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An Investigation into the EFL Teachers' Self-Efficacy Beliefs and Their Individual Innovativeness Levels[1]

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Abstract
Teacher self-efficacy and individual innovativeness in English language teaching are critical concepts in regard to improving the quality of education and supporting teachers' professional development. Accordingly, this study aims to investigate the relationship between English language teachers' self-efficacy and individual innovativeness levels and the predictive effect of self-efficacy on individual innovativeness. In addition, it is also examined whether teacher self-efficacy and individual innovativeness variables differ in terms of gender, age, and seniority year, faculty of graduation, educational status, school level worked at, and type of school demographic variables. The research was conducted in accordance with the correlational research model. "Teacher Self-Efficacy Scale" and "Individual Innovativeness Scale" were used as the instruments of gathering the data. The sample of the study consisted of 306 participants, who volunteered to take part in the study and who were working as English teachers in educational institutions in Istanbul. Of the teachers, 199 (65%) were female and 107 (35%) were male. To analyze the data, IBM SPSS Statistics 22 program was used. The findings of the study show that there is a moderate positive relationship between English language teachers' self-efficacy beliefs and individual innovativeness levels. At the same time, English language teachers' self-efficacy beliefs explain 18% of individual innovativeness.

Keywords: teacher, EFL teacher, teacher self-efficacy, individual innovativeness

INTRODUCTION

Undoubtedly, teaching constitutes the pivotal part of an education system. It is not possible for a school to function without a teacher. With the development of educational technologies, it is important for teachers to keep up with these developments in the organization of teaching and to feel themselves adequate (Erden, 2009). Teachers' ability to acquire the competencies required by the teaching profession stems from their belief that they can fully fulfill their tasks and responsibilities as well as having a good education (Yılmaz, Köseoğlu, Gerçek and, Soran, 2004). Therefore, one of the most important factors affecting teachers' performance is their beliefs about whether or not they are professionally competent enough in order to carry out this job. (Berkant, 2017). This can be expressed as teacher self-efficacy (TSE) perception. TSE beliefs are defined as their expectations about their capability to influence students' performances (Ashton, 1984). Teachers with high self-efficacy perception are more open to innovations and can use most of their time in the classroom for academic learning and provide the necessary guidance to learners (Gibson and Dembo, 1984; Guskey, 1988). An innovative teacher is expected to be able to improve himself/herself in his/her field, increase the quantity of activities in which his/her learners can participate in accordance with the developing teaching strategies and the activities needed, try new approaches and ways in presenting information, apply various methods to increase learner participation, and implement new abilities by changing habits (Ritchhart, 2004). The fact that teachers, who are the key figures in the formation of the knowledge society, are open to innovations, follow social developments, constantly update

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themselves and have lifelong learning skills play a vital role in the students they will raise to acquire these competencies (Yenice and Tunç, 2019).

Purpose of the Research

The purpose of this study is to examine the relationship between TSE belief and individual innovativeness level in English language teaching contexts, including demographic variables.

Accordingly, the study has aimed to seek answers to the following research questions:

1. How are English teachers' self-efficacy beliefs?

2. How are English teachers' individual innovativeness levels?

2. Do English teachers' self-efficacy beliefs and individual innovativeness levels differ according to demographic variables (gender, age, seniority year, faculty of graduation, educational status, school level worked at, and type of school)?

3. What is the relationship between English teachers' self-efficacy beliefs and their individual innovativeness levels?

This study is considered to be significant and have a contribution to the field as it focuses on the exploration of EFL teachers' TSE beliefs in relation to a diverse variable such individual innovativeness, which has not been handled for this purpose. In other words, conducting this research is also important with regard to expressing how TSE is linked to the tendency to adopt innovative methods and technologies. This may provide ideas to stakeholders working in the field of education on how to promote change and development in education systems. Finally, it can be considered that the findings obtained from this research have a crucial importance in terms of supporting the professional development of individual innovators and teachers in education.

LITERATURE REVIEW

Teacher Self Efficacy

The concept of 'self-efficacy', which was first proposed by Bandura (1977) in relation to his social cognitive theory, is defined as an individual's beliefs about what they can do and how they can do it or their beliefs about how well they can take the actions necessary to cope with possible situations. In other words, self-efficacy beliefs are one's perceptions about his capacity to accomplish certain tasks. Bandura (1982) underscores its importance as a factor in shaping an individual's behaviour and refers to an individual's subjective judgment about his/her performance in successfully organizing the skills required to perform behaviour.

