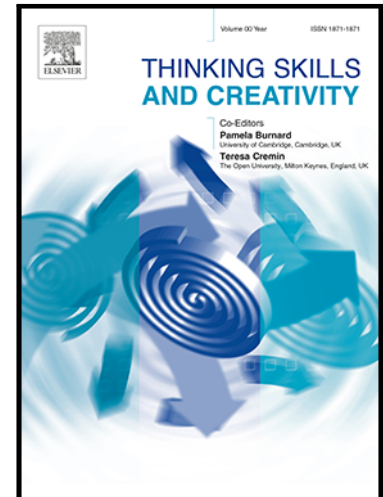


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Vincent Greenier , Jalil Fathi , Seyyed-Foad Behzadpoor

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Teaching for creativity in an EFL context: The predictive roles of school climate, teaching enthusiasm, and metacognition

Vincent Greenier

*Lecturer in Linguistics & TESOL, University of Aberdeen, UK
School of Languages, Linguistics, Music & Visual Culture (LLMVC)
Taylor Building, King's College, Aberdeen, UK AB24 3UB*

vtgreenier@abdn.ac.uk

ORCID: <https://orcid.org/0000-0001-6844-2209>

Vincent Greenier is a Lecturer in Linguistics & TESOL at the University of Aberdeen, UK. His main research interests include creative approaches to language teaching and learning, leadership and professionalism in ELT, language teacher education, language teacher identity, and innovative approaches to qualitative research. His articles can be found in journals such as *TESOL Quarterly*, *System*, *RELC*, *The Iranian Journal of Language Teaching Research*, and others.

Jalil Fathi (Corresponding Author)

Associate Professor in Applied Linguistics, University of Kurdistan, Sanandaj, Iran

j.fathi@uok.ac.ir

ORCID: <https://orcid.org/0000-0003-1146-1024>

Jalil Fathi received his Ph.D. degree in applied linguistics from Allameh Tabataba'i University, Tehran, Iran. He is currently an Associate Professor at University of Kurdistan, Sanandaj, Iran. His areas of interest are Computer Assisted Language Learning (CALL), teacher education, and psychology of language learning. He has published extensively in accredited national journals and authored several papers in internationally acclaimed journals like *Computer Assisted Language Learning*, *System*, *Journal of Computer Assisted Learning (JCAL)*, *International Journal of Multilingualism*, *Journal of Multilingual and Multicultural Development*, *Current Psychology*, *Asia Pacific Journal of Education*, *Education and Information Technologies*, and *Frontiers in Psychology*. He has also presented extensively in both international and national conferences.

Seyyed-Foad Behzadpoor

fouad.behzadpour@gmail.com

Assistant Professor in Applied Linguistics, English Department, Azarbaijan Shahid Madani University

Seyyed-Foad Behzadpoor is currently working as an assistant professor of Applied Linguistics at Azarbaijan Shahid Madani University, Tabriz, Iran. His areas of interest include language teacher education, CALL, academic writing and SLA. His research has appeared in *System*, *TESOL Encyclopedia of ELT*, *London Review of Education*, *JALDA*, etc.

ORCID: <https://orcid.org/0000-0001-7565-7785>

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Keywords: Teaching enthusiasm, teaching metacognition, school climate, teaching for creativity, EFL, autonomy

Highlights

- A model of teaching for creativity among EFL teachers was hypothesized and tested.
- This structural model explored the associations among EFL teachers' perceptions of school climate, teaching enthusiasm, teaching metacognition, and teaching for creativity (TfC).
- SEM results revealed that teaching enthusiasm was the strongest predictor of TfC; school climate and teaching metacognition also directly influenced TfC.
- Also, school climate affected TfC indirectly through teaching enthusiasm and teaching metacognition.
- Teaching enthusiasm had also a direct effect on teaching metacognition.

Abstract

This study delves into the realm of teaching for creativity within the context of English as a Foreign Language (EFL) instruction. Grounded in theoretical underpinnings and empirical investigation, this research employs structural equation modeling (SEM) to scrutinize the interplay between EFL teachers' perceptions of school climate, teaching enthusiasm, teaching metacognition, and teaching for creativity (TfC). Through an online survey, 387 English teachers partook in this study, responding to comprehensive questionnaires assessing the aforementioned constructs. SEM analyses underscore that teaching enthusiasm emerges as the most potent

predictor of TfC. Direct influences of school climate and teaching metacognition on TfC are substantiated. Furthermore, the impact of school climate on TfC is mediated through teaching enthusiasm and teaching metacognition. These findings bear substantial implications for teacher education initiatives, elucidating the pivotal role of school climate in fostering creativity through teaching enthusiasm and metacognitive strategies.

Keywords: Teaching enthusiasm, teaching metacognition, school climate, teaching for creativity, EFL

1. Introduction

Today, creativity is essential in nearly every industry and academic discipline and teachers are at the forefront of cultivating this sought after quality; thus, teacher education has responded by emphasizing a diverse range of theories and models that encourage creative thinking and engagement in the classroom. While there are numerous student-centered instructional methods to promote creativity in teaching and learning, one pedagogical approach has been branded *teaching for creativity* (TfC). Although research in TfC is now three decades old, it has recently garnered increased attention due to the fact that, as a ramification of overemphasizing core knowledge and skills, schools are paradoxically becoming more standardized and knowledge-oriented and losing sight of creative modes of teaching and learning (Banaji et al., 2013; Gao et al., 2020). Hence, investigations into how pedagogy and environment influence creativity development and maintenance has become increasingly difficult to ignore (Gao et al., 2020).

The National Advisory Committee on Creative and Cultural Education (NACCCE) turned the spotlight on the notion of *teaching for creativity* (TfC) in their report; the report differentiated between two forms of creative instruction: *teaching creatively* and *teaching for creativity* (1999). The report stated that the former happens when a teacher utilizes creative methods to establish an engaging and provocative learning environment. The latter is defined as “forms of teaching that are intended to develop young people’s own creative thinking or behaviour” (NACCCE, 1999, p. 103). Discounting a dichotomous view of the two notions, Jeffrey and Craft (2004) see their inter-relationship as concomitant where teaching creatively is an innate element of teaching for creativity and, more often than not, occasions its presence. While we agree with this assertion,

for the purpose of analyzing the construct of TfC, we embrace NACCCE's distinction and examine its relationship with other educational concepts.

Recognizing the importance of teaching for creativity, the profession has witnessed a myriad of exploratory studies which have attempted to assay its antecedents. In the foreground lie two major classes of predictor: individual-dependent (i.e., teacher characteristics) and context-related (i.e., (school climate) factors, each having their own sub-elements (Davies, et al., 2013; Davies, et al., 2014). The field of teacher education has come to acknowledge that the ability to educate creative students is a characteristic of effective teachers who teach creatively (Jeffrey & Craft, 2004). Yet, it is evident that the determinants of teacher characteristics and the learning atmosphere are intertwined as developing creative capacities and skills in pupils is highly associated with an environment where space is given for the employment of teachers' innovative and creative faculties (NACCCE, 1999). Previous research has also established that the classroom setting can be tuned by teachers to augment creative capacity and behavior (Agnoli et al., 2018; Amabile, 1996). Therefore, TfC comprises all the features of effective teaching (NACCCE, 1999). A glance at the literature demonstrates that various teacher-related elements have been reported to comprise TfC, including enacting a creative performance, being cognizant of students' needs, utilizing information and communications technology (ICT), having the capacity to explore creative ideas, and opting for specific forms of classroom discourse and interaction (Davies, et al., 2014; Huang et al., 2021).

Another aspect of effective teaching is teacher enthusiasm (Kunter et al., 2011; Lazarides et al., 2018) which has been the focal point of a vast number of recent studies (e.g., Dewaele & Li, 2021; Lazarides et al., 2021), and has shown to enhance teacher well-being and positive emotions (Buric & Moe, 2020). Central to the construct of teaching enthusiasm is "the conjoined occurrence of positive affective experiences, that is, teaching-related enjoyment, and the behavioral expression of these experiences, that is (mostly nonverbal) behaviors of expressiveness" (Keller et al., 2016, p. 9). Several lines of evidence also suggest that teaching with enthusiasm serves as an influential factor in students' ~~in terms of~~ both motivational quality and learning outcomes (Fauth et al., 2019; Frenzel et al., 2018). Furthermore, theoretical conceptualizations have established links between teacher enthusiasm and creativity-specific

behavior. For example, TfC has been characterized as “the ability to communicate and listen and the ability to interest and to inspire” (NACCCE, 1999, p. 109), which reflects the key features of enthusiastic teaching (Keller et al., 2016). Further, Punia and Bala (2021) identified ‘creativity and innovation’ as a constituent component of teacher enthusiasm. Huang et al. (2021) found that teacher enthusiasm is a strong predictor of TfC. However, a major shortcoming of their study is that there is a complication in the way they view TfC. To measure TfC, the authors used a scale which actually measures ‘teaching creatively’ which, as mentioned, is conceptualized differently from TfC. Although progress has been made within this line of research, a closer look at the literature reveals that research into possible direct links between teacher enthusiasm and TfC has been minimal.

