

Navigating the Mediating Role of Immunity, Buoyancy, and Emotion Regulation to L2 Grit and Mindfulness among EFL Teachers

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Abstract

The importance of studying teachers' professional well-being has significantly increased in recent years. However, insufficient attention has been given by researchers to the role of teachers' immunity, buoyancy, and emotion regulation (ER) in the classroom, all of which contribute to shaping teachers' L2 grit and mindfulness. This research aims to address this gap in the literature by presenting a model that illustrates the dynamic interaction of teacher immunity (TI), teacher buoyancy (TB), teacher emotion regulation (TER), L2 grit, and teacher mindfulness (TM). To gather the necessary data, a survey was administered to 519 English as a foreign language (EFL) teachers, measuring their levels of mindfulness in the classroom using the Language Teacher Immunity Instrument (LTII), Teacher Buoyancy Scale (TBS), Teacher Emotion Regulation Inventory (LTERI), L2-Teacher Grit Scale (L2TGS), and Mindfulness in Teaching Scale (MTS). Confirmatory factor analysis and Structural Equation Modeling results indicated that EFL teachers who achieved a healthy state of immunity (TI), TER, and L2 grit exhibited higher levels of L2 grit and TM. The research concludes by discussing implications and future directions for relevant stakeholders, enhancing their understanding of the relationship between TI, TB, TER, L2 grit, and TM interactions and their potential to yield favorable educational outcomes for EFL learners.

Keywords: Immunity, Buoyancy, Emotion Regulation, L2 Grit, and Mindfulness, EFL teachers

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INTRODUCTION

Teaching a second/foreign language (L2) is a complex undertaking that necessitates consideration of numerous factors, both internal and external to the learner and the course. The ability to shield oneself from the intense turbulence and complexity of language classrooms can be attributed to the immunity that L2 teachers develop over time (Huang, 2022b). In the realm of L2 instruction, a recent concept termed teacher immunity (TI) has emerged (Hiver & Dörnyei, 2017; Li et al., 2022). An examination of the existing literature reveals a positive correlation between TI and positive perceptions pertaining to teachers, as demonstrated in various studies (e.g., Haseli Songhori et al., 2018; Namaziandost et al., 2022b; Rahimpour et al., 2020). Nonetheless, there is a dearth of research on language TI, particularly at the university level, which calls for further investigations into various aspects of this phenomenon.

Teachers must maintain a positive attitude despite the unavoidable challenges they face while imparting their expertise to the next generation (Namaziandost et al., 2022b). Furthermore, language teachers should strike a balance between their pedagogical knowledge and psychological insight into the intrinsic motivations of teaching in order to thrive and perform optimally (Zhang, 2021). This requires teacher buoyancy, which is defined as the "ability to deal with, endure, and overcome difficulties in an educational environment" (Comerford et al., 2015, p. 12).

The extent to which teachers regulate their emotions at work (Frenzel et al., 2021) significantly impacts their effectiveness in the classroom. Teacher Emotion Regulation (TER) refers to the "ability to manage and modify one's own emotional experiences and expressions" (Buric´ et al., 2017, p. 5). It is important to note that teachers' emotions vary depending on factors such as the subject being taught and class size. Therefore, it is crucial to study each context independently, as they may yield different outcomes (Frenzel, 2014). Although TER, particularly in language teaching, holds importance, it is still a relatively unexplored area and requires further

investigation (Buric' et al., 2017; Namaziandost et al., 2021a; Safdari & Maftoon, 2016), possibly due to its complexity.

Teacher L2 grit (TL2G) is another important concept that plays a significant role in the growth and development of L2 teachers (Pan, 2022). According to Sudina et al. (2021), teacher L2 grit refers to a personality trait that combines perseverance in learning and a long-term passion for teaching goals. The relationship between teacher L2 grit and other teacher-related factors is still unclear, therefore, further research is needed in this area. The concept of Teacher mindfulness (TM) has also received limited attention from researchers. Kabat-Zinn (2004) defines mindfulness as the awareness that arises through intentional and non-judgmental observation. Brown et al. (2007) describe TM as the ability to observe both internal and external sensations in the present moment.

To the best of our knowledge, in the literature, research has not focused on the relationship between TI, TB, TER, L2 grit, and TM in the English as a foreign language (EFL) context of Iran, even though they have significant impacts on education. Given this gap, the current research was to establish the connections among TI, TB, TER, L2 grit, and TM among EFL teachers in Iran. By investigating these relationships, the study contributes to our understanding of the factors that impact EFL teachers' abilities to promote effective teaching practices and enhance the learning outcomes of EFL students. Understanding the interplay between these variables provides valuable insights for educators and policymakers in the field of EFL education, allowing them to develop targeted interventions and support systems to foster the cultivation of TI, TB, and TER skills. Ultimately, this research has the potential to facilitate the creation of more conducive learning environments, improve teaching quality, and enhance student engagement and achievement in the EFL context of Iran.

REVIEW OF THE LITERATURE

Teacher Immunity

The foundation of immunity, derived from the Latin word *Immunis*, pertains to the biological system's response to detrimental or harmful effects from internal or external factors within an individual's body (Hiver & Dörnyei, 2017). This concept has been extended to the field of education, considering it as a defensive mechanism that safeguards against drawbacks and undesirable consequences during teachers' professional lives (Hiver, 2017; Li et al., 2022; Namaziandost et al., 2022b). Similar to its biological counterparts TI can function productively or maladaptively (Amirian et al., 2023; Hiver & Dörnyei, 2017). Productive immunity, as the name implies, shields teachers from anxiety, fear, stress, burnout, and other negative aspects they may encounter. On the other hand, maladaptive immunity, often the result of resistance to change or negative responses to innovation among teachers (Bullough & Hall-Kenyon, 2011), hinders their active and productive engagement (Hiver & Dörnyei, 2017). The concept of language TI is rooted in self-organization theory, which is a component of Complexity Theory (Hiver, 2017). The process of self-organization comprises four stages: triggering, coupling, realignment, and stabilization. Guided by the underlying principles of self-organization theory (Namaziandost et al., 2023), language TI serves as an adaptive mechanism that responds to external factors that might pose a threat to the well-being and stability of their academic lives (Rahmati et al., 2019).