TSE refers to a teacher's belief and confidence in using their abilities, knowledge and skills in relation to the teaching profession. This concept directly affects the teacher's performance in learning environments. In other words, TSE is accepted as one of the basic factors of successful teaching and learning process (Hoang, 2018). TSE is about teacher's ability to manage their professional duties, responsibilities and difficulties (Barni, Danioni, and Benevene, 2019). Research shows that high TSE beliefs contribute to their learners' understanding of subjects better and faster (Freiberg, 1998; Gürol, Altunbaş and Karaarslan, 2010). In addition, TSE belief also includes the belief in the teacher's ability to manage the difficulties faced in the educational process (Alzubi, 2013). This concept is related to a teacher's confidence in areas such as applying effective teaching strategies in the classroom, communicating effectively with learners, developing classroom management skills, and increasing student achievement. TSE can affect students' social and academic development (Shahzad and Naureen, 2017). A strong TSE may increase teacher motivation, set a strong example for students, and provide a positive learning environment. This, in turn, can increase students' achievement and strengthen their self-confidence. To increase TSE, teachers should have access to continuous professional development opportunities (Yoo, 2016). However, it is also important to take student feedback into account and be open to continuously improve themselves. In this way, teachers can increase

their self-confidence and guide students more effectively. Teachers' self-efficacy can be enhanced by continuously staying up-to-date and developing themselves about new teaching methods and pedagogical approaches (Hall, Uribe-Flórez, and Rice, 2019), a supportive communication between the management and their colleagues (Aldridge and Fraser, 2016), teachers' regular self-reflection and self-evaluation of their practice (Schunk and Usher, 2011).

Also, there are some basic dimensions of TSE. These include classroom management, teaching competence, interest and motivation, professional development and collaboration, and communication skills. These are the basic components that shape a teacher's self-confidence and professional competence (Berkant, 2017; Yeşilyurt, 2013).

Accordingly, high TSE is a very important skill because teachers with high TSE lead in the classroom, give confidence to students and motivate them by increasing student achievement. This also increases students' academic achievement (Öqvist and Malmström, 2018). When teachers succeed in increasing student interest and engagement, students can be confident. These teachers create a positive learning environment and enable learners to actively take part in the learning process. These skills are effective in solving problems effectively, too (Kılıç, 2019). Teachers with high self-efficacy effectively identify, analyze, evaluate and solve the problems they face. This enables them to respond better to student needs.

Teachers with high self-efficacy continuously improve themselves, acquire new skills and follow current educational trends. This enables them to grow professionally and provide students with a better educational experience. In addition, teacher self-efficacy contributes to creating a positive school culture (Beaudoin and Taylor, 2004). High teacher self-efficacy usually has a positive impact on the general atmosphere in the school. Teachers' confidence and leadership can increase the motivation of students, other teachers and school staff and create a positive school culture.

Teachers who have high self-efficacy are confident in themselves, which is important for a teacher to set an example for students and lead in the classroom (Dierking and Fox, 2013). Also, they have the ability of flexibility and adaptability. Being adaptable and flexible to student differences refers to the teacher's ability to respond to this diversity as each student has different learning styles, needs, strengths and weaknesses (Felder and Brent, 2005). Teachers with high self-efficacy are motivated and eager to continuously improve themselves and be open to new learning opportunities (Moè, Pazzaglia, and Ronconi, 2010), can understand students and communicate effectively with them (Mottet, Beebe, Raffeld, and Medlock, 2004), have the ability to cope with challenges and find effective solutions to various problems is another factor that increases teachers' self-efficacy (Yost, 2006).

In terms of EFL teachers' self –efficacy beliefs, Faez and Karas (2017) stated that using English in the classroom as the content and the language to convey provided an exceptional situation to EFL teachers. EFL teacher's self efficacy beliefs can be defined as teacher's perceptions that how well they can teach English effectively (Thompson, 2016). As foreign language teaching and learning is different from other types of teaching and learning, more focus should be placed on how students grow in self-efficacy and what influences it in circumstances involving foreign languages (Raoofi, Tan, and Chan, 2012).

Individual Innovation in Teaching

Education is one of the cornerstones of individual innovation (Kangas, Korhonen, and Salo, 2022). Education increases people's innovation potential by enabling them to develop their knowledge and skills. Countries that recognize innovation have been using various innovative learning methods for a long time. These include the use of technology tools in education, interactive and project-based teaching, e-learning applications, creative methods such as design and robotic coding, game-based learning, museum and fair visits (Su, Guo, Chen, and Chu, 2023).

