., Nett, U.E., Keller, M. and Lipnevich, A. (2013), "Characteristics of teaching and students' emotions in the classroom: investigating differences across domains", *Contemporary Educational Psychology*, Vol. 38 No. 4, pp. 383-394.
- Good, T.L., Wiley, C.R.H. and Florez, I.R. (2009), "Effective teaching: an emerging system", *International Handbook of Research on Teachers and Teaching*, pp. 803-816.
- Grasha, A.F. (1994), "A matter of style: the teacher as expert, formal authority, personal model, facilitator, and delegator", *College Teaching*, Vol. 42, pp. 142-149.
- Grasha, A.F. (1996), *Teaching with Style: A Practical Guide to Enhancing Learning by Understanding Teaching and Learning Style*, Alliance Publishers, Pittsburgh.
- Gross, J.J. (2002), "Emotion regulation: affective, cognitive and social consequences", *Psychophysiology*, Vol. 39, pp. 281-291.
- Hargreaves, A. (1998), "The emotional practice of teaching", *Teaching and Teacher Education*, Vol. 14 No. 8, pp. 835-854.
- Hargreaves, A. (2000), "Mixed emotions: teachers' perceptions of their interactions with students", *Teaching and Teacher Education*, Vol. 16, pp. 811-826.
- Kaplan, J. and Kies, A. (1995), "Teaching styles and learning styles: which came first?", *Journal of Instructional Psychology*, Vol. 22, pp. 29-34.
- Karimnia, A. and Mohammadi, N. (2019), "The effects of teachers' gender, teaching experience, and brain dominance on their teaching styles", *International Journal of Research in English Education*, Vol. 4 No. 1, pp. 37-46.
- Keller, M.M., Frenzel, A.C., Goetz, T., Pekrun, R. and Hensley, L. (2014), "Exploring teacher emotions: a literature review and an experience sampling study", in Pichardson, P.W., Karabenick, S. and Watt, H.M.G. (Eds), *Teacher Motivation: Theory and Practice*, Routledge, New York, NY, pp. 69-82.
- Khajavi, G.H., Ghonsooly, B. and Hosseini Fatemi, A. (2016), "Development and validation of the Persian scale of EFL teachers' emotions", *The Journal of Language and Translation Studies*, Vol. 50 No. 4, pp. 154-180.
- Khajavi, G.H., Ghonsooly, B., Hosseini Fatemi, A. and Frenzel, A.C. (2018), "Antecedents of pleasant and unpleasant emotions of EFL teachers using an appraisal-theoretical framework", *Iranian Journal of Language Teaching Research*, Vol. 6 No. 2, pp. 39-55.
- Lewis, R. (2001), "Classroom discipline and student responsibility: the students' view", *Teaching and Teacher Education*, Vol. 17, pp. 307-319.

- Lewis, M. and Haviland, J.M. (1993), *Handbook of Emotions*, Guilford Press, New York, NY.
- Oatley, K. and Jenkins, J. (1996), *Understanding Emotions*, Blackwell, Cambridge, MA.
- Peel, K.L. (2020), "Everyday classroom teaching practices for self-regulated learning", *Issues in Educational Research*, Vol. 30 No. 1, pp. 260-282.
- Rienties, B. and Rivers, B.A. (2014), "Understanding learner emotions: evidence and prospects", *Learning Analytics Reviews*, Vol. 1, pp. 1-28.
- Ryan, R.M. and Deci, E.L. (2000), "Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being", *American Psychologist*, Vol. 55, pp. 68-78.
- Saracho, O.N. (2001), "Exploring young children's literacy development through play", *Early Childhood Development and Care*, Vol. 167 No. 1, pp. 103-114.
- Schore, A. (2000), "Attachment and the regulation of the right brain", *Attachment and Human Development*, Vol. 2, pp. 23-47.
- Schutz, P.A. and Pekrun, R. (Eds) (2007), *Emotion in Education*, Elsevier, San Diego, CA.
- Solomon, D. and Kendall, A.J. (1979), *Children in Classrooms: An Investigation of Person-Environment Interaction*, Prager Publishers, New York, NY.
- Sutton, R.E. (2007), "Teachers' anger, frustration, and self-regulation", in Schutz, P.A. and Pekrun, R. (Eds), *Emotion in Education*, 1st ed., Elsevier, San Diego, CA, pp. 259-274.
- Sutton, R. and Wheatley, K. (2003), "Teachers' emotions and teaching: a review of the literature and directions for future research", *Educational Psychology Review*, Vol. 15 No. 4, pp.327-358, doi: [10.1023/a1026131715856](https://doi.org/10.1023/a1026131715856).
- Tavakoli, M. and Karimnia, A. (2017), "Dominant and gender-specific tendencies in the use of discourse markers: insights from EFL learners", *World Journal of English Language*, Vol. 7 No. 2, pp. 1-9, available at: <http://www.sciedupress.com/journal/index.php/wjel/article/view/11603>.
- Vohs, K.D. and Faber, R.J. (2007), "Spent resources: self-regulatory resource availability affects impulse buying", *Journal of Consumer Research*, Vol. 33, pp. 537-547.
- Yesim, C.A., Sungur, S. and Uzuntiryaki, E. (2009), "Teacher self-regulation: examining a multidimensional construct", *Educational Psychology*, Vol. 29 No. 3, pp. 345-356.
- Zembylas, M. (2003), "Caring for teacher emotion: reflections on teacher self-development", *Studies in Philosophy and Education*, Vol. 22 No. 2, pp. 103-125, doi: [10.1023/a1022293304065](https://doi.org/10.1023/a1022293304065).
- Zimmerman, B.J. (2000), "Attaining self-regulation: a social cognitive perspective", in Boekaerts, M., Pintrich, P.R. and Zeidner, M. (Eds), *Handbook of Self-Regulation*, Academic Press, San Diego, CA, pp. 13-39.
- Zimmerman, B.J. and Kitsantas, A. (1999), "Acquiring writing revision skill: shifting from process to outcome self-regulatory goals", *Journal of Educational Psychology*, Vol. 91 No. 2, pp. 241-250.

About the authors

Tahereh Heydarnejad is a Ph.D. candidate at Hakim Sabzevari University, Sabzevar, Iran. She is currently an EFL instructor at University of Gonabad, Iran. She has published about 10 research articles in international journals. Her research interests are psychology of language teaching and learning as well as sociolinguistics. Tahereh Heydarnejad is the corresponding author and can be contacted at: t.heydarnejad88@yahoo.com

Dr. Azar Hosseini Fatemi is an associate professor in the Teaching English as a Foreign Language Program at Ferdowsi University of Mashhad, Iran. She has published more than 50 papers in various national and international journals. Her research interests include issues in second language teaching and learning.

Dr. Behzad Ghonsooly is a full professor of Applied Linguistics at Ferdowsi University of Mashhad, Iran, and by courtesy in the Psychology Department of Florida State University. He has published 10 books in the EFL field and more than 60 papers in various national and international journals. His main research interests are language testing, and introspection psychology.

For instructions on how to order reprints of this article, please visit our website:
www.emeraldgroupublishing.com/licensing/reprints.htm
Or contact us for further details: permissions@emeraldinsight.com