Previous studies also endorse the idea that teacher metacognition is highly influential in both processes of learning and teaching (Jiang et al., 2016; Zhang & Zhang, 2013). In second language (L2) pedagogy, accomplished teaching has been associated with teachers’ metacognitive capabilities which include “critical moment-to-moment decision making in evaluating what works well, for whom, and under which circumstances, as well as gauging one’s ongoing success in achieving these goals” (Hiver et al., 2021, p. 2). It is now generally considered a truism that teacher metacognition leads to higher instructional efficiency, teacher professional development, better student achievement (Jiang et al., 2016), and enhanced teacher competency (Fathima et al., 2014; Zhang & Zhang, 2018). When it comes to creativity and innovation, metacognitive knowledge has been shown to lead to teaching creatively (Zohar, 1999) and creativity learning (Kaplan, 2019). Beghetto et al. (2015) maintained that for student creativity development to happen, teachers need to clearly cherish, teach, and display creativity, hence it is essential that “teachers provide experiences that require creative risks, model metacognition and creative thinking and behaviours, and provide opportunities to address ambiguous learning stimuli from multiple perspectives” (Pitts et al., 2018, p. 46). Using the ‘dynamic componential model of creativity,’ Huang et al. (2021) found that teacher metacognition was a strong antecedent of TfC. A potential shortcoming of this study is that, as acknowledged by the authors, teacher metacognition is examined in terms of metacognitive skills only. An extensive body of literature, however, indicates that any comprehensive and integral theorization of the construct has to take into account its three interrelated components, i.e.,

metacognitive knowledge, metacognitive experience, and metcognitive skills (Jiang et al., 2016). Despite such recognition, to date, empirical evidence in support of an unmediated relationship between teacher metacognition and TfC has been scant.

Comprised of a distinct social and psychological fabric, the educational context, also referred to as school climate, has proved to have a pivotal role in the explication of different instructional-related factors (Greeno, 2015; Joe et al., 2017). School climate, broadly speaking, mirrors “the school environment, including the organization, teaching, interpersonal relations, cultural values, and other aspects of the school” (Gao et al., 2020, p. 2). School climate has been acknowledged as a central element in defining, interpreting, and influencing student academic learning, achievement, and performance (e.g., Brand et al., 2008; Chen & Weikart, 2008; Maxwell et al., 2017). Research also suggests school climate is a preeminent factor in developing pupils’ affective and behavioral conduct, including confidence (e.g., Hoge et al., 1990; Way et al., 2007), mental health (e.g., Brand et al., 2003; Shochet et al., 2006), aggression and violence (e.g., Espelage et al., 2014; Gregory, et al., 2010), and wrongdoing (e.g., Attar-Schwartz, 2009; Gottfredson et al., 2005). A vibrant line of inquiry into school growth has established that teacher instructional behavior is highly affected by different components of school climate, including collaboration with administration and colleagues, availability of instructional materials, school advocacy of TfC, and teacher contribution to the process of decision making at the school level (Huang et al., 2021). Moreover, in their systematic review of the literature, Davies et al. (2013) found a number of overriding features of the contexts which have proven to be effective in fostering creativity: accessibility of resources, physical spaces, utilizing outside surroundings, utilizing settings other than the school, instructional context, and interactions among pupils and teachers. Despite these positive links, however, the literature has offered contradictory findings in favor of a negative association. Rubenstein et al. (2013), for instance, found that a creativity-motivated environment was not associated with TfC. Huang et al. (2019) also reported that school climate was only partially related to TfC. Such conflicting findings highlight the fact that the relationship between school climate and TfC warrants more scholarly attention.

Exploring the potential interplay between school climate, teaching enthusiasm, metacognition, and teaching for creativity is a pivotal endeavor within the realm of educational research. While individual examinations of these constructs have yielded valuable insights, a holistic

understanding of their interconnected dynamics remains an uncharted territory. This study aims to bridge this gap by unveiling the potential nexus that binds these elements together. By unraveling how school climate exerts its influence on teaching enthusiasm and metacognition, subsequently shaping teaching for creativity, we aspire to uncover the underlying mechanisms that underlie creative instructional practices. The motivation driving this exploration stems from the realization that contemporary education operates within a landscape defined by rapid technological progress and escalating demands for innovation (Huang, 2021, 2022; Kaplan, 2019; Orakci, 2023). Hence, delving into the intricate relationships between these constructs holds the promise of informing pedagogical approaches that not only enhance students' learning outcomes but also equip them with the essential creative thinking skills required to navigate the complexities of our ever-evolving world (Durnali et al., 2023; Jones & Richards, 2016).

This study, therefore, aspires to contribute substantively to the advancement of both educational theory and practice, shedding illuminating insights on the reciprocal interactions that underpin effective and innovative teaching in the English as a Foreign Language (EFL) context. EFL teachers, in their role as facilitators of language acquisition and cross-cultural understanding, face the unique challenge of nurturing students' linguistic competence while also cultivating their creative expression and critical thinking skills (Chen & Goh, 2011). By investigating the interplay among the constructs, this study seeks to provide EFL educators with evidence-based insights and strategies that can enrich their pedagogical practices. As EFL classrooms increasingly become platforms for preparing students for a globally interconnected world, the findings of this study can empower teachers to foster a dynamic learning environment that not only cultivates language proficiency but also cultivates the creativity and adaptability needed to thrive in diverse linguistic and cultural landscapes.

2. The review of literature

2.1. Teaching for creativity

Creativity is defined by Gao et al. (2020, p. 1) as “a set of complicated cognitive skills and personal dispositions that give rise to novel ideas/products and help people to solve problems,” and, in the context of language learning, as a “multi-faceted phenomenon” that takes into account individual behaviours and skills, teaching and learning processes, and the learning materials and resources, as well as certain ways of thinking, feeling, and interacting (Jones & Richards, 2016).

Research has suggested that creative individuals show the propensity to better deal with different types of stress (Kaufman & Beghetto, 2009), are more open to experiential learning (Agnoli et al., 2018), are more likely to recognize and value creative achievements in life (Kaufman & Beghetto, 2013a), and are more inclined to possess an imaginative and curious temperament (Beghetto et al., 2015).

The current ethos of school transformation, which focuses on preparing young people for a future rich with technology and constant innovation, has brought the issue of nurturing learner creativity to the forefront of educational curricula across the globe (Chan & Yuen, 2014; Huan et al., 2021). Consequently, a productive stream of inquiry has emerged regarding factors that foster creative-related behavior in students- (Gao et al., 2020; Rubenstein et al., 2013). Beghetto et al (2015, p. xi) have defined TfC as “educating students to be flexible thinkers within a fairly rigid educational framework”. The report by NACCCE (1999) has signposted some fundamental tenets of teaching for creativity, such as engendering a sense of identity pertinent to creative behavior among pupils, determining pupils’ creative competencies, and encouraging creative behavior via creativity-related skills and faculties such as inquisitiveness and recognition. Capitalizing on a *learner inclusive approach*, Jeffrey and Craft (2004) have added a fourth tenet which acknowledges learner *agency* and in which “the learner is encouraged to engage in identifying and exploring knowledge” (p. 84). Numerous variables have shown to affect creativity development, including personality traits, contextual factors, cognitive elements, and teachers’ (personal) traits such as goal orientedness, motivation, and beliefs, and intelligence (Chan & Yuen, 2014). Research also indicates that modelling creative behavior by teachers is a crucial factor in supporting creative learning among students (Grainger et al., 2005). Moreover, there is evidence pointing to the fact that knowing about students’ needs and engaging them in the learning process is conducive to student creative behavior (Jeffrey, 2006). Furthermore, attitudes about learning and growth potential have been linked to TfC. For instance, in a study by Davies (2006), TfC was highly linked to the inclination to await outcomes and the courage to proceed instinctively. According to Reilly et al. (2011), creative teachers appreciate socio-cultural views of learning and are keenly aware of intrapersonal communication.

In a study conducted by Paek and Sumners (2019), an indirect impact of teachers' creative mindsets on teaching creativity was unveiled. Their research indicated that educators who

believed creativity to be an inherent trait were more likely to perceive certain students as lacking creative potential. Consequently, this perception influenced their confidence in effectively teaching for creativity. Intriguingly, this negative indirect effect was mitigated when teachers possessed growth-oriented creative mindsets. Huang (2021) delved into the realm of informal workplace learning and its connection to TfC. Through the study, five distinct categories of informal learning activities were identified, each exhibiting varying degrees of association with TfC. Notably, the engagement in reflection was found to strongly correlate with process-oriented TfC, while learning through interactions with students demonstrated a robust link to product-oriented TfC.

In the work by Cheung (2012), an exploration of early childhood teachers' beliefs and practices concerning TfC was conducted. The study involved interviews and classroom observations of educators in Hong Kong. The findings highlighted the alignment between teachers' creative practice. However, a complex interplay of congruities and discrepancies emerged between their professed beliefs and their actual classroom practices, influenced by a multitude of factors.