In this regard, individual innovation in teaching refers to teachers developing and implementing new and creative approaches in the classroom and throughout the school (Shermukhammadov,

2022). This understanding encourages teachers to develop and use teaching methods and materials that are appropriate to students' needs and learning styles. Teachers' individual innovativeness can manifest itself in a wide range of areas, from classroom interaction to student assessment (Kahraman, 2020). Individual innovativeness can be manifested through practices such as teachers conducting research in their fields, using new instructional technologies, trying different strategies to motivate students, and creating student-centered learning environments (Thurlings, Evers, and Vermeulen, 2015). In other words, innovation in teaching diffuses and changes to meet the various pedagogical needs of different classroom environments (Widdowson, 1993). At the same time, teachers' continuous self-improvement by attending in-service trainings and collaborating with their colleagues is also a part of individual innovativeness (Atlı, 2019). In this way, teachers can provide a more effective and meaningful education to their students.

Specifically, English teachers' individual innovativeness focuses on developing more effective and creative teaching methods that transcend traditional approaches to language teaching (Hyland and Wong, 2013). These may include student-centered teaching techniques, communication-oriented approaches, gamification methods, technology-assisted learning, and teaching strategies that take into account different learning styles. English teachers try to provide individual learning experiences by customizing the language learning process according to students' needs and interests (Blaz, 2013). For example, they may use teaching methods supported by technological tools such as language learning apps, online learning platforms, digital storytelling tools and virtual classroom environments. Hence, there are a large number of accounts of attempts to change the aspects of foreign language teaching methodology and materials, as well as initiatives concerned with teacher training (Waters, 2009).

Consequently, English language teachers keep abreast of innovations in the area of language teaching and continuously update their own instructing practices by attending in-service trainings (Gençer, Taşyürek, Duran, and Ulukaya, 2023). In this way, they can introduce innovative teaching methods and materials which allow learners to develop their language skills more efficiently.

As a result, it is urgent to train innovative and adaptable prospective teachers who can use technological opportunities together with pedagogical approaches and accordingly, to update teacher competencies within the framework of information society requirements (Çuhadar, Bülbül, and Ilgaz, 2013). Teachers' high self-efficacy enables them to be more open to trying and implementing innovative practices while lecturing in the classroom or fulfilling their teaching role outside the classroom. This is also important as it enables students to have more effective and engaging learning experiences. Moreover, a teacher's adoption of individual innovativeness contributes to a faster and more effective integration of educational technologies and new pedagogical methods into the educational system. Therefore, this kind of research can also provide important clues for improving educational policies and teacher education programs. Furthermore, understanding how self-efficacy predicts individual innovativeness has a prominent function in the designing of teacher professional development programs. Preparing programs to increase teachers' self-efficacy can increase their innovative thinking and practices. In conclusion, understanding which characteristics of teachers influence individual innovativeness in teachers can shed light on the content of all kinds of policies and studies to be conducted for teachers in the education system.

Related Studies

When the literature on the concepts in question is searched, it is seen that both self-efficacy and individual innovativeness have been separately the research issue of various studies with different variables. Smith (2019) examined the dispositional and situational factors affecting teacher self-efficacy, work-related stress and professional burnout on the road to burnout. According to the results obtained from the study, there is a negative relationship between job stress and self-efficacy. In a study conducted by Li (2023), the effects of teacher self-efficacy,

teacher resilience and emotion regulation on teacher burnout were examined. According to the findings of the research, teacher self-efficacy and teacher resilience show a direct and negative relationship with teacher burnout. Hölscher, Gharaei, Schachner, Ott, and Umlauft (2024) examined the effects of supporting students in culturally diverse classrooms on teacher self-efficacy, stress, and job satisfaction. The data from the study suggest that teachers who are more concerned about appearing racist also experience more stress and less self-efficacy in teaching in culturally diverse classrooms.