According to Hiver's (2015) conceptualizations, the functions of language TI can be categorized as follows: productively immunized, maladaptively immunized, immunocompromised, and partially immunized. Teachers who are productively immunized are protected against various drawbacks they may experience. Maladaptive immunity hinders teachers' progress and stifles their development. Immunocompromised refers to an underdeveloped and incoherent state of TI. The last category, partially immunized, denotes an incomplete or midway formulation of TI. TI is

correlated with different teacher-related attributes. According to Hiver (2017), TI influences teacher identity development, thinking process, and social interactions. Teachers' self-concept and motivation are also influenced by the state of their immunity mechanism (Hiver, 2015, 2017). Hiver (2017) emphasized that TI encompasses burnout, attrition, openness to change, teaching efficacy, and motivation to teach.

Research in the realm of TI has been flourishing in recent years. For instance, Haseli Songhori et al. (2018) conducted a mixed-method study to gauge the dominant immunity mechanism among EFL teachers. According to their findings, EFL teachers mostly applied maladaptive immunity and experienced a sense of helplessness and failure. In a similar line of inquiry, Rahimpour et al. (2020) proposed a model to depict the influential factors in predicting TI. Their results indicated that TI is greatly affected by teachers' agreeableness, extroversion, and emotionality. Moreover, they found that job insecurity potentially has negative effects on TI and thinking strategies. Following a similar path, Li et al. (2022) focused on the impact TER and critical thinking on TI. They provided evidence that finding a balance between teachers' emotions and cognition leads to productive immunity in higher education. Similarly, Namaziandost et al. (2022b) found that ER and reflective teaching determine the state of TI. In other words, immunized language teachers are more successful in managing their emotional experiences and reflective practices.

Teacher Buoyancy

Due to underlying tensions, conflicts, demands, tough workloads, and linguistic-cultural discrepancies and inconsistencies, it is generally agreed that to attain L2 educational objectives is stressful and demanding for EFL learners. This calls for an upbeat frame of mind to persevere despite academic setbacks (Martin & Marsh, 2019). As noted by Huang (2022a), buoyancy is a variable and dynamic feature in L2 education, influenced by both internal and external factors for success. According to Comerford et al. (2015), buoyancy is affected not only by internal characteristics such as personality

but also by external-contextual factors. Academic buoyancy, in a nutshell, involves highlighting one's abilities rather than deficiencies and taking initiative when facing obstacles. Additionally, it focuses on "many and healthy" situations rather than severe ones (Martin & Marsh, 2019, p. 225). Therefore, academic buoyancy is seen as the upbeat variant of resilience (Xue, 2021; Zhang, 2021).

Positivity in the face of adversity encompasses more than merely overcoming genuine obstacles in one's path (Frenzel et al., 2021). Individuals are not only passive bystanders in their circumstances; they actively participate with purpose in adaptation (Bandura, 2006). The concept of TB goes beyond teachers' defensive reactions to the challenges they frequently encounter in the classroom. It includes the psychological assets and strengths that enable them to take control of future setbacks, foster psychological growth, and enhance their well-being (Martin & Marsh, 2009). Therefore, TB is seen as a two-part construct (Meneghel et al., 2019): Teachers' perceived ability to respond to everyday setbacks in the workplace and the competencies that support their potential assets and attributes, empowering them to effectively manage recurring issues in school. The former represents the outcome or final state, while the latter emphasizes the means or resources that facilitate progress towards that goal.

Teacher Emotion Regulation

Teachers' everyday work can be influenced by their emotional experiences, both positive and negative (Derakhshan et al., 2023). Emotional functioning in daily life has been examined through the lens of attribution theory and appraisal theory (Richards, 2022). Attribution theory focuses on determining the true causes behind events, while appraisal theory takes a broader perspective by evaluating the cognitive assessments of events to determine whether they align with predetermined goals (Frenzel, 2014). Additionally, Frenzel et al. (2021) highlight the key factors influencing teachers' emotional responses, including their goals, coping abilities, motivation, and the dynamics between teachers and students. There are two contrasting views on

emotions. One view considers emotions as transient but intense occurrences, while the alternative perspective treats emotions as stable traits over time (Rosenberg, 1998). When investigating teachers' emotional regulation, it is crucial to acknowledge the trait-like nature of emotions and the frequency with which instructors experience emotions in their work (Wood et al., 2008).

The term ER refers to the process of managing and influencing one's emotional responses (Sutton & Harper, 2009). Teachers employ ER to regulate their own emotions, which entails a diverse range of physiological, behavioral, and cognitive processes (Gross & John, 2003). As time elapses, instructors' emotions become apparent, and ER becomes an ongoing process aimed at addressing these emotions (Gross, 1998). This dynamic process can lead to changes in the timing, duration, and intensity of teachers' emotional reactions (Taxer & Gross, 2018). Furthermore, Gross and Barrett (2011) delineate ER into three distinct phases: (1) setting a regulatory goal; (2) implementing regulatory strategies; and (3) modifying the emotional trajectory. The terms 'intrinsic ER' and 'extrinsic ER' are employed to further characterize ER (Gross & Barrett, 2011). Intrinsic ER describes teachers who feel the need to regulate and control their own emotions. On the other hand, when educators make an effort to manage the emotions of their students, they are engaging in extrinsic ER.

Over the years, numerous theories have been proposed to capture the processes involved in ER. The Hot/Cool System (Mischel & Ayduk, 2004) explores the connection between ER activation and the functioning of self-control. When adults experience intense emotional disturbances, the cool system comes into play to alleviate them (Sutton & Harper, 2009). Additionally, Schmeichel and Baumeister (2004) defined ER within the framework of self-regulation theory and proposed the Strength Model. Gross (1998) presents a process model of ER that highlights five sequential steps: situation selection, situation adaptation, attentional deployment, cognitive restructuring, and response modulation. Gross and Thompson (2007) suggest that situation selection, modification, attentional deployment, and cognitive restructuring are all antecedent-focused strategies. In contrast, the final

component, response modulation, involves altering the established emotional response.