Huang (2022) extended an inquiry by investigating the interrelationships between teachers' creative self-concepts, creative role identities, creative self-efficacy, and teaching for creativity. The research underscored the significant nexus between these constructs and teaching for creativity. This study highlighted the significance of educators' perceptions of their own creative capacities in shaping their approaches to fostering creativity in the classroom. In a recent study by Fathi and Naderi (2023), the roles of teachers' creative self-efficacy and growth mindsets in predicting teaching for creativity among EFL teachers were explored. The findings illuminated the substantial influence of both creative self-efficacy and growth mindset on EFL teachers' capacity for TfC, with creative self-efficacy playing a slightly more pronounced role in this regard.

Collectively, these studies contribute to a multifaceted understanding of the myriad factors that impact teaching for creativity. They offer insights into the intricate relationships between teachers' beliefs, mindsets, and instructional practices concerning creativity within educational settings. By assimilating these findings into the literature review, the current study gains a more comprehensive and intricate perspective on the broader landscape of research in this field.

2.2. Teacher enthusiasm

Teacher enthusiasm is said to affect both pupils and teachers. This construct fosters student learning and is a driving force behind student enticement, stimulation, and motivation (Keller et al., 2016). Enthusiastic teachers are believed to be more energetic and happier (Kunter et al., 2011). As a way out of the baffling multiplicity surrounding the conceptualizations of the construct in the literature, Keller et al. (2016) proposed an overarching view consisting of two complementary categories of teacher enthusiasm, namely displayed enthusiasm and experienced enthusiasm. Displayed enthusiasm, which accentuates teacher enthusiasm as perceived by pupils, is conveyed either verbally and through ‘instructional behavior’ or non-verbally, called ‘non-verbal expressiveness’ (Lazarides et al., 2018; Patrick et al., 2000). From this vantage point, teacher enthusiasm-related behavior is manifest in several ways. Verbal enthusiasm is displayed through stimulating and vivacious teaching performance, commenting on the importance of the instructional materials, and adopting an amusing and humorous teaching style (Patrick et al., 2003; Turner et al., 1998). Non-verbal enthusiasm, on the other hand, is visible through affectionate gesticulations (Murray, 2007). Experienced enthusiasm accounts for the affective, rather than the cognitive, dimension of enthusiasm (Keller et al., 2016) which mirrors the extent of “enjoyment, excitement, and pleasure that teachers typically experience in their professional activities” (Kunter et al., 2008, p. 470). This experienced emotion of enthusiasm is reflected through two modes of presentation which Kunter et al. (2011) call behavioral or teaching enthusiasm and subject or topic-related enthusiasm. While the behavioral facet refers to the passion and energy the teacher exhibits in her teaching practice (Keller et al., 2016), subject enthusiasm is defined as “the teacher’s enjoyment of working in her/his field, her/his excitement for doing research in her/his field, and her/his endeavor for communicating to the students her/his positive opinion regarding her/his field” (Kasalak & Dağyar, 2022, p. 281). Following Kunter et al. (2011), in the present study, enthusiasm is considered as “an affective, person-specific characteristic that reflects the subjective experience of enjoyment, excitement, and pleasure, and that is manifested in certain teacher behaviors in the classroom” (p. 290).

Furthermore, the impact of teacher enthusiasm extends beyond the immediate classroom dynamics. It ripples through the educational landscape, influencing not only students but also the broader teaching community. Enthusiastic educators often serve as beacons of inspiration, setting a positive tone for the learning environment and inspiring their colleagues (Kunter et al., 2011).

Their vibrant energy and genuine passion for teaching can create a culture of enthusiasm within schools, fostering an atmosphere conducive to creativity and innovative pedagogical approaches. As demonstrated by Keller et al. (2016) and others, the multifaceted nature of enthusiasm, encompassing both its outward expressions and internal experiences, contributes not only to the enhancement of teaching and learning but also to the cultivation of a dynamic and motivated teaching community that continually strives for excellence.

2.3. Teacher metacognition

The past decade has witnessed, both in mainstream teacher education and English language teaching (ELT) contexts, a renewed importance in the interplay between teachers' thinking and action, typically referred to as reflective practice and the way it affects the efficiency and quality of instruction (Hiver et al., 2019). In language teaching, this growing interest is largely due to the introduction of the post-method pedagogy to the field which generated a reinterest in teacher reflection as a new model of teacher education in the absence of the concept of method (Authors, 2011). Reflection has been recently hypothesized to be a subcategory of metacognition defined as "the knowledge and control of cognitive processes that result in qualitative differences in individual functioning, enabling some individuals to function optimally" (Hiver et al., 2021, p. 6). There is by now a substantial body of evidence in support of the claim that higher levels of metacognition can lead to better skill advancement, more successful functioning, more self-regulation, and more self-awareness (Beran et al., 2012; Hiver et al., 2019). Although conceived as something of a hydra-headed phenomenon, the edifice of metacognition scholarship pivots on two major paradigms, Brown (1978) and Flavell (1979), which together posit that metacognition consists of three substantial building blocks: metacognitive knowledge, metacognitive experiences, and metacognitive skills also known as metacognitive control and regulation. Drawing on this grand theory, teacher metacognition has taken on board these components as significant indicators of teacher metacognitive behavior. Metacognitive knowledge comprises "knowledge about one's own information processing, knowledge about the nature of cognitive tasks, and about strategies for coping with such tasks" (Sodian et al., 2012, p. 119), as well as sociocultural factors that account for "...the whole enterprise of cognition, sociocognition, and learning" (Zhang & Zhang, 2013, pp. 114-115). This element aids teachers, for instance, in

critical thinking about various aspects of their teaching, such as deciding on using a specific coursebook or teaching method in their classes (Hartmann 2001). As Jiang et al. (2016) maintained, metacognitive experiences deal with both the emotional and cognitive as well as judgmental feelings. Such experiences comprise a key dimension of metacognitive teaching since they entail “an active awareness on the part of a teacher who is performing a task, thus informing them in real time of their progress toward desired outcomes” (Hiver et al., 2019, p. 7). Metacognitive skills encompass the mechanisms that navigate regulation, control, and monitoring of one’s cognitive behavior (Hiver et al., 2019). Orakci and Durnali (2023) revealed that creative thinking and metacognition played a mediating role in the relationship between autonomy opportunity, decision-making, and self-efficacy. They maintained that teachers’ abilities in autonomy support and self-efficacy can be effectively achieved by fostering their creative thinking and metacognition skills. Through metacognitive skills, the teacher deliberately uses certain strategies to achieve a specific result (Veenman, 2011). Due to its comprehensiveness, this integral view of teacher metacognition was taken in the present study.

2.4. School climate

Malinen and Savolainen (2016) assert that the construct of school climate has gained a currency in the field and is now widely recognized as a critical factor in relation with other education-related factors. Maxwell et al. (2017) define school climate as “social characteristics of a school in terms of relationships among students and staff/teachers, learning and teaching emphasis, values and norms, and shared approaches and practices” (pp. 1&2). As a contextual factor, however, different meanings have been proposed for school climate, ranging from established understandings of the concept such as an array of criteria set for pupils, an organization of socially-embedded rules and beliefs, the degree of instructor emancipation, teachers’ confidence and positive feelings as well as pupils’ recognition of the totality of the school, to more current conceptualizations which look at school climate as a combination of social and psychological factors in which teachers operate (Johnson et al., 2007). To be sure, central to most of the conceptualizations of the construct are three major sub-scales originally proposed by Moos and Moos (1978): (a) the amount of accentuation given to individual development and goal-directed practice by the school, (b) interactional relations within the system, and (c) commonalities in terms of standards, criteria, principles, and accepted practice (see also Haynes et al., 1997; Hoy

et al., 1991). Acknowledging the co-existence of a multitude of climates in a school setting (Schneider, 1990), Van Beurden et al. (2017) refer to another conceptualization of the concept which partially echoes this tripartite model, and in which school organization is looked at from two prisms: an academic achievement emphasis and an interactionally-laden perspective. In the former, it is of paramount significance that pupils achieve high standards of academic performance (Hoy et al., 2002). In the latter, what is valued is shaping student identity based on predetermined benchmarks, standards, citizenship values, and norms (Shouse, 1996). Following Johnson and Stevens (2006), in the present study, school climate refers to “the psychosocial environment in which teachers work with other teachers, students and administrators” (p. 113).

School climate, seen from the three perspectives of instructor support, pupil support, and autonomy promotion, has been reported to be a major antecedent of creativity (Gao et al., 2020). Students who are eager to engage in exploratory activities will be the outcome of a situation where teachers provide the opportunities for creative thinking and learning (Agnoli et al., 2018; Prieto et al., 2015). Moreover, when students are given support by their classmates, they will experience higher levels of self-respect and self-confidence (Brooks et al., 2014). In an autonomy-promotion environment, students will develop self-organization strategies (Gao et al., 2020) which contributes to their creativity-expression behavior (Chan & Yuen, 2014). Johnson et al. (2007) introduced a prominent model of school climate that epitomizes teachers' perceptions of the concept and is composed five factors: collaboration, decision making, school resources, student relations and instructional innovation. Established theories of creativity have acknowledged that creativity is a process partly rooted in social interactions (Amabile, 1988; Perry-Smith & Shalley, 2003); thus, collaboration can directly and indirectly influence TFC and TFC-related behavior and outcome. Through collaboration, therefore, social interaction is facilitated with the benefit of exchanging views, thoughts, and information leading to enhanced creativity (Perry-Smith, 2006).