Alibakhshi, Nikdel, and Labbafi (2020) examined the English teaching self-efficacy of non-native EFL teachers in their study. The themes created according to the results of the study are; burnout, pedagogical and student-related. The study deduced that high TSE affects teachers' teaching styles, students' interest and success. It also affects teachers' burnout, mental state and job satisfaction. Xiyun, Fathi, Shirbagi, and Mohammaddokht (2022) investigated the relationships between TSE, emotion regulation, and psychological well-being in EFL teachers. The findings of the study showed that both TSE and emotion regulation were notable signs of teachers' psychological well-being. However, TSE is a variable that predicts psychological well-being more strongly compared to emotion regulation. In their study, which aimed to explore native and non-native EFL teachers' beliefs about teaching English, Tajeddin, Atai, and Shayeghi (2019) concluded that native EFL teachers were better in using the language more authentically, teaching cultural elements while non-native EFL teachers had superiority over native ones in terms of understanding the students' challenges and helping them as they experienced similar difficulties. Hoang (2018), reviewing twenty seven studies on TSE beliefs of EFL teachers, concentrated on examining these studies in terms of some features such as research types, context of the research, and method of these studies. One of the most important findings in his study was that most of the studies on this issue were conducted in Middle Eastern countries. Similarly, Wyatt (2018) examined more than 155 studies and found that the majority of the studies made in Asia. Wyatt (2021), in his review study, in which he aims to make a connection between language learner self-efficacy and language teacher self-efficacy, underlining that teaching includes the process of learning, emphasizes that TSE beliefs of non-native-speaking language teachers should be searched in relation to L2 proficiency. He also suggests that TSE beliefs of in-service language teachers should also be explored in terms of their skills to make the learners autonomous. In their study, Rashidi and Moghadam (2014) revealed a positive but insignificant correlation between EFL teachers' SE beliefs and learners' satisfaction Moreover, there is a significant correlation between EFL teachers' self-efficacy and their classroom management skills (Lap, Lien and Thao (2022). TSE affects positively theirs classroom management skills (Hicks, 2012).

In reference to the studies on TSE beliefs in Turkish contexts, in a study conducted by Aka (2014), the relationship between school climate and TSE was examined. In accordance with the results of the study, it is seen that there is a moderate positive relationship between high school teachers' perceptions of school climate and TSE. In a study carried out by Memiş (2021), the relationship between teachers' styles of managing conflicts with colleagues and TSE was examined. The results obtained from the study indicate a satisfying relationship between teacher conflict management styles and TSE. Köstekçi (2023) examined the relationships between instructional leadership, teacher reflection behaviour and TSE. The results show that there is a low and positive relationship between instructional leadership behaviours and TSE. In addition, teacher reflection behaviours were found to mediate the relationship between principal instructional leadership expectations and TSE.

As concerns the studies on teachers' II levels, Evers, Brouwers and Tomic (2002) examined the relationship between teachers' burnout and self-efficacy in an individual innovative education system in a study conducted on teachers working in the Netherlands. Finally, teachers' self-efficacy beliefs were found to be related to their burnout levels. Teachers with determined self-efficacy beliefs seem to be more willing to try and then fulfil new educational practices. Gomes, Curral, and Caetano (2015) examined the relationship between individual innovativeness and

self-leadership and tested the mediating effect of workplace engagement in this relationship. The results also revealed that work engagement has a mediating effect on the relationship between personal leadership and individual innovation. In general, this research shows that personal leadership and work engagement contribute to individual innovation. Sturmer, Seidel, and Holzberger (2016) applied an innovative teacher training program for the development of professional vision for pre-service teachers and examined its effect with experimental methods. When the content of the developed program is examined, it is observed that it is a program for gaining skills for the ability to reason about classroom situations. In the program, the three dimensions of this ability, namely defining, explaining and predicting classroom situations, were addressed separately. This study investigated whether an innovative teacher education program (integrating theory and practice) resulted in individual differences in pre-service teachers' professional visions, whether these differences led to different changes, and whether participation in the program led to similar individual developments. According to the results of the study, there was a linear growth and increase in all three skills during the program. Moreover, Tampi, Binilang, Rawis, and Londa (2019) examined the relationships between teachers' performance and individual innovativeness, trust, and job satisfaction. The study showed that there is a strong relationship between teachers' performance and innovativeness, confidence, and occupational gratification. Moreover, innovativeness, trust and job satisfaction are positively and significantly based on teachers' performance. In another study handled by Kilag et al. (2024), the transformational leadership and individual innovativeness in education were correlatively examined. The results of the study suggest that transformational leadership has a crucial role in fostering and encouraging educational innovation in schools.

As regards to the studies on II levels of teachers in Turkish context, in a study carried out by Koşum (2023), the relationship between teacher leadership and individual innovativeness variables was examined. The individual innovativeness of teachers varied significantly according to their age, length of service and branches. Finally, there is a moderate positive relationship between teachers' individual innovativeness and leadership levels. Üstün (2023) investigated the relationship between individual innovativeness and digital citizenship variables in his research. The study reveals that the individual innovativeness situations of the participants differ depending on age and there is a significant positive relationship between digital citizenship and individual innovativeness levels. Uçar (2024) examined the relationship between teachers' individual innovativeness levels and their perceptions of learning schools. In addition, it was also examined whether teachers' individual innovativeness levels were affected by school perceptions, school level, number of teachers in the school, education level, and professional seniority. The findings of the study show that individual innovativeness in teachers differs according to factors such as teachers' age, educational level, number of teachers, professional and school seniority. It was concluded that teachers' school perceptions and individual innovativeness levels had a low level positive relationship.