To address the research gap, Heydarnejad et al. (2021) developed a model for language TER that incorporates six factors: situation selection, situation adjustment, attention deployment, reappraisal, suppression, and seeking social support. This model draws upon Gross' process model of ER (1998, 2014), existing ER literature (e.g., Gross, 2014; Gross & Thompson, 2007; Taxer & Gross, 2018), and teacher ER research (e.g., Buric' et al., 2017; Chang, 2020; Chen & Cheng, 2021; Richards, 2020). The first three aspects of the model (situation selection, situation adjustment, and attention deployment) are inspired by Gross' (2014) process model of ER. Reappraisal and suppression are developed based on the findings of Gross and John (2003). The final component, seeking social support, takes into account the social aspects of teachers' work lives in achieving emotional equilibrium, drawing from the research of Jennings and Greenberg (2009) and Taxer and Gross (2018).

New research on the positive effects of ER on educators' well-being has emerged, highlighting the expanding body of knowledge on this topic. Morris and King (2018) emphasize the role of ER in enhancing educators' self-confidence in the classroom. Their research suggests that teachers who effectively regulate their emotions are less likely to experience annoyance and stress while teaching. Chang and Taxer (2020) demonstrated that teachers equipped with effective ER strategies are better able to handle student misconduct without losing their composure. Building on this line of thinking, Namaziadost et al. (2022a) explored the relationship between reflective practice, experiential learning, and protection against infectious disease in the context of language instruction at the university level. The results supported the hypothesis that ER and critical thinking skills contribute to effective immunity. Additionally, Deng et al. (2022) confirmed that ER assists language instructors in improving their sense of competence, job dedication, and emotional regulation. Li et al. (2022) found that ER positively impacted

teacher L2 grit and critical thinking skills. Overall, the findings underscore the importance of maintaining a healthy level of ER for instructors.

Teacher L2 Grit

Grit, as defined by Duckworth et al. (2007), refers to "working strenuously toward challenges, maintaining effort and interest over the years despite failure, adversity, and plateaus in progress" (pp. 1,087-1,088). This definition unpacks two key principles inherent in the concept of grit: enthusiasm and persistence in pursuing goals (Duckworth et al., 2007). In other words, it signifies the passion and perseverance with which individuals strive toward their long-term objectives (Duckworth, 2016). The Grit theory emphasizes the interplay between enthusiasm and persistence and its impact on individuals' ability to effectively achieve their goals (Duckworth, 2016). Accordingly, L2TG refers to the resilience and tenacity demonstrated by teachers in fulfilling the responsibilities associated with their profession (Hejazi & Sadough, 2022). According to Hejazi and Sadough (2022), L2TG encompasses the extent to which teachers can endure and overcome adversity, obstacles, and inherent challenges in their line of work. Consistent with Dale et al. (2018), teachers with high levels of grit are more likely to remain committed to their jobs and achieve success in them.

L2TG is closely associated with psychological constructs that impact teachers' performance and well-being, including self-efficacy and self-regulation (Azari Noughabi et al., 2022). Self-efficacy refers to the belief in one's ability to successfully perform the necessary actions to achieve a specific goal (Bandura, 1977). Self-regulation involves controlling one's thoughts, emotions, and behaviors to attain personal objectives (Zimmerman, 2002). In their study, Kazemkhah Hasankiadeh and Azari Noughabi (2023) discovered that EFL teachers' self-efficacy and self-regulation significantly influenced their L2TG. Notably, self-efficacy emerged as a stronger predictor of L2 grit compared to self-regulation. This implies that teachers who possess confidence in their abilities and skills are more likely to persist and exhibit passion in their profession. Another factor impacting L2TG is ER (Gross,

1998). ER holds particular significance for teachers, who face diverse emotional challenges and demands in their work environment (Hargreaves, 2000). Zheng et al. (2023) examined the relationship between ER, self-efficacy, and L2TG among EFL university professors. Their findings revealed that both ER and self-efficacy strongly predicted L2TG, with self-efficacy also significantly impacting ER. The researchers concluded that teachers who can effectively regulate their emotions and possess a high sense of self-efficacy are more likely to demonstrate L2TG in their teaching.

Teacher Mindfulness

According to Baer et al. (2012), the concept of mindfulness can be traced back to Eastern religions like Buddhism and Hinduism. Kabat-Zinn (2003) defines it as "paying attention in an intentional and nonjudgmental manner in a specific way" (p. 25). Davis and Hayes (2011) further define mindfulness as an ongoing process. Brown et al. (2007) define mindfulness as the act of paying attention to various aspects of one's experiences. Practicing mindfulness has been found to have a positive impact on self-esteem and self-concept. Research by Iani et al. (2019) suggests that individuals with high levels of mindfulness are able to regulate their thoughts and emotions. Brown et al. (2007) break down the processes involved in mindfulness into two categories: self-adjustment of concentration and impartial awareness of experience. TM has gained popularity in the field of education, including language instruction, due to its significance in the classroom. For instance, Kuru Gönen's study (2022) explores practical methods to foster TM in education. The findings suggest that teachers should familiarize themselves with and incorporate various strategies that promote TM, such as meditation and controlled breathing exercises.

According to Jennings (2015), teachers who are mindful have the ability to acknowledge their own emotions and tendencies. They can effectively utilize positive emotions such as happiness and excitement to inspire students' learning. Being mindful also helps teachers understand how their behavior and emotions impact their interactions with students. This

enables them to establish supportive and encouraging relationships with students, as well as find constructive resolutions to conflicts. Consequently, students naturally develop a passion for learning (Huang, 2022b). Although TM has been extensively studied in terms of its definition and application in various groups like pre-service teachers, early childhood teachers, and primary school teachers, there is limited research on its effects on second language learning and instruction.

Aims of the Study

Due to the importance of the constructs mentioned above in enhancing language teaching and the lack of research in this area, the aim of this research project was to examine the roles of TI, TB, and ER in relation to L2TG and TM among EFL teachers. A conceptual framework was developed to illustrate the correlation between TI, TB, TER, TL2G, and TM. This conceptual framework was based on recent research in the field and relevant theories, and was assessed using CFA (i.e., confirmatory factor analysis) and SEM (i.e., structural equation modeling) techniques, with the findings interpreted accordingly. To achieve the objectives of this study, the following research questions (RQs) were formulated:

RQ1. Does EFL teachers' teacher immunity provide insights into their teacher grit and teacher immunity?