Moreover, the dynamic interplay between school climate and teaching for creativity extends beyond its direct impact on students. The domino effect of a positive school climate resonates with teachers' enthusiasm and instructional practices, amplifying their ability to foster creativity within the classroom (Huang et al., 2021; Huang, 2022). A nurturing and supportive school environment not only empowers students but also provides teachers with a conducive backdrop

for cultivating their own creativity-enhancing strategies. As teachers perceive a climate that values collaboration, decision-making, resource availability, positive student relations, and instructional innovation (Johnson et al., 2007), they are better positioned to embark on innovative pedagogical journeys, experiment with new teaching approaches, and collaboratively engage in creative problem-solving endeavors. This alignment with established theories that recognize creativity as deeply rooted in social interactions (Amabile, 1988; Perry-Smith & Shalley, 2003) reinforces the notion that collaboration serves as a conduit that directly and indirectly influences teaching for creativity and its related behaviors and outcomes. By fostering an environment where ideas, perspectives, and knowledge are exchanged freely, collaboration nurtures creativity and sets the stage for the multifaceted dimensions of teaching for creativity to thrive (Perry-Smith, 2006).

2.5. The rationale of the model

In light of the review presented and the conceptualizations discussed above, the present study examined a structural model to test the interconnections among the variables singled out in the present study, namely Tfc, school climate, teacher enthusiasm, and teacher metacognition. The suggested model as well as the hypotheses are shown in Figure 1.

Hypothesis 1 (H1): *Teaching enthusiasm positively affects Tfc.*

Numerous studies have shed light on the intricate relationship between positive emotions and creative-related behavior, of which enthusiasm is a notable component. Positive emotions have been linked to an inclination to explore novel ideas (George & Zhou, 2007) and an enhanced capacity for creativity (Gilet & Jallais, 2011). Furthermore, our study builds upon the well-established connection between teacher enthusiasm and its impact on student motivation and effective learning. As Sternberg and Williams (1996) assert, the modeling of creative behavior by enthusiastic teachers plays a pivotal role in fostering student creativity. Empirical support for this notion is found in Chan and Yuen's (2014) qualitative study, where participating teachers exhibited creativity-related personality traits such as enthusiasm, curiosity, and autonomy. This observation aligns with the findings of Gabryś-Barker (2014), who identified autonomy, creativity, and self-improvement as crucial antecedents of teacher enthusiasm. Therefore, our

hypothesis positing a positive influence of teaching enthusiasm on TfC is grounded in the convergence of theoretical perspectives and empirical evidence.

Hypothesis 2 (H2): *Teaching enthusiasm positively affects teaching metacognition.*

Although an extensive body of research has established the significance of both teacher enthusiasm and teacher metacognition in effective teaching, their mutual interaction remains relatively unexplored in the literature. Nevertheless, existing investigations have produced mixed results. Kunter et al. (2008) identified teacher enthusiasm as a predictor of instructional behaviors such as control and monitoring strategies. Moreover, Huang et al. (2022) demonstrated that teacher enthusiasm mediates the relationship between teacher metacognitive competence and self-regulated teaching behaviors. However, Chatzistamatiou et al. (2014) reported only a moderate prediction of self-regulatory teaching by enthusiastic teaching. These inconclusive findings may stem from an incomplete understanding of teacher metacognition, often examined unidimensionally rather than holistically, incorporating its interconnected components of skills, knowledge, and experience. Our hypothesis, therefore, seeks to elucidate the interplay between teaching enthusiasm and the multifaceted nature of teacher metacognition, aiming to contribute to a comprehensive understanding of their relationship.

Hypothesis 3 (H3): *Teacher metacognition positively affects TfC.*

A solid foundation of prior research underscores the robust and positive relationship between metacognition, reflective processes, and innovative/creative behaviors. Empirical evidence highlights how the regulatory and monitoring aspects of metacognition contribute to creative reflection (Zysset et al., 2001), creative functioning (Benedek & Jauk, 2019), and the generation of creative ideas (Dixon et al., 2014). When these cognitive processes are transposed to the realm of teaching, the parallels between reflection and metacognition emerge in the form of experience utilization, effective communication, and critical evaluation. These facets align seamlessly with the critical stages of creative tasks—idea generation and realization (Messmann & Mulder, 2011). Furthermore, metacognitive teachers are primed to impart metacognitive strategies and skills to students, fostering enhanced problem-solving abilities and elevated academic accomplishments (Safari & Meskini, 2015). As proposed by Hiver et al. (2019), the metacognitive teacher's ability to thoughtfully adapt to the intricate challenges of the classroom context is paramount. Consequently, our Hypothesis 3 posits a positive linkage between teacher

metacognition and the promotion of TfC, enriched by the multifaceted influence of metacognitive processes on creative teaching.

Hypothesis 4 (H4): *Teachers' perceived school climate positively influences TfC.*

Building upon prior research, our Hypothesis 4 establishes a connection between teachers' perceived school climate and TfC, grounded in the significant implications of autonomy, collaborative tasks, and innovative environments. Empirical studies emphasize the positive impact of granting individuals autonomy and involving them in decision-making processes, fostering not only work commitment and emotional well-being but also yielding creative outcomes (Huang et al., 2021). Converging evidence underscores the role of effective school implementations, instructional resources, and technological tools in enhancing creativity (Bereczki & Karpati, 2018; Gkolia et al., 2009). Collaborative tasks have been consistently linked to student creativity development, substantiated by studies such as those conducted by Rutland and Barlex (2008) and Wood and Ashfield (2008). Additionally, instructional innovation thrives in environments that prioritize creativity, accentuating the propensity for creativity development (Huang & Lee, 2015; Shin et al., 2017). The inclusion of Johnson et al.'s (2007) school climate scale in our study derives from its widespread use in school climate research, further fortified by its well-documented associations with TfC's core components. This alignment strengthens the rationale for Hypothesis 4, elucidating the mutual interplay between teachers' perceptions of school climate and the cultivation of TfC.

Hypothesis 5 (H5): *School climate positively influences teaching metacognition.*

The formulation of Hypothesis 5 emanates from an insightful exploration of the dynamic interplay between school climate and the cultivation of teaching metacognition. While this relationship remains relatively underexplored, its theoretical foundations are firmly anchored in the socio-cultural framework pioneered by Vygotsky, which accentuates the pivotal role of social interactions in cognitive and metacognitive development (Huang et al., 2021; Saviile-Troike, 2012). Within this paradigm, learning is construed as a participatory endeavor, occurring at the confluence of social and psychological dimensions. This theoretical lens amplifies the significance of a constructive teaching context, where instructional innovation is accorded value (Liu, 2015; Vinarski-Peretz & Carmeli, 2011). Additionally, the nurturing of community learning is fostered in a cooperative ambiance, characterized by reverence and mutual trust

(Meristo & Eisenschmidt, 2014). While such postulations are intellectually captivating, the findings of Huang et al. (2021) surface the intriguing divergence that engagement in school decision-making, a pivotal component of school climate, exhibits a negative correlation with teacher metacognition. This discordance underscores the absence of a comprehensive understanding regarding the intricate mechanisms through which school climate interfaces with teacher metacognition.

Hypothesis 6 (H6): *School climate positively affects teaching enthusiasm.*

Despite its intuitive appeal, this association is largely underpinned by a dearth of empirical exploration. Existing research offers glimpses into the contextual nuances that permeate teacher enthusiasm, intricately entwined with various school-climate-related factors, including autonomy, instructional innovation, collegial collaboration, and resource availability (Huang et al., 2021). An intricate web of determinants coalesces to shape teacher enthusiasm, with its experiential nuances influenced by the levels of student motivation and individual development (Stenlund, 1995). Kunter et al.'s (2011) insightful revelations reinforce this assertion, highlighting how remarkably successful, motivated, and collaborative classes augment teacher enthusiasm, transcending the constraints of class size. While the literature offers these glimpses, the complex tapestry of teacher enthusiasm and its interaction with school climate remains a subject of scrutiny. A notable departure emerges through the findings of Huang et al. (2021), where the correlation between school climate and enthusiastic teaching takes a divergent trajectory.

Hypothesis 7 (H7): *Teacher perceived school climate is related to Tfc via the mediation of teacher metacognition.*

The atmosphere within a school, encompassing elements like collaborative interactions, decision-making processes, and innovative teaching methods (Johnson et al., 2007), holds the potential to shape teachers' professional growth and cognitive processes. Huang et al.'s (2021) influential study highlights the substantial impact of school climate, particularly in terms of promoting autonomy and fostering collaboration, on the intricate landscape of teacher metacognition. In an environment that nurtures and supports educators, a culture of thoughtful reflection and the fine-tuning of teaching strategies emerges. This cultivation of metacognitive awareness aims to better cater to the diverse learning needs of students.