METHOD

Research Model

This study focuses on investigating the predictive connection between self-efficacy and individual innovativeness along with the relationship between self-efficacy beliefs and individual innovativeness levels among EFL teachers. Thus, one of the quantitative research techniques that were used for this study was the correlational research model. This model is a research model that examines, without intervention, the link between many variables (Karasar, 2014). The correlational survey model uses a correlation coefficient to show the relationship or influence between two distinct quantitative variables (Frankel, Wallen, and Hyun, 2012). Examining whether the variables change together or how a change happens is the primary goal of correlational research.

Sample of the Study

The participants of the research were EFL teachers employed in Istanbul. The study's sample size was determined using Cattel's (1978) recommendation to reach a sample five times the total number of items in the inventory. As a result, 306 English teachers who willingly took part in the survey and gave their informed consent constituted the study's sample. A convenience sampling approach was chosen to obtain the sample for the study. Convenience sampling involves choosing a sample from readily available and suitable units because of time, financial, and labour constraints. (Karasar, 2014). This sample technique has a number of intrinsic advantages, such as being inexpensive, time-efficient and easy to use (Stratton, 2021; Golzar, Noor and Tajik, 2022). Details regarding the participants are shown in Table 1.

Table 1.The participant variables

Variables	Subcategory	f	%
Gender	Female	199	65.0
	Male	107	35.0
Age	20-30	68	22.2
	31-40	162	52.9
	41 and over	76	24.8
Seniority year	1-10 years	139	45.4
	11-20 years	125	40.8
	21 years and over	42	13.7
Faculty of graduation	Education	201	65.7
	Science and Letters	105	34.3
Educational status	Bachelor	251	82.0
	Master	55	18.0
School level	Primary school	73	23.9
	Middle school	97	31.7
	High school	136	44.4
Type of school	Public	226	73.9
	Private	80	26.1

Table 1 shows that 199 (65.0%) of the 306 English teachers in the study were female while 107 (35.0%) were male. Of the English teachers, 68 (22.2%) were between 20-30, 162 (52.9%) were between 31-40, and 76 (24.8%) were 41 years old and above. With respect to the experience of English teachers, 139 (45.4%) of the participants had 1-10 years of seniority, 125 (40.8%) had 11-20 years of seniority, and 42 (13.7%) had 21 years or more seniority. While 201 (65.7%) English teachers graduated from the faculty of education, 105 (34.3%) graduated from the faculty of science and letters. While 251 (82.0%) of the English teachers have bachelor's degrees, 55 (18.0%) of them have master's degrees. Furthermore, 73 (23.9%) of the English teachers are employed at primary school level, 97 (31.7%) at secondary school level, and 136 (44.4%) at high school level. Eventually, 226 (73.9%) of the English teachers work in public schools, while 80 (26.1%) work in private schools.

Instruments

The data collection instruments of the study are "Teacher Self-Efficacy Beliefs Scale" and "The Individual Innovativeness Scale". The permission for using the scales was taken from the authors via e-mail.

TSEB Scale was developed by Çolak, Yorulmaz, and Altınkurt (2017). In the study, the 4-factor and 27-item structure of the scale was confirmed. These factors are Professional, Social, Academic, and Intellectual Self-Efficacy. The scale is scored on a 5-point Likert scale. The confirmatory factor analysis values of the scale were found to have acceptable fit; RMSEA = .06, AGFI = .82, GFI = .85, RMR = .03, SRMR = .06, CFI = .97, NFI = .95 and NNFI = .97. However, the $\chi 2/sd$ ratio was found to be 2.12. The internal consistency coefficient of the scale was calculated as .93.

The Individual Innovativeness Scale, which was originally developed by Hurt, Cook and Joseph (1977) was adapted into Turkish by Kılıçer and Odabaşı (2010). The scale, which consists of 20-item, and scored on a 5-point likert scale, has four sub-dimensions such as "Resistance to change", "Opinion leadership", "Openness to experience" and "Risk taking". The internal consistency coefficient for the overall scale was 0.82. The test-retest reliability coefficient is 0.87.