RQ2. Does EFL teacher buoyancy provide insights into their teacher grit and teacher immunity?

RQ3. Does EFL instructors' teacher emotion regulation provide insights into teacher grit and teacher immunity?

To address these research questions, the following hypotheses were proposed:

H01: EFL teachers' teacher immunity does not provide any significant information about their teacher grit and teacher immunity.

H02: EFL teachers' teacher buoyancy does not provide any significant information about their teacher grit and teacher immunity.

H03: EFL emotion regulation does not provide any significant information about teacher grit and teacher immunity.

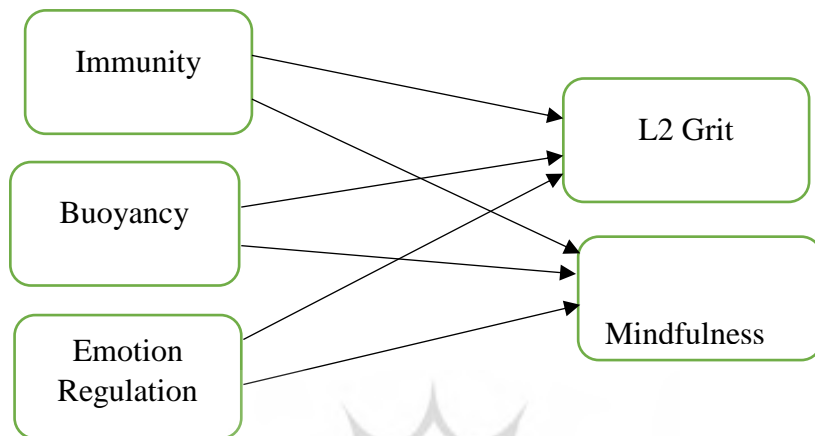


Figure 1: The conceptual framework

METHODOLOGY

Participants

A total of 519 EFL teachers (215 men and 305 women) were selected through a convenience sampling. As defined by Riazi (2016), convenience sampling is a type of non-probability sampling method where participants are selected based on their availability and willingness to participate. They have taught students in Khorasan Razavi, Iran, who were at pre-intermediate to advanced levels of English, in private language institutes ($n = 52$). Their years of experience varied from one to twenty-five years ($M = 15.24$; $SD = 5.02$), and their ages ranged from 26 to 48 ($M = 36.15$; $SD = 7.50$). The vast majority of the participants ($n = 284$) majored in Applied Linguistics; however, a smaller number majored in English Literature ($n = 120$), English Translation ($n = 98$), and Linguistics ($n = 55$). Thirty-five participants had a doctoral degree, while the other participants held master's or bachelor's degrees.

Materials

To gain the needed data, the researchers employed some data collection tools. The first data collection tool was the Language Teacher Immunity Instrument (LTII), which was developed and validated by Hiver (2017). It was used to assess the participants' TI. There is a total of 39 items spread over 7 scales, with a Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree) for each. This instrument has six sub-scales: self-efficacy in the classroom (7 items), teacher burnout (5 items), resilience (5 items), positive classroom climate (6 items), adaptability to change (6 items), and coping (5 items). Cronbach's alpha estimated good reliability (between 0.844 and 0.879) for the LTII in this study.

The second data collection tool was the Teacher Buoyancy Scale (TBS). TBS consists of five subscales and 22 items on a Likert scale ranging from 1 to 6. The subscales and corresponding item counts are as follows: Coping with difficulties (6 Items), bouncing back cognitively and emotionally (6 Items), working hard and appraising difficulties positively (3 Items), caring for one's well-being (4 Items), and striving for professional growth (3 Items). The results of Cronbach's alpha suggested that the reliability of each individual component of the TBS was satisfactory, ranging from 0.841 to 0.892.

The Language Teacher Emotion Regulation Inventory (LTERI) was the third data collection tool. Designed and validated by Heydarnejad et al. (2021), LTERI was used to inquire about the emotion regulation methods employed by EFL teachers. It consists of 27 items on a 5-point Likert scale, ranging from "never" to "always," to measure six components: situation selection, situation modification, attention deployment, reappraisal, suppression, and seeking social support. The Cronbach's alpha estimates of the LTERI's dependability in this investigation were satisfactory, ranging from 0.743 to 0.911.

The fourth data collection tool was the L2-Teacher Grit Scale (L2TGS), created and validated by Sudina et al. (2021). The L2TGS consists

of two subscales: one measures a teacher's stamina in the classroom, while the other assesses their dedication to lifelong learning. It comprises 14 items scored on a Likert scale from 1 to 5. The reported Cronbach's alpha for L2TGS was 0.878, indicating a satisfactory level of dependability.

The last data collection tool entailed the Mindfulness in Teaching Scale (MTS), developed and validated by Frank et al. (2016). The MTS comprises 14 items, each rated on a Likert scale ranging from one to five points. It consists of two subcomponents: the intrapersonal mindfulness component (9 items) and the interpersonal mindfulness component (5 items). In the present study, the MTS demonstrated a reasonable level of internal consistency, as indicated by Cronbach's alpha reliability coefficients ranging from 0.851 to 0.873.

Data Collection Procedures

The authors utilized a web-based platform (Google Forms) to collect data from the participants. The respondents were given the choice to voluntarily complete the survey, and their informed consent was obtained prior to their participation. The questionnaire consisted of two parts: the first part gathered demographic information such as gender, age, education level, teaching experience, and teaching location; while the second part included five self-report assessments (i.e., LTII, TBS, LTERI, L2TGS, and MTS). The participants accessed the survey through their personal computers or smartphones, using online platforms and professional networks. Confidentiality was guaranteed, and the participants had the option to withdraw from the study at any time. The data collection phase lasted for two months.