Simultaneously, metacognitive proficiency empowers teachers to navigate the educational realm adeptly, evaluating instructional approaches, making informed decisions about pedagogical methods, and adapting nimbly to the evolving dynamics of the classroom (Hiver et al., 2019). This adaptable and self-regulating mindset forms the cornerstone of an environment conducive to nurturing students' creative thinking and problem-solving abilities. In the interconnected interplay among school climate, teacher metacognition, and TfC, it becomes evident that teacher metacognition operates as an intricate mechanism mediating the influence of school climate on the cultivation of creativity within the classroom. The positive environment of the school climate enhances teachers' metacognitive processes, thus equipping them to foster creativity effectively among their students.

Hypothesis 8 (H8): *Teaching enthusiasm is related to TfC via the mediation of teacher metacognition*

Embedded within the intricate dynamics of pedagogy, Hypothesis H8 embarks on an exploration of the interplay between teaching enthusiasm, metacognition, and the cultivation of TfC. Enthusiastic educators emerge as champions of student engagement, motivation, and a vibrant learning environment, characterized by energy and fervor (Keller et al., 2016). However, beneath this enthusiasm lies a foundation of metacognitive scaffolding, encompassing self-awareness, self-regulation, and an agile adaptability to fine-tune instructional strategies based on student feedback.

Concurrently, metacognitive prowess empowers teachers to navigate the landscape of teaching with discernment, continuously evaluating instructional choices, reflecting on teaching methodologies, and skillfully adapting approaches to align with each student's unique learning journey (Hiver et al., 2019). This metacognitive orchestration seamlessly blends with the intricate symphony of creativity within the classroom, where creative teaching demands a reflective stance and a willingness to calibrate in response to diverse student needs. In this intricate interplay, enthusiastic educators readily embrace metacognitive processes as valued companions. They engage in self-evaluation, craft instructional adjustments, and cultivate an environment that nurtures students' learning experiences. This interweaving of actions and intentions aligns with the enlightening findings of Kunter et al. (2011), which underscore how classrooms suffused with achievement and motivation serve as catalysts, amplifying the fervor of teacher enthusiasm. Within this dynamic tapestry, mediation emerges as a vital link, forging a

vibrant connection between the vitality of teaching enthusiasm, the toolkit of metacognition, and the transformative realm of pedagogical ingenuity for fostering creativity.

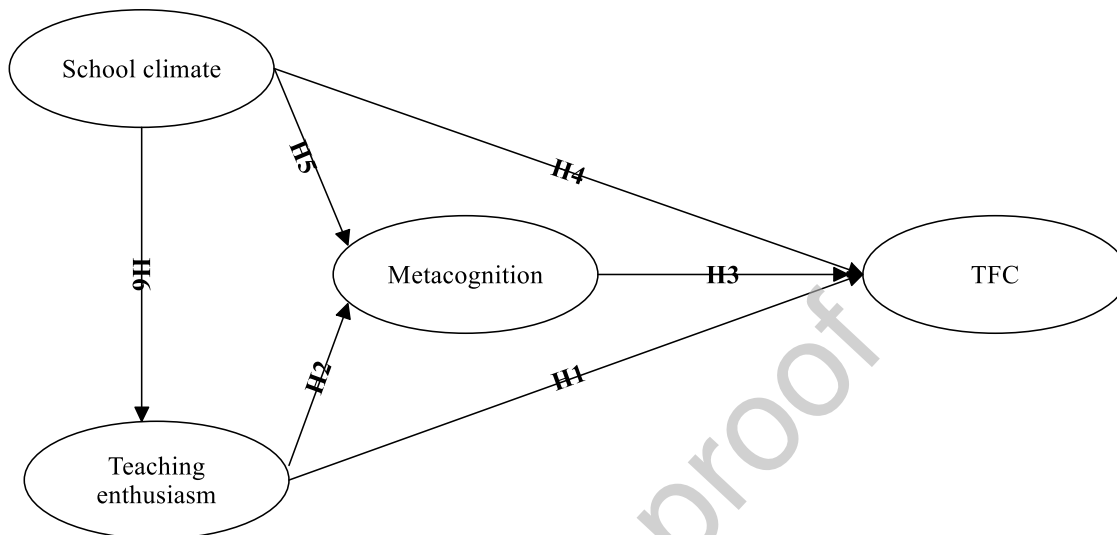


Figure 1. The hypothesized model

2. Methods

2.1. Participants

A total number of 387 English teachers from different parts of Iran were recruited as the participants. Having been selected through convenience sampling, the participants (171 males and 216 females) were in-service English instructors who were engaged in teaching English in various schools, universities, and institutes. They were teaching students with different levels of proficiency and their teaching experience ranged from 6 months to 22 years ($M=8.13$, $SD=2.89$). Also, their age varied from 20 to 48 years ($M=25.92$, $SD=3.16$). The vast majority of the participants reported that they had English-related academic degrees (i.e., they had studied English or English-related majors as their field of study). All the participants mentioned that they had the experience of attending teacher training courses before initiating their teaching career.

2.2. Instruments

2.2.1. Teaching for Creativity Scale (TCS)

Participants' Tfc was measured using the scale developed by Rubenstein et al. (2013). This self-report scale includes 43 items which assess four dimensions of creative teaching, including *teacher self-efficacy*, *environmental encouragement*, *societal value*, and *student potential*. Each item is measured on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

2.2.2. *Teaching Enthusiasm Scale*

Teacher enthusiasm was assessed employing the questionnaire designed by Kunter et al. (2011). This scale consists of 10 items which were originally used to measure teaching enthusiasm of mathematics instructors. In the present study, the items were slightly modified by replacing "English" instead of "mathematics." For instance, the original item "I really enjoy teaching mathematics in this class" was changed into "I really enjoy teaching English in this class."

2.2.3. *School climate*

Teachers' perception of their school climate was assessed employing the School-Level Environment Questionnaire (R-SLEQ) (Johnson, Stevens, & Zvoch, 2007). It contains 21 items which measure five sub-scales: (1) collaboration, (2) student relations, (3) school resources, (4) decision making, and (5) instructional innovation. The teachers were requested to answer each item on a 5-point Likert scale, varying from 1 (strongly disagree) to 5 (strongly agree).

2.2.4. *Teacher Metacognition Inventory (TMI)*

Participants' teaching metacognition was measured using the TMI scale developed by Jiang, Ma, and Gao (2016). This scale is a 28-item self-report scale which measures six components: (a) Teacher metacognitive experience (5 items), (b) Metacognitive knowledge about pedagogy (4 items), (c) Teacher metacognitive reflection (7 items), (d) Metacognitive knowledge about self (4 items), (e) Teacher metacognitive planning (3 items), and (f) Teacher metacognitive monitoring (5 items). Every item was measured on a five-point Likert scale, varying from "1 (strongly disagree)" to "5 (strongly agree)".

2.3. *Data collection procedure*

In ensuring the authenticity and reliability of the data collected for this study, a systematic approach was undertaken to encourage genuine and thoughtful participant responses. The study aimed to investigate the relationships among the constructs of school climate, teaching enthusiasm, teaching metacognition, and teaching for creativity, utilizing a structural model. To collect data, electronic versions of the questionnaires corresponding to these constructs were formulated and hosted on the Google Docs platform.

To solicit responses from a diverse pool of participants, the survey link was shared through pertinent platforms such as English teacher Telegram and WhatsApp groups, as well as channels renowned for engaging discussions in English language teaching. Notably, active members of the "TEFL Plan" Telegram group, owned by one of the authors, contributed substantively to the dataset, enriching it with insights from dedicated educators.

Furthermore, cooperation from language institute owners played a pivotal role in facilitating data collection. Teachers affiliated with these institutes were encouraged to participate in the online survey, expanding the breadth of perspectives included in the study. The survey was designed to accommodate participants by allowing ample time for completion, enabling them to thoughtfully respond to the questionnaire items. Participants were explicitly informed that their involvement was voluntary, and their responses would be treated confidentially. The data collection process was conducted throughout early 2022, capturing a broad snapshot of the participants' views within that timeframe.

To enhance data quality, stringent checks were conducted to identify potential anomalies, inconsistencies, or hastily completed submissions. These rigorous examinations aimed to ensure that only genuine and well-considered responses were included in the final dataset. Any instances of questionable data were scrutinized, and submissions displaying signs of haste or inconsistency were meticulously reviewed and subsequently excluded from the analysis. This meticulous curation of the dataset further fortified the integrity and validity of the findings.