Data Collection and Analysis

Ethics committee permission was granted from the Social and Human Sciences Research Ethics Committee of the university. (The permission date is 29.09.2023 and number is 2023-758). After obtaining the necessary permission, the inventory was applied by the researcher to English teachers in Istanbul. English teachers were informed about the research and their voluntary participation was ensured. After consent was taken, the scale inventories were completed in a paper-and-pencil method.

While analyzing the data of the study, first descriptive statistics and normality assumptions were examined. Then, the relationship between variables was analyzed with the Pearson correlation coefficient. In addition, given that the data were normally distributed for the difference tests, the One-Way ANOVA Test and Independent Groups T-Test were analyzed. The predictive relationship between the variables was analyzed by simple linear regression analysis.

Table 2.Descriptive statistics

Variables	N	Crα	$\bar{X}$	SD	Skewness	Kurtosis
Self-efficacy beliefs	306	.895	119.00	21.98	-1.22	1.11
Individual innovativeness	306	.981	69.04	12.14	-.27	.10

It is seen in table 2 that the skewness and kurtosis values for teacher self-efficacy belief (S = -1.22, K= 1.11) and individual innovativeness (S = -.27, K = .10) variables. The results show that the skewness and kurtosis values are within the range of ±1.5 and thus the data set shows a normal distribution (Tabachnick and Fidell, 2013). However, the arithmetic means and standard deviation of the scores obtained from the scale of EFL teachers' self-efficacy beliefs were calculated as $\bar{X}$ = 119.00 and SD=21.98, respectively. The Cronbach's Alpha value in this current study was calculated as Crα = .895. The arithmetic mean of the scores on the individual innovator scale was calculated as $\bar{X}$ = 69.04 and the standard deviation was calculated as SD = 12.14. The Cronbach's Alpha value in this study was calculated as Crα = .981.

FINDINGS

Analyses of the TSE belief Scale

The information gathered with the TSEBS analysis is shown in this section. In this case, it was investigated whether the TSEBS scores of the study group of English teachers varied based on their demographic characteristics (gender, age, seniority year, faculty of graduation, educational status, school level worked at, type of school worked at).

Table 3. T-test results for the TSE beliefs and the 'gender' variable

						t-test		
Variable	Groups	N	$\bar{X}$	SD	SE	*t*	df	*p*

Self-Efficacy Beliefs	Female	199	109.67	23.30	1.65	-2.585	304	.010
	Male	107	116.00	18.71	1.81			

As seen in table 3, it was analyzed whether the scores of the English language teachers in the study group from the TSEBS differed based on the gender variable. As a result of the Independent Groups T-Test, the arithmetic mean difference of TSE beliefs showed a significant difference according to gender (t = -2.585; p < .05). It is found that this is in favor of male English teachers. As a result, male English teachers have significantly higher TSE beliefs than female English teachers.

Table 4. One-Way ANOVA results for the TSE beliefs and the 'age' variable

Variable	Group	N	X̄	SD		Sum of Squares	df	Mean Square	*F*	*p*
Self-Efficacy Beliefs	20-30	68	113.60	19.73	Between groups	277.767	2	138.89	.286	.751
	31-40	162	111.20	23.15	In-group	147096.00	303	485.47		
	41-50	76	111.80	21.52	Total	147373.76	305			
	Total	306	111.88	21.98						

As illustrated in table 4, the difference between the arithmetic means of the groups was examined by One-Way ANOVA to determine whether the scores for the TSE beliefs differed in terms of age variable. As stated in the results of One-Way ANOVA, there is no meaningful difference in TSE beliefs according to age (F = .286; $p > .05$). As a result, TSE beliefs of EFL teachers do not diverge based on age.

Table 5. One-Way ANOVA results for the TSE beliefs and the 'seniority year' variable

Variable	Group	N	X̄	SD		Sum of Squares	df	Mean Square	*F*	*p*
Self-Efficacy Beliefs	1-10	139	110.96	23.03	Between groups	271.33	2	135.667	.279	.756
	11-20	125	112.98	20.86	In-group	147102.43	303	485.3487		
	21-30	42	111.88	22.06	Total	147373.77	305			
	Total	306	111.88	21.98						

As seen in table 5, in order to determine whether the scores related to the TSE beliefs differed in terms of the 'seniority year' variable, the difference of the arithmetic means of the groups was examined by One-Way ANOVA. In line with the results of One-Way ANOVA, there is no significant difference in English teachers' self-efficacy beliefs according to seniority year (F = .756; $p > .05$). As a result, TSE beliefs do not vary depending on the seniority year.