Data Analysis Procedure

Initially, the data was scrutinized by the authors to ensure it met specific criteria, such as adherence to a normal distribution (Kline, 2016). Descriptive statistics were then calculated and variable reliability was assessed using

SPSS 23.0. The researchers conducted CFA to evaluate the measurement properties of the instruments. They refined the model by examining the overall fit of the measurement model and the representation of individual items in relation to their respective underlying factors. The study's hypotheses were tested using SEM, analyzing the structural coefficients that characterized the relationships. The adequacy of the model fit was evaluated using the maximum likelihood estimation method, with values below three indicating an acceptable fit between the data and the model (Tabachnick et al., 2013). Acceptable values for comparative fit indices (CFI) and Tucker-Lewis index (TLI) were considered to be greater than 0.90, while values below 0.06 for root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR) indicated a close fit (Hu & Bentler, 1999).

RESULTS

In Table 1, the descriptive results of the TI, TER, TB, L2TG, and TM were presented. As reported in Table 1, among the sub-components of LTII, teaching self-efficacy ($M = 23.233$, $SD = 7.298$) and classroom affectivity ($M = 22.252$, $SD = 5.176$) obtained the highest mean scores. The second instrument, LTERI, revealed that reappraisal ($M = 17.362$, $SD = 4.672$) was the most significant factor. The majority of EFL educators at TBS agreed that coping with difficulties was the most effective ER strategy ($M = 20.624$, $SD = 5.729$). Furthermore, among the sub-components of L2TGS, perseverance in teaching had the highest mean score ($M = 32.206$, $SD = 9.341$). Additionally, when comparing the sub-components of MTS, intrapersonal mindfulness ($M = 32.206$, $SD = 9.341$) emerged as the most prominent technique.

Table 1: The Results of the Descriptive statistics

Scales and Sub-scales	N	Minimum	Maximum	Mean	Std. Deviation
Teaching Self-efficacy	519	7	37	23.233	7.298
Burnout	519	5	27	17.547	4.718
Resilience	519	5	27	17.343	4.584
Attitudes Toward Teaching	519	5	28	17.923	4.827
Openness to Change	519	6	31	20.908	5.231
Classroom Affectivity	519	6	32	22.252	5.176
Coping	519	5	29	18.141	4.944
Language Teacher Immunity Instrument (LTII)	519	47	196	137.347	28.389
Situation Selection	519	5	25	16.742	4.558
Situation Modification	519	5	25	16.541	4.956
Attention Deployment	519	6	20	13.830	3.510
Reappraisal	519	5	25	17.362	4.672
Suppression	519	4	20	13.671	3.728
Seeking Social Support	519	4	20	13.407	3.524
The Language Teacher Emotion Regulation Inventory (LTERI)	519	34	135	91.553	19.418
Coping with Difficulties	519	6	33	20.624	5.729
Bouncing Back Cognitively and Emotionally	519	6	32	20.661	5.403
Working Hard and Appraising Difficulties Positively	519	3	18	10.385	2.973
Caring for One's Well-being	519	7	22	15.044	2.836
Striving for Professional Growth	519	5	18	11.322	2.849
Teacher Buoyancy Scale (TBS)	519	38	112	78.037	13.974
Perseverance in Teaching	519	11	53	32.206	9.341
Passion and Purpose in Teaching	519	6	37	24.476	6.619
The L2-Teacher Grit Scale (L2TG)	519	17	122	76.682	13.235
Intrapersonal Mindfulness	519	14	45	32.331	8.219
Interpersonal Mindfulness	519	9	25	19.000	3.518
Mindfulness in Teaching Scale (MTS)	519	25	70	51.331	10.872

The Kolmogorov-Smirnov test was conducted to determine if the collected data was normally distributed. The results are presented in Table 2.

Table 2: The Results of Kolmogorov-Smirnov Test

Instruments		Kolmogorov-Smirnov Z	Asymp. Sig. (2-tailed)
Language Teacher Immunity Instrument (LTI)	Teaching Self-efficacy	0.744	0.638
	Burnout	0.792	0.557
	Resilience	0.877	0.425
	Attitudes Toward Teaching	0.652	0.788
	Openness to Change	0.666	0.767
	Classroom Affectivity	0.782	0.574
	Coping	0.580	0.890
The Language Teacher Emotion Regulation Inventory (LTER)	Situation Selection	0.971	0.302
	Situation Modification	0.845	0.473
	Attention Deployment	1.261	0.083
	Reappraisal	0.596	0.870
	Suppression	0.834	0.490
	Seeking Social Support	0.587	0.881
	Teacher Buoyancy Scale (TBS)	Coping with Difficulties	0.642
Bouncing Back Cognitively and Emotionally		0.808	0.531
Working Hard and Appraising Difficulties Positively		0.792	0.558
Caring for One's Well-being		0.828	0.500
Striving for Professional Growth		0.793	0.556
Mindfulness in Teaching Scale (MTS)	Perseverance in Teaching	0.829	0.498
	Passion and Purpose in Teaching	0.871	0.435
	The L2-Teacher Grit Scale (L2TG)	1.101	0.177
	Intrapersonal Mindfulness	0.981	0.291
	Interpersonal Mindfulness	1.027	0.242

As indicated in Table 2, since the calculated p-values for all the constructs and their sub-scales were greater than 0.05, it was concluded that the normality assumption was met. Subsequently, a Pearson product-moment correlation was conducted to analyze the degree of connection between the sub-scales of LTII, LTERI, TBS, L2TGS, and MTS. The results are reported in Table 3.