2.4. Analytic procedure

SPSS 22 and AMOS 23 were used for the data analysis. The construct validity of the scales (i.e., measurement models) was examined using confirmatory factor analysis (CFA). Then SEM analyses were used to test the hypothesized model. Different fit indices were taken into account for evaluating the model. The employed indices comprised Chi-square divided by degree of

freedom (χ^2/df), Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA). According to Kline (2011), a model is fit if $\chi^2/df < 3$, CFI and TLI $> .90$, and RMSEA $< .08$. Moreover, we employed the bootstrapping method (Shrout & Bolger, 2002) to test whether the indirect effects were significant. To this end, 5000 bootstraps were generated by taking lower and upper limit confidence intervals into account (Hayes, 2013). As the final step, we examined the common method variance with Harman's single-factor test to make sure about the validity of the results (Podsakoff et al., 2003).

Table 1

Number of Cases for Each Measure

	No of original cases	No of outliers	No of missing cases	No of valid cases
School climate	387	3	2	382
Teaching enthusiasm	387	3	3	381
Metacognition	387	3	2	382
TfC	387	2	4	381

3. Results

3.1. Preliminary analyses

Firstly, SPSS 22 was used for screening the data. The missing data were addressed using Expectation-Maximization (EM) algorithm (Kline, 2011). To check whether the data were normally distributed, we used skewness and kurtosis indices and considered the values falling out of ± 2.0 range as non-normal. Additionally, we checked univariate and multivariate outliers employing standard scores and Mahalanobis D^2 , respectively (Tabachnick & Fidell, 2007). The outliers and non-normal data were excluded from further analyses, leading to 382 (school climate and metacognition) and 381 (teaching enthusiasm and TfC) valid cases, as shown in Table 1.

Table 2

Measurement Model of the Latent Constructs

χ^2	df	χ^2/d	CFI	TLI	RMSEA	Cronbach's
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			f				α
School climate	25.82	12	2.15	.91	.90	.07	.84
Teaching enthusiasm	216.12	103	2.09	.96	.95	.05	.81
Metacognition	16.23	8	1.02	.94	.93	.05	.74
TfC	46.72	23	1.94	.96	.95	.04	.81

3.2. Validity and reliability of the questionnaires

Afterwards, the adequacy of the measurement models was tested through conducting CFA. The fit indices were used to test the validity of the measurement models (see Table 2). As such, measurement models of school climate, teaching enthusiasm, metacognition, and TfC were tested. Since indices for some models did not show good fit to the data, we made some revisions on the models. For this purpose, four items of TCS, two school climate items, and three items of TMI were eliminated because their factor loadings were below .40. Also, error terms of some items in TCS and TMI were correlated as these items seemed to have the same conceptual meanings for the respondents. The final models showed good fit to the data (see Table 3). Regarding the reliability indices of the questionnaires, the calculated coefficient alphas were all greater than 0.70, confirming the sufficiency of their reliability (Hair et al., 2010) (see Table 2). Then descriptive statistics and correlations were computed for the latent variables (Table 4). For all the scales, the total scores were computed by summing the responses to the items, reflecting the overall level of each construct. As certain items in the scales required reverse-scoring to maintain consistency and validity, we used the reverse-scoring procedure which involved reversing the scores of the given items before aggregating them into the total scores.

Table 3

Fit Indices for the Initial and Revised Models

	χ^2	Df	χ^2/df	CFI	TLI	RMSEA
Initial model	584.63	305	1.91	.93	.92	.05

Revised model	559.38	304	1.84	.96	.95	.04
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3.3. Model Testing

The structural model was tested using the AMOS program with variance-covariance matrices as input and the maximum likelihood technique. The fit indices ($\chi^2 = 620.70$, $df = 310$, $\chi^2/df = 2.00$, CFI = .95, TLI = .94, RMSEA = .05) indicated a good fit. Results verified the significance ($p < .05$) of all path coefficients. Also, the goodness-of-fit indices were satisfactory, approving all the hypothesized relations in the ultimate model (see Figure 2). Effect size (ES) (Cohen's f^2) was calculated to have a more meaningful interpretation of the results.

Table 4

Descriptive Statistics and Correlations

	<i>M (SD)</i>	1	2	3	4
(1) School climate	3.28 (.99)	1.00			
(2) Teaching enthusiasm	3.54 (1.13)	.32**	1.00		
(3) Metacognition	3.36 (1.02)	.40**	.23*	1.00	
(4) TfC	4.15 (1.02)	.37**	.44**	.29*	1.00

* $p < .05$. ** $p < .01$.

As can be seen in Figure 2, school climate, teaching enthusiasm, and metacognition were the three significant predictors of TfC. Teaching enthusiasm was the strongest direct predictor of TfC ($\beta = .54$, $R^2 = .29$, $f^2 = .40$, large effect size). School climate ($\beta = .35$, $R^2 = .12$, $f^2 = .13$, medium effect size) and teacher metacognition ($\beta = .33$, $R^2 = .10$, $f^2 = .11$, medium effect size) also directly predicted TfC. These two constructs were moderate predictors of TfC. Furthermore, school climate influenced TfC indirectly through teaching enthusiasm and teacher metacognition ($\beta = .36 \times .28 \times .33 + .41 \times .33 + .36 \times .54$, $R^2 = .13$, $f^2 = .14$, medium effect size). Likewise, teaching enthusiasm affected TfC indirectly via teacher metacognition ($\beta = .28 \times .33$, $R^2 = .008$, $f^2 = .008$, small effect size). School climate was a direct predictor of teaching enthusiasm ($\beta = .36$, $R^2 = .12$, $f^2 = .14$, medium effect size) and teacher metacognition ($\beta = .41$, $R^2 = .16$, $f^2 = .19$, medium effect size). Also, teaching enthusiasm directly affected teacher metacognition ($\beta = .28$, $R^2 = .07$, $f^2 = .08$, small effect size).

Furthermore, Bootstrapping method by employing 1000 random samples was utilized to test the significance of indirect effects. Table 5 shows the results of Bootstrapping analyses.

Table 5

Bootstrapping Analyses of Results of Indirect Effects

Independent variable	Mediator variable	Dependent variable	Standardized path coefficient (β)	SE	Estimate (90% CI)
School climate →	enthusiasm →	TfC	.19*	.05	[.156, .237]
School climate →	metacognition →	TfC	.13*	.03	[.113, .154]
Enthusiasm →	metacognition →	TfC	.09*	.02	[.079, .116]

Note. * $p < .05$, SE: Standard Error, Bootstrap is derived from 5000 resamples (Hayes, 2013)

Finally, as indicated by the results of the Harman's single-factor test ($\chi^2 = 473.214$, $df = 146$, $p < .001$; CFI = .601; TLI = .584; RMSEA = .131 [90 % CI from .126 to .136]), a single factor did not explain significant variance in the data, showing that common method variance did not affect our results.

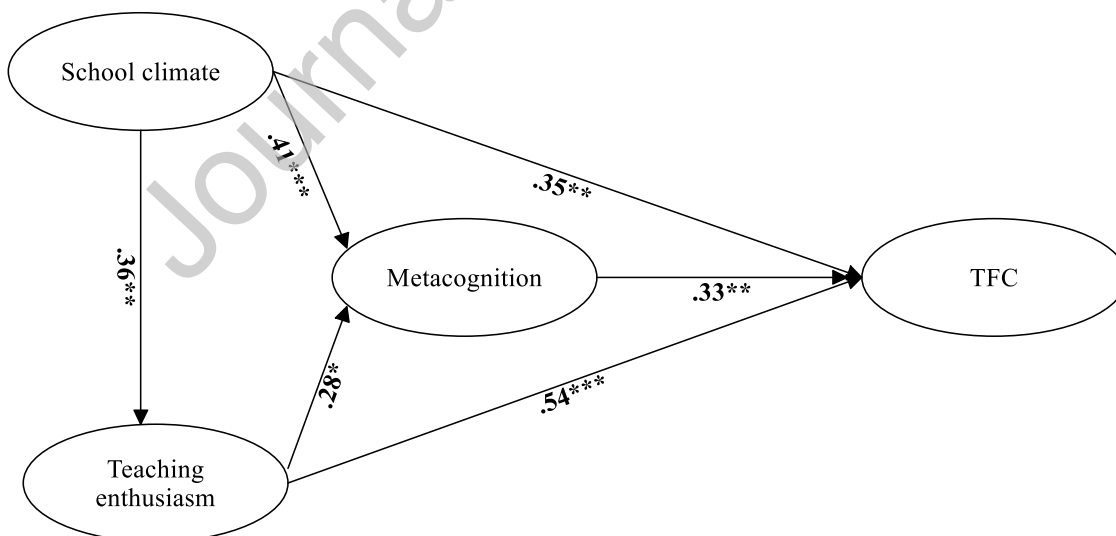


Figure 2

*The final model of TfC based on school climate, teaching enthusiasm, and teaching metacognition. * $p < .05$. ** $p < .01$. *** $p < .001$.*

4. Discussion

The purpose of the present study was to test a structural model of teaching for creativity based on school climate, teaching enthusiasm, and teaching metacognition. After examining the measurement models and verifying the construct validity of the scales, SEM was performed to explore the associations among the constructs. The findings revealed that teaching enthusiasm was the strongest direct predictor of TfC, confirming H1. This finding corroborates those reported in the related literature (i.e., Chan & Yuen, 2014; Gabryś-Barker, 2014; Huang et al., 2021; Sternberg & Williams, 1996), which showed the interconnection between a teachers' enthusiasm and their creative-related behavior. This outcome is also partially on par with Punia and Bala (2021) who considered teachers' creativity and innovate practice as a component of teaching enthusiasm. Similarly, the literature has evinced creative behavior and innovative instruction as one key characteristics of enthusiastic teachers (Chan & Yuen, 2014; Gabryś-Barker, 2014). Essentially, the expression of teaching enthusiasm appears to foster a proclivity among instructors to engage in teaching practices that cultivate creativity.