Table 6.T-Test results for the TSE beliefs and the 'faculty of graduation' variable

						t-test		
Variable	Groups	N	X̄	SD	SE	*t*	df	*p*
Self-Efficacy Beliefs	Education	201	111.87	20.48	1.44	.003	304	.997
	Science and Letters	105	111.88	24.71	2.41			

As seen in table 6, it was analyzed whether the scores related to TSE beliefs differed according to the 'faculty of graduation' variable. As a result of the Independent Groups T-, it was found that the arithmetic mean difference of English teachers' self-efficacy beliefs did not show a significant difference according to the faculty of graduation variable (t=.003, p>.05). As a result, English language teachers' self-efficacy beliefs do not vary depending on the faculty of graduation variable.

Table 7. T-Test results for the TSE beliefs and the 'educational status' variable

						t-test		
Variable	Groups	N	X̄	SD	SE	*t*	df	*p*
Self-Efficacy Beliefs	Undergraduate	251	111.92	21.31	1.35	.064	304	.949
	Master	55	111.71	25.04	3.37			

As displayed in table 7, it was analyzed whether the 'educational status' variable made a difference in TSE beliefs of the teachers. As a result of the Independent Groups T-Test, the arithmetic mean difference of English teachers' self-efficacy beliefs did not show a significant difference according to the educational status variable (t=.064, p>.05). As a result, EFL teachers' TSE beliefs do not vary depending on the 'educational status' variable.

Table 8.One-Way ANOVA results for the TSE beliefs and the 'school level' variable

Variable	Groups	N	X̄	SD		Sum of Squares	df	Mean Square	*F*	*p*
Self-Efficacy Beliefs	Primary school	73	111.85	22.15	Between groups	157.525	2	78.762	.162	.850
	Middle school	97	112.87	21.51	In-group	147216.24	303	485.862		
	High school	136	111.20	22.35	Total	147373.77	305			
	Total	306	111.88	21.98						

As seen in table 8, to determine whether the 'school level' variable made a difference in TSE beliefs of the teachers, the difference of the arithmetic means of the groups was examined by One-Way ANOVA. As per the results of One-Way ANOVA, there is no significant difference in English teachers' self-efficacy beliefs according to school level worked at (F = .162; p > .05). As a result, TSE beliefs of the EFL teachers do not vary depending on the 'school level' variable.

Table 9. T-Test results for the TSE beliefs and the 'school type' variable

						t-test		
Variable	Groups	N	X̄	SD	SE	*T*	df	*p*
Self-Efficacy Beliefs	Public	226	110.23	22.08	1.47	-2.218	304	.027
	Private	80	116.54	21.15	2.36			

As clarified in table 9, it was analyzed whether the scores of the EFL teachers' TSE beliefs differed pursuant to the 'school type' variable. As a result of the Independent Groups T-Test, it was found that the arithmetic mean difference of EFL teachers' TSE beliefs showed a significant difference according to school type (t = -2.218; p < .05). And this is in favor of English teachers working in private schools. As a result, TSE beliefs of EFL teachers working in private schools are significantly higher than those of the EFL teachers working in public schools.

Analyses of the Individual Innovativeness Scale

The analyses of the Individual Innovativeness (II) Scale was made to determine whether the related scores varied in terms of the demographic characteristics of the teachers (gender, age, seniority year, faculty of graduation, educational status, school level, type of school).

Table 10. T-Test results for the II and the 'gender' variable

						t-test		
Variable	Groups	N	$\bar{X}$	SD	SE	*t*	df	*p*
Individual Innovativeness	Female	199	68.58	11.48	.81	-.907	304	.365
	Male	107	69.90	13.28	1.28			

As shown in table 10, it was analyzed whether the scores related to the EFL teachers' II levels differed according to the gender variable. As a result of the Independent Groups T-Test, it was seen that the arithmetic mean difference of English teachers' II levels did not differ according to the 'gender' variable (t = -.907, p > .05). Consequently, it seems that the 'gender' variable did not make a difference in English teachers' II levels.

Table 11. One-Way ANOVA results for the II and the'age' variable

Variable	Group	N	$\bar{X}$	SD		Sum of Squares	df	Mean Square	*F*	*p*
Individual Innovativeness	20-30	68	68.90	9.94	Between groups	1016.08	2	508.04	3.506	.031
	31-40	162	70.49	12.62	In-group	34903.44	303	144.90		
	41-50	76	66.07	12.45	Total	44919.53	305			
	Total	306	69.04	12.14						

As demonstrated in table 11, the difference between the arithmetic means of the groups was examined by One-Way ANOVA to determine whether the scores of the IIS of the English language teachers constituting the study group differed in terms of age variable. In accordance with the results of One-Way ANOVA, there is significant difference in English teachers' individual innovativeness levels according to age (F = 3.506; p < *.05).* Complementary analyses were conducted to examine which group was in favor of the significant difference. At this stage, the homogeneity of the variances was first checked by Levene's test. As a result of Levene's test, it was understood that the data were homogeneous (L = 2.216; p > .05). Scheffe test (Kirk, 1968), which gives the best results in groups with homogeneous data, was preferred as the Post Hoc test.