Table 3: Measures of agreement between the LTII, LTERI, TBS, L2TGS, and MTS sub-scales

	LTI	LTER	TBS	Perseverance in Teaching	Passion and Purpose in Teaching	Intraper sonal Mindful ness	Interperso nal Mindfulne ss
LTI	1.00 0						
LTER	0.61 2**	1.000					
TBS	0.55 3**	0.572* *	1.000				
Perseverance in Teaching	0.72 4**	0.912 **	0.812 **	1.000			
Passion and Purpose in Teaching	0.71 5**	0.924 **	0.832 **	0.541**	1.000		
Intrapersonal Mindfulness	0.68 5**	0.892 **	0.788 **	0.641**	0.652**	1.000	
Interpersonal Mindfulness	0.63 1**	0.884 **	0.747 **	0.556**	0.682**	0.658**	1.000

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

As indicated in Table 3, there is a positive and statistically significant association between LTI and each of the L2TGrit and TM sub-components:

perseverance in teaching ($r = 0.884$, $p < 0.01$), passion and purpose in teaching ($r = 0.858$, $p < 0.01$), intrapersonal mindfulness ($r = 0.904$, $p < 0.01$), and interpersonal mindfulness ($r = 0.960$, $p < 0.01$). The sub-components of LTERI showed positive correlations with ER as follows: perseverance in teaching ($r = 0.884$, $p < 0.01$), Passion and purpose in teaching ($r = 0.858$, $p < 0.01$), intrapersonal mindfulness ($r = 0.788$, $p < 0.01$), and interpersonal mindfulness ($r = 0.960$, $p < 0.01$). Additionally, TBS, as well as the L2TGrit and TM sub-components, are positively correlated as follows: perseverance in teaching ($r = 0.812$, $p < 0.01$), passion and purpose in teaching ($r = 0.832$, $p < 0.01$), intrapersonal mindfulness ($r = 0.788$, $p < 0.01$), and interpersonal mindfulness ($r = 0.747$, $p < 0.01$).

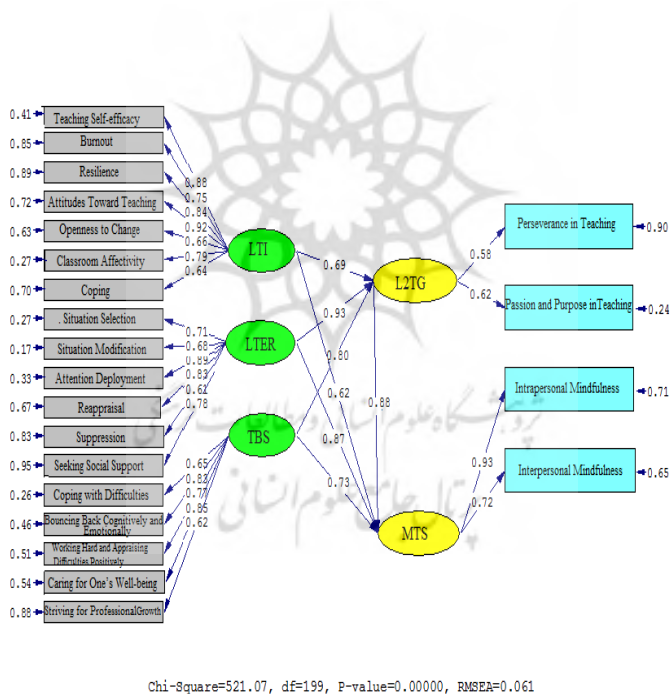


Figure 2: The schematic representation of path coefficient values (model 1)

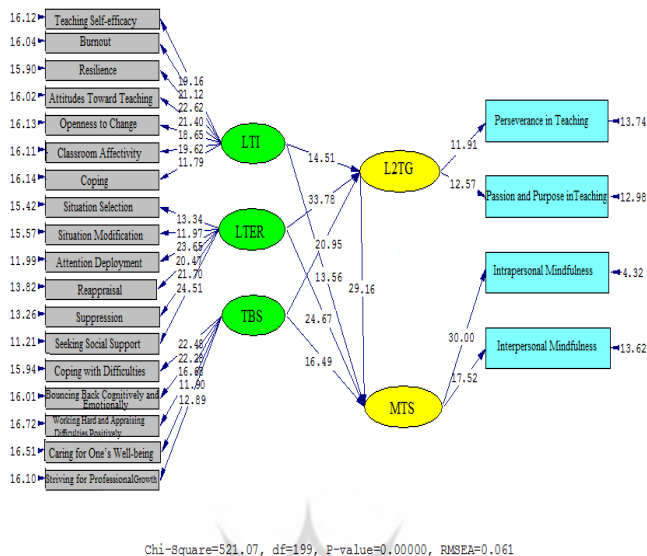


Figure 3: T values for path coefficient significance (model 1)

Figures 2 and 3 depict the statistical relationships between the variables. They show that LTI, LTER, TB, L2TG, and TM are all positively correlated. Positive effects of LTI on L2TG ($\beta = 0.69$, $t = 14.51$), LTER on L2TG ($\beta = 0.93$, $t = 33.78$), and TB on L2TG ($\beta = 0.80$, $t = 20.95$) were found. The correlation between LTI and MTS was quite strong ($\beta = 0.62$, $t = 13.56$), while LTER had the same influence on MTS as before ($\beta = 0.87$, $t = 24.67$). The relationship between TBS and MTS was also statistically significant ($\beta = 0.73$, $t = 16.49$).

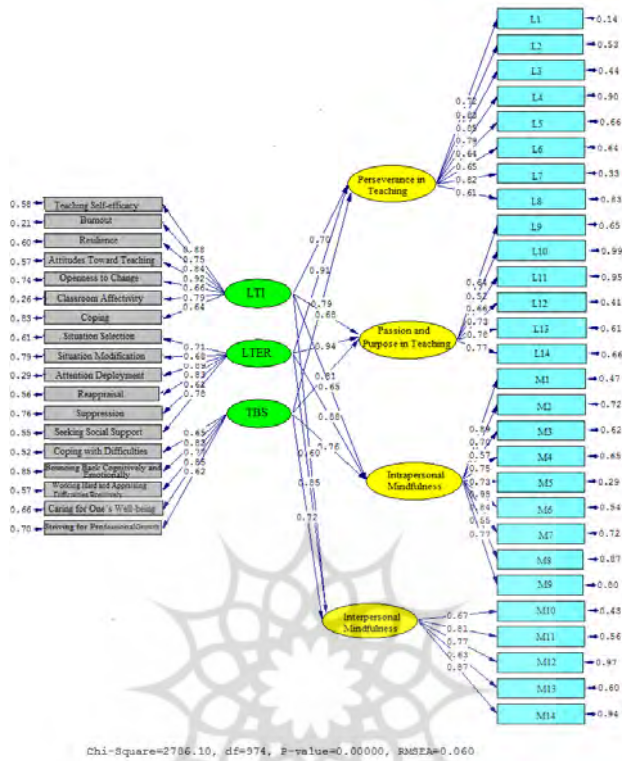


Figure 4: Schematic representation of path coefficient values (model 2)