Enthusiastic instructors, driven by their zeal for teaching, are more inclined to experiment with novel teaching methods, embrace diversity, and actively nurture their students' creativity (Soh, 2017). The concept of an enthusiastic teacher goes beyond mere competence; it encompasses the capacity to inspire, invigorate, and guide learners toward achieving learning objectives (Keller et al., 2016). By embodying such qualities, enthusiastic teachers are regarded as effective educators who can cultivate positive learning behaviors among their students (Lazarides et al., 2018). In this vein, it can be inferred that enthusiastic teachers not only recognize the value of creativity but also play a pivotal role in fostering it within their students. A sense of joy, excitement, and fulfillment in instructional practices may lead teachers to believe not only in their ability to enhance students' creativity but also in their students' capacity to enhance their own creative prowess.

Furthermore, the disposition of enthusiastic teachers is conducive to nurturing creativity; they acknowledge its significance, have faith in students' potential, and consider themselves proficient practitioners capable of cultivating a culture of creativity in their classrooms and instilling a

creative mindset in their learners (Sternberg & Williams, 1996). In this light, teachers with a penchant for creativity exhibit affirmative attitudes toward their profession, a factor that serves to catalyze innovative behaviors and augment teachers' perceptions of their instructional practices (Al-Nouh et al., 2014).

School climate was also a significant predictor of TfC (supporting H4), cohering with the findings of Fidan and Oztürk (2015), Huang et al. (2019), Katz-Buonincontro (2012), Shin et al. (2017), and Terry et al. (2018). Evidence shows that school environment, especially a creativity-supportive contexts, can enable teachers to enhance students' creativity and contribute to their inclination to apply teaching for creativity in their classrooms (Huang & Lee, 2015; Huang et al., 2019). A supportive classroom climate is required to foster a teaching for creativity willingness among practitioners as teachers' perception of school climate can affect their self-efficacy and confidence in implementing creativity instruction. Several studies have reported that classroom climate and organizational support could substantially affect teachers' innovation, risk-taking, and TfC (see Gkolia et al., 2009; Kettler et al., 2018; McLellan & Nicholl, 2013; Sternberg & Lubart, 1999, Deng, Wang, & Zhao, 2016). As such, it can be claimed that in classrooms where creativity and innovative behaviors are valued, instructors will appreciate diverse ideas, welcome creativity, and exemplify flexibility. This finding can also be justified in light of socio-cultural theory which highlights the significance of the environmental and contextual variables in affecting creativity development and teaching for creativity (Rubenstein et al., 2018), a finding which has been acknowledged in the related literature (Beghetto & Kaufman, 2014; de Souza Fleith, 2000; Forrester & Hui, 2007; Gao et al., 2020; Hirst, Knippenberg, & Zhou, 2009; Rubenstein, McCoach, & Siegle, 2013). The plausible justification might be attributed to the structure of the school climate construct. Given the underlying components of school climate, we maintain that if teachers perceive enough support from their colleagues as well as students and are given enough autonomy in decision-making, they may have a further tendency to teach students to become more creative. However, this finding is in contrast to Huang et al. (2021) who claimed that teachers' involvement in school decision making could negatively affect teachers' enthusiasm, metacognition, and teaching for creativity.

Furthermore, the analysis of the results highlights the significant role of teacher metacognition as another direct predictor of TfC, thereby substantiating the validity of Hypothesis 3. This

observation aligns with prior research endeavors (e.g., Benedek & Jauk, 2019; Huang et al., 2021; Messmann & Mulder, 2015) that augment the notion that educators endowed with heightened metacognitive capacities are more likely to cultivate an environment conducive to creative instruction and the amplification of students' creativity. The recognition of metacognition's influence on fostering creativity resonates with the broader body of literature (e.g., Benedek & Jauk, 2019; Kaplan, 2019; Kaufman & Beghetto, 2013b; Pitts et al., 2018; Zohar, 1999), which emphasizes the pivotal role of metacognition in facilitating creativity development.

The nexus between metacognition and TfC finds its rationale in the fact that the implementation of innovative pedagogical approaches requires a comprehensive evaluation of the suitability of novel teaching strategies, alignment with learners' needs, and a deep understanding of one's own teaching competence—elements contingent upon the metacognitive abilities of teachers (Huang & Lee, 2015; Kaufman & Beghetto, 2013b). Teachers endowed with elevated levels of metacognitive prowess are naturally inclined to diligently scrutinize their instructional practices, evaluate the effectiveness of innovative teaching strategies, and conscientiously monitor their pedagogical behaviors. This heightened self-monitoring and self-evaluation tendency among such educators likely contributes to their proclivity for fostering teaching for creativity. These teachers, by recognizing and valuing the diversity in learners' needs, creating nurturing learning environments, and encouraging students' propensity for risk-taking and innovation, are more inclined to practice teaching that cultivates creativity (Huang et al., 2021; Pitts et al., 2018).

In addition to the direct effects observed, the results of the structural equation model (SEM) also unveiled a notable pattern of indirect effects within the research framework, thus providing support for H7 and H8. Notably, the relationship between school climate and TfC was found to be mediated through the sequential involvement of teaching enthusiasm and metacognition (school climate → enthusiasm → metacognition → TfC). The influence of a positive school climate, characterized by supportive interactions, an enabling learning environment, and collaborative dynamics, can play a pivotal role in sparking and enhancing teachers' enthusiasm for their instructional roles. This alignment between a positive school climate and teaching enthusiasm resonates with established scholarly literature (Aldridge & Fraser, 2016; Collie et al., 2012; Kunter et al., 2013; Meristo & Eisenschmidt, 2014; Xiaofu & Qiwen, 2007).

When educators perceive a school climate that values their professional contributions, offers essential resources, and fosters collegial relationships, they are more prone to experiencing heightened levels of enthusiasm within their teaching practices (Klassen & Tze, 2014; Kunter et al., 2013; Öngel & Tabançalı, 2022). This augmented enthusiasm, in turn, initiates a series of cascading effects with a direct impact on teaching metacognition. Enthusiastic educators are more inclined to engage in introspective exercises, delving into the efficacy of their pedagogical techniques, and seeking avenues to refine their instructional approaches (Kunter et al., 2011). This introspective involvement aligns with the metacognitive processes encompassing planning, monitoring, and evaluating one's instructional decisions (Hiver et al., 2021). As teachers develop a keener sense of their teaching strategies and their impact on student learning, their awareness of metacognitive facets expands.

The maturation of metacognitive skills among educators subsequently exerts a formative influence on their capacity to cultivate creativity within the classroom (Pitts et al., 2018). Metacognition furnishes instructors with the dexterity to adapt their teaching methodologies adeptly, alter their strategies based on student interactions, and cultivate opportunities for open-ended exploration (Hiver et al., 2019). These well-honed metacognitive skills empower educators to identify and capitalize on moments conducive to innovative pedagogy, thereby influencing the cultivation of creativity in their students (Messmann & Mulder, 2011). Importantly, it is prudent to acknowledge that our findings, though robust, display a partial departure from the perspectives of Huang et al. (2021), who proposed that bestowing autonomy to teachers—an integral component of school climate—might potentially augment work pressure, particularly within the hierarchical societal structure of China, potentially inducing an adverse impact on teaching enthusiasm, metacognition, and the fostering of creativity. Notably, while Iran occupies a distinct context compared to China, and despite the potential presence of hierarchical elements, our findings underscore that school climate indeed exerts a significant impact on teaching enthusiasm (affirming H6).

In addition, it was revealed that school climate was related with TfC through the mediation of teaching metacognition (school climate \rightarrow metacognition \rightarrow TfC). A positive school climate can foster an environment conducive to self-reflection and continuous improvement. Teachers who perceive a positive climate are more likely to engage in introspection about their teaching

practices, critically evaluating their instructional methods, and seeking opportunities for growth (Hoy et al., 1990; Malinen & Savolainen, 2016). Engaging in reflective metacognition enhances teachers' ability to recognize the strengths and limitations of their instructional approaches, facilitating a deep understanding of how their pedagogical choices influence student learning outcomes (Hiver et al., 2019). As teachers develop a heightened sense of self-awareness and agency in their teaching processes, they become better equipped to experiment with creative teaching strategies (Zysset et al., 2001). This metacognitive awareness creates a bridge between the broader school climate and the specific practices that support creativity in the classroom. It can be argued that a positive teaching environment is likely to enhance comity and trust among colleagues, foster their sense of responsibility as well as commitment, and encourage collaborative professional learning (e.g., Hord & Sommers, 2008; Lunenburg, 2010; Meristo & Eisenschmidt, 2014), all of which might contribute to teaching metacognition and TfC. Also, working in schools where novel practices are valued could engender a kind of vicarious experience and provide formal and informal mentorship that not only encourages and expands innovation in teachers' instruction (Vinarski-Peretz & Carnelik, 2011) but also inspires them to become more enthusiastic and metacognitive in their teaching practices.