Table 12. Scheffe test results

Groups (i)	Groups (j)	$\bar{X}_{(i)} - \bar{X}_{(j)}$	$SE_{\bar{x}}$	*p*
20-30	30-40	-1.597	1.739	.657
	40-50	2.831	2.009	.372
31-40	20-30	1.597	1.739	.657
	40-50	4.428*	1.673	.031
41-50	20-30	-2.831	.372	.372
	30-40	-4.428*	.031	.031

*p < .05

As seen in table 12, Scheffe's Test was use to determine in what way the teachers' II level scores varied according to their age ranges. As reported by the results of the analysis, it was seen that there was a difference between the 30-40 age group and the 41-50 age group. The difference between these two groups is in favour of the 30-40 age group (i-j = 4.428; $p < .05$). There is no arithmetic and statistical difference between the other groups ($p > .05$).

Table 13. One-Way ANOVA results for the II and the 'seniority year' variable

Variable	Group	N	X̄	SD		Sum of Squares	df	Mean Square	*F*	*p*
Individual Innovativeness	1-10	139	69.38	11.39	Between groups	274.40	2	137.198	.931	.395
	11-20	125	69.45	12.28	In-group	44645.13	303	147.344		
	21-30	42	66.67	13.96	Total	44919.53	305			
	Total	306	69.04	12.16						

As seen in table 13, in order to determine whether the teachers' II level scores differed in terms of the 'seniority year' variable, the difference of the arithmetic means of the groups was examined by One-Way ANOVA. The results showed that there is no meaningful difference in English teachers' II levels according to the 'seniority year' variable. ($F = .931$; $p > .05$). As a result, English language teachers' individual innovativeness does not vary depending on the seniority year.

Table 14.T-Test results for the II and the' faculty of graduation' variable

						t-test		
Variable	Groups	N	X̄	SD	SE	*t*	df	*p*
Individual Innovativeness	Education	201	68.94	11.67	.82	-.197	304	.844
	Science and Letter	105	69.23	13.03	1.27			

As illustrated in table 14, the teachers' II level scores were analyzed according to the faculty of graduation variable. As a result of the Independent Groups T-Test, it was seen that the arithmetic mean difference of English teachers' individual innovativeness levels did not change according to the faculty of graduation ($t = -.197$, $p > .05$). As a result, it can be noted that the 'faculty of graduation' variable did not make a change in their II level scores.

Table 15. T-Test results for the II and the 'educational status' variable

						t-test		
Variable	Groups	N	X̄	SD	SE	*t*	df	*p*
Individual Innovativeness	Bachelor	251	68.78	11.93	.75	-.795	304	.527
	Master	55	70.23	13.08	1.76			

As indicated in table 15, the teachers' II level scores were analyzed according to the 'educational status' variable through the Independent Groups T-Test. It was seen that the arithmetic mean difference of English teachers' individual innovativeness levels did not differ according to their educational statuses. ($t = -.795$, $p > .05$). As a result, English teachers' individual innovativeness does not change depending on the educational status variable.

Table 16.One-Way ANOVA results for the II and the 'school level' variable

Variable	Groups	N	X̄	SD		Sum of Squares	df	Mean Square	*F*	*p*
Individual Innovativeness	Primary school	73	68.68	12.36	Between groups	141.507	2	70.754	.479	.620
	Middle school	97	69.62	11.51	In-group	44778.02	303	147.78		
	High school	136	68.28	12.50	Total	44919.53	305			
	Total	306	69.04	12.14						

As seen in table 16, One-Way ANOVA was used to detect whether the scores of the teachers' II level differed in terms of the 'school level' variable. The results show that there is no significant difference in the teachers' II levels in the view of school level. (F = .479; $p > .05$). Therefore, it can be indicated that *EFL* teachers' II does not change depending on the school level.

Table 17. T-Test results for the II and the 'type of school' variable

						t-test		
Variable	Groups	N	X̄	SD	SE	*t*	df	*p*
Individual Innovativeness	Public	226