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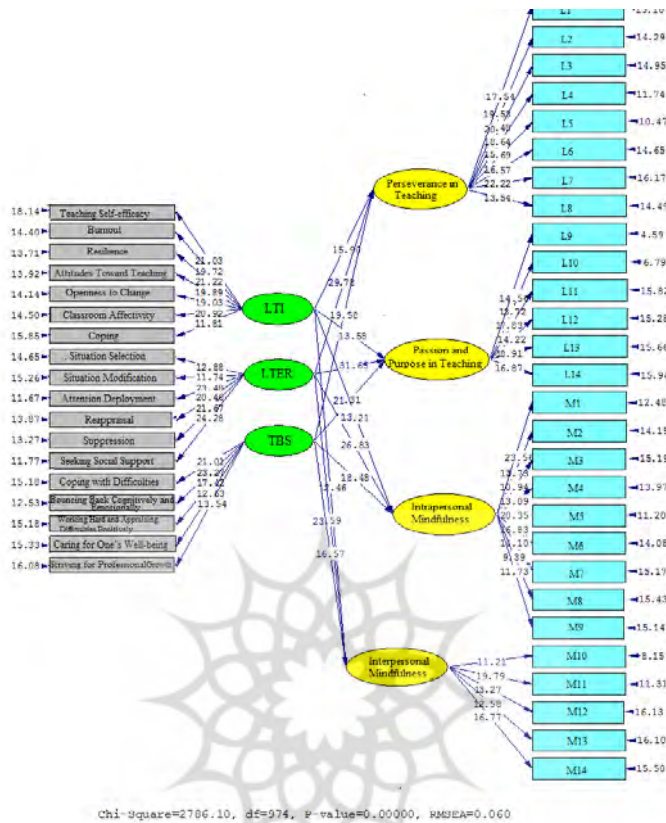


Figure 5: T values for path coefficient significance (model 2)

The values of the route coefficients for the associations between the LTI, LTER, TB, L2TG, and MT sub-scales are visually depicted in Model 2, as illustrated in Figures 4 and 5. It can be stated the relationships among LTI and L2TG as well as TM sub-scales: perseverance in teaching ($\beta = 0.70$, $t = 15.90$), passion and purpose in teaching ($\beta = 0.68$, $t = 13.58$), intrapersonal mindfulness ($\beta = 0.65$, $t = 13.21$), and interpersonal mindfulness ($\beta = 0.60$, $t = 12.46$). The analysis of the relationship between LTER, L2TG, and TM components resulted in the following: perseverance in teaching ($\beta = 0.91$, $t = 29.78$), passion and purpose in teaching ($\beta = 0.94$, $t = 31.65$), and intrapersonal mindfulness ($\beta = 0.88$, $t = 26.83$), and interpersonal mindfulness

($\beta = 0.85$, $t = 23.59$). Regarding the correlation between LTER, L2TG, and TM sub-factors, the results are as follows: Perseverance in teaching ($\beta = 0.79$, $t = 19.58$), passion and purpose in teaching ($\beta = 0.81$, $t = 21.31$), intrapersonal mindfulness ($\beta = 0.76$, $t = 18.48$), and interpersonal mindfulness ($\beta = 0.72$, $t = 16.57$).

Table 4: Model fit indices

Fitting indexes	χ^2	df	χ^2/df	RMSEA	GFI	NFI	CFI
Cut value			<3	<0.1	>0.9	>0.9	>0.9
Model 1	521.07	199	2.618	0.061	0.931	0.952	0.915
Model 2	2786.10	974	2.860	0.060	0.925	0.931	0.942

Table 4 shows that the values for the chi-square/df ratio, RMSEA, GFI, and NFI, as well as CFI, for Model 1 are all satisfactory. Additionally, Table 4 summarizes the fact that all the model fit indices associated with Model 2 fall within acceptable ranges. The GFI is 0.925, the NFI is 0.931, and the GFI is 0.942. The chi-square/df ratio is 2.860, and the RMSEA is 0.060.

DISCUSSION

The first research question explored if TI was significantly correlated with their L2TG and TM. The gained results revealed that TI was significantly associated with their L2TG and TM, indicating that the first hypothesis was rejected. The results of the study are in line with those of Rahimpour et al. (2020) which discovered a strong correlation between thinking and language TI. The obtained results also agreed with those of Rahmati et al. (2019), who emphasized the importance of cultivating reflection in raising TI. Additionally, the findings of the study lend support to the findings of Azari Noughabi et al. (2022b). They found that academy immunity was significantly linked with their L2TG and work engagement. The findings can be explained by the positive impact of L2TG and TM on teachers' psychological well-being and stress management. L2TG, characterized by persistence and passion for language learning goals, can help EFL teachers

maintain a positive mindset and motivation in the face of challenges, reducing the potential negative effects of stress (Duckworth et al., 2007; Hiver & Dörnyei, 2017). Similarly, TM practice enhances individuals' ability to cope with stress and promote overall well-being (Brown & Ryan, 2003). EFL teachers with higher levels of L2TG and TM may experience lower levels of burnout and greater immunity to stressors in the EFL context. Another reason for the findings could be the influence of L2TG and TM on the EFL teachers' focus and attention while teaching. L2TG involves perseverance and dedication to long-term language goals, which may translate into a focused and engaged teaching approach (Duckworth et al., 2007; Hiver, 2017). Additionally, TM practice enhances attentional control and cognitive flexibility (Chambers et al., 2008; Hiver, 2015). EFL teachers with higher levels of L2TG and TM may be more attentive to their students' needs, better able to adapt their teaching methods, and maintain an optimal level of engagement, thereby improving their teaching effectiveness and overall immunity in the EFL context. Moreover, the findings may also reflect the influence of L2TG and TM on the EFL teachers' job satisfaction and motivation. L2TG fosters a sense of passion and dedication towards language learning goals, which can translate into greater job satisfaction and motivation for teachers (Duckworth et al., 2007). Similarly, TM practice has been associated with increased well-being and satisfaction in various domains of life, including work (Brown & Ryan, 2003; Hiver, 2015). EFL teachers with higher levels of L2TG and TM may experience a greater sense of fulfillment and purpose in their teaching profession, enhancing their overall motivation and immunity to potential challenges or difficulties encountered in the EFL context.

The second research question explored the correlation between TB, L2TG, and TM in the context of EFL education in Iran. The findings indicated a significant association between TB, L2TG, and TM, showing that the second hypothesis was rejected. These results suggest that resilience and a positive mindset can greatly impact a teacher's determination, perseverance, and focus on achieving goals. In the challenging EFL classroom environment

of Iran, teachers with higher levels of buoyancy are more likely to exhibit L2TG and TM (Yang et al., 2022). They tend to set ambitious goals for their students, maintain a persistent teaching approach, and remain attentive, thereby fostering a positive learning environment (Azari Noughabi et al., 2022b). Another possible explanation for these findings is that EFL teachers with higher levels of L2TG are motivated to continually improve their teaching practices, seek new strategies, and adapt their methods to meet student needs. This dedication and passion are closely linked to TB, as teachers with high levels of L2TG possess the resilience and optimism needed to overcome setbacks and challenges. As a result, their buoyant mindset allows them to stay focused and dedicated, leading to positive outcomes for both themselves and their students (Hiver & Dörnyei, 2017). Similarly, TM contributes to TB by helping them stay present, attuned to student needs, manage stress and emotions effectively, and maintain a positive attitude, thereby promoting a conducive learning environment.

The third research question explored the correlation between TER, L2TG, and TM in the EFL context of Iran. The results indicated a significant association between TER and L2TG and TM among the EFL teachers, confirming the third research question was rejected. The findings of the study lend support to those of Deng et al. (2022), reporting that TER was a strong predictor of EFL teachers' self-efficacy, engagement, and anger. Likewise, the results of the study are in tune with those of Hu (2023), reporting that TER indirectly predicted teacher resilience through the mediation of emotional labor strategies. Along with the findings, it may be argued that the EFL teachers who effectively regulated their emotions were better equipped to tackle challenges and setbacks commonly encountered in the EFL context. These challenges may include language barriers, student motivation issues, and limited resources, which could potentially induce frustration and stress (Hu, 2023). However, the EFL teachers skilled in ER demonstrate resilience and remain focused and motivated despite these challenges, ultimately leading to higher levels of L2TG and TM (Zheng et al., 2023). Another possible reason for these findings is the interconnection and mutual influence

of ER, L2TG, and TM (Alazemi et al., 2023; Deng et al., 2022). The EFL teachers proficient in ER tended to possess a positive mindset and higher self-efficacy, which, in turn, foster L2TG and TM. Effective ER involved awareness and management of emotions, contributing to a more positive and motivated outlook (Plonsky et al., 2022). Similarly, L2TG and TM might demand persistence, resilience, and focused attention. Consequently, the EFL teachers with higher levels of ER naturally exhibit greater levels of L2TG and TM in their teaching practices.

CONCLUSION AND PEDAGOGICAL IMPLICATIONS

The study's findings disclosed a significant correlation between TI and levels of L2TG and TM in the EFL context of Iran. Additionally, there was a significant relationship between TB and their levels of L2TG and TM. Furthermore, the study uncovered a significant link between TER and L2TG and TM. Based on these findings, it can be concluded that EFL teachers with high TI, TB, and TER are likely to exhibit higher levels of L2TG and TM. Moreover, the results emphasize the importance of prioritizing the development of TI, TB, and TER skills among EFL teachers to promote effective teaching practices and enhance EFL students' learning outcomes.

The findings of the study have important implications for educational policymakers, teacher trainers, and EFL teachers. Educational policy-makers should encourage the inclusion of TM and ER training in teacher education programs, as these skills can enhance TI, TB, and overall well-being. Moreover, they should invest in professional development opportunities that promote the development of L2TG, TM, and TER among EFL teachers. Furthermore, educational policy-makers need to support the creation of school-based initiatives that prioritize teacher well-being and provide resources for implementing TM practices in the classroom. Concerning teacher trainers, they should incorporate TM and TER strategies in pre-service and in-service teacher training programs to enhance teacher well-being and resilience. Likewise, they should teach EFL teachers how to

cultivate L2TG and encourage perseverance in language learning by setting achievable goals and fostering a growth mindset. Besides, the teacher trainers should provide opportunities for EFL teachers to engage in self-reflection and self-care activities to promote their overall well-being, TM, and emotional regulation skills. Regarding EFL teachers, they need to develop a personal TM practice to manage stress and enhance emotional regulation, which can positively impact teaching effectiveness. In addition, EFL teachers should foster a positive classroom environment that emphasizes the development of L2TG by setting clear expectations, providing constructive feedback, and encouraging perseverance among students. Finally, they should seek out professional development opportunities that focus on building resilience, TM, and TER skills to enhance personal well-being and teaching effectiveness.

In tune with limitations placed on this research, some suggestions for further research are presented. Given that this study is cross-sectional, a longitudinal study needs to explore the causal relationships between TI, L2TG, TM, TB, and TER. This can provide more robust evidence and insights into how these variables develop and interact over time. Second, as this study was limited to the context of Iran, further research can expand the scope of your research and compare TI, L2TG, and TM across different cultural contexts. This can help identify cultural variations and their impact on these variables in the EFL teaching profession. Third, as the study was correlational, interested researchers can design and implement intervention programs aimed at enhancing TI, L2TG, TM, TB, and TER. They can evaluate the effectiveness of these interventions in improving teacher well-being and their impact on students' language learning outcomes. Last but not least, future studies can investigate other factors that might influence TI in the EFL context of Iran, such as organizational support, teacher-student relationships, and professional development opportunities. This can provide a more comprehensive understanding of the factors contributing to teacher well-being.

Disclosure statement

No potential conflict of interest was reported by the authors

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