The significant effects of teaching enthusiasm and teaching metacognition on TfC highlight the significant roles of teachers' individual characteristics in imparting creativity and innovative behavior in learners (Jónsdóttir, 2017). This is consistent with findings of Huang et al. (2022) who reported that teaching enthusiasm could significantly mediate the relationship between teachers' metacognitive competencies and their self-regulated activities. One can argue that teachers who enjoy teaching are more likely to devote time and energy to monitor, regulate, and evaluate their own pedagogical activities and interactions with learners. The examination of indirect relationships in the model also indicate that school climate materialized as teachers' perceived freedom, support, and constructive cooperation with others as substantially contributing to teaching enthusiasm, teaching metacognition, and TfC. If the school climate does not provide productive and supportive relationships among administrators, teachers, and learners, teachers may not show enthusiasm in teaching and may be reluctant to teach for creativity (Banaji et al., 2013, Xiaofu & Qiwen, 2007).

As delineated in our hypothesized model (see Fig. 1), our findings also unravel the role of teacher metacognition as a mediating mechanism influenced by both school climate (supporting

H5) and teaching enthusiasm (supporting H2). The extant literature aligns with the notion of a positive relationship between school climate and teacher metacognition (Huang et al., 2021; Meristo & Eisenschmidt, 2014). A conducive school climate, characterized by a sense of autonomy and freedom, empowers educators to actively participate in school decision-making, thereby fostering an environment conducive to heightened metacognitive regulation and enthusiasm. The empowerment stemming from the perception of being heard and the capacity to make autonomous decisions has a dual effect – it not only amplifies teachers' enthusiasm in their teaching endeavors but also engenders a more vigilant and reflective approach in regulating and monitoring their instructional practices. The interplay between school climate, teacher metacognition, and teaching enthusiasm reinforces the idea that these factors collectively contribute to teachers' agency and proactive engagement in their pedagogical roles.

Turning to Hypothesis 2, which our model substantiates, it is worth highlighting that the synergy between teaching enthusiasm and teacher metacognition finds empirical support in previous research by Chatzistamatiou et al. (2014) and Huang et al. (2022). The fervor exhibited by enthusiastic teachers toward their teaching activities propels them to adopt a more disciplined approach in regulating, monitoring, and optimizing their instructional strategies. The heightened interest demonstrated by teachers in their teaching pursuits correlates with their meticulous instructional planning and astute self-assessment of the attainment of learning objectives. This observation partially underscores the claim that teaching enthusiasm exerts a substantive influence on teaching effectiveness (Keller et al., 2013, 2016; Kunter et al., 2008). When delving into the underlying structure of the TfC construct, a compelling argument emerges—namely, that a mutual interplay among positive school climate, teaching enthusiasm, and metacognition collectively empowers instructors to embark on proactive initiatives aimed at nurturing their learners' innovation. This triad of factors also reinforces teachers' convictions that society values creative thinking and that they are proficient in fostering their students' creative capacities. Therefore, the results illuminate the multifaceted dynamics at play, emphasizing the intertwined nature of pedagogical environment, teacher disposition, and cognitive regulatory processes in shaping the educational landscape that promotes creativity within the EFL context.

5. Implications

Aligned with prior research, the present study not only validates the associations established in previous literature but also delves deeper into the complexities of these relationships within the distinct context of EFL education. Although prior studies have hinted at potential connections between school climate, teaching enthusiasm, metacognition, and teaching for creativity, the intricacies of these interrelations remain insufficiently explored, especially within EFL settings. This primary contribution of this study lies in its holistic exploration of the collective influence of these constructs, presenting a comprehensive framework that highlights their collaborative effects on fostering creativity among EFL teachers. Significantly, our study advances beyond mere association to ascertain the predictive roles of each construct, unraveling their unique contributions in shaping effective creative teaching practices. Importantly, these findings provide valuable insights into tailoring pedagogical approaches that resonate with the unique challenges and opportunities posed by the EFL context (Chen & Goh, 2011). Ultimately, this research underscores the distinctive value of examining these constructs in concert, providing insights into their combined impact on cultivating creativity within the EFL context.

In addition, the findings of this study highlight the role of school climate in directly affecting teaching for creativity and through teaching enthusiasm and teaching metacognition indirectly. This implies that to enhance teachers' tendency to develop students' creativity, principals/administrators should collaborate with teachers and encourage coordination among teachers themselves. Supportive administrators and principals who create an amiable and constructive school climate can contribute to teachers' self-efficacy and job satisfaction (Collie et al., 2012), which in turn influences teaching enthusiasm. Also, the administrators and teachers should jointly increase mutual respect among students and teachers, provide for adequate resources, promote teacher autonomy in decision making processes related to curriculum and instruction, and welcome teachers' instructional innovation. Favorable teaching contexts that promote teachers' creative behavior are also more likely to enhance students' creativity (Niu & Liu, 2009; Richardson & Mishra, 2018). Additionally, following Gao et al. (2020), we suggest that instructors encourage students' creative behavior and value students' creativity. Teachers will not try to teach creatively unless they value creativity and consider themselves to be creative teachers.

Therefore, pre-service teacher education programs should promote positive attitudes toward teaching for creativity and help teachers recognize the positive impact creative pedagogies can have on successful learning and the school climate. As such, teacher educators might include instructional materials and processes that can help prospective teachers develop their creative self-efficacy. Additionally, policymakers and principals should take practical steps to enhance the enthusiasm of EFL practitioners by providing them with extrinsic and intrinsic motivators, such as providing salary contribution awards as well as verbal praise and formal recognition. Further, it has been reported that teaching enthusiasm, not subject enthusiasm, is more likely to positively affect teaching (Kunter et al., 2008), thus teacher educators and other certification programs should take this issue into account and ensure teachers are not only interested in English itself, but also in teaching it to others.

Since teaching enthusiasm in L2 research has remained under-explored, further empirical studies are needed to shed more light on this construct, its antecedents, and its potential impact on teaching quality. In addition, given the significant effect of teaching metacognition on teaching for creativity, teacher educators should help pre-service teachers enhance their metacognitive abilities by encouraging them to self-monitor, self-evaluate, and seek to understand their own teaching practices. Such self-awareness and metacognitive inclinations could help teachers regulate their teaching practices effectively and dynamically, leading to better teaching performance.

6. Limitations

Despite the notable implications, this study has some limitations. First, we employed quantitative self-report scales to examine the variables, which might not offer a precise depiction of participants' actual levels of each construct or completely capture their beliefs concerning the investigated aspects. Such measurement methods are susceptible to influences from factors like social desirability bias or individual differences in self-awareness. Future research could consider supplementing the quantitative approach with qualitative data collection techniques, offering a more comprehensive exploration of the psychological dimensions influencing teachers. Additionally, incorporating task-based performance measurements could have complemented the self-reported assessments, thereby enhancing the robustness of the findings and providing a more well-rounded perspective on the relationships among the constructs. Second, the sample size is

confined to Iranian EFL teachers, decreasing the generalizability of the findings to the broader international context of English language teaching. Moreover, this study explored individual-level teacher constructs, given the fact that each school might have its own unique environment, nested, multilevel designs might explore the role of school climate more accurately. Finally, another limitation of our study pertains to the presence of confounding variables, with a particular emphasis on the age and experience of the participating teachers. While it is recognized that the constructs under examination could manifest differently among individuals of varying age, gender, ethnicity, and socioeconomic backgrounds, it is noteworthy that demographic variables were not factored into the statistical analyses of this study. This approach was chosen to ensure a comprehensive and broad exploration of the relationships between teaching for creativity and the array of social and psychological factors, drawing insights from the diverse sample under investigation.

These confounding factors possess the potential to exert an influence on the interrelationships among the studied constructs. The variables of age and experience are likely to be intertwined with differences in teaching methodologies, instructional strategies, and attitudes towards creativity. Consequently, these factors could impact the observed associations between school climate, teaching enthusiasm, metacognition, and teaching for creativity. Although concerted efforts were undertaken to mitigate the potential effects of these variables through careful data analysis, their complete exclusion as potential confounds cannot be definitively ensured.

For future research endeavors, a recommendation is to consider adopting more sophisticated research designs, including longitudinal studies. These designs could offer a more comprehensive method to account for the potential influences of age and experience. By incorporating longitudinal approaches, researchers would have the opportunity to delve deeper into the complexities of these variables, thereby yielding a more accurate understanding of the intricate relationships under investigation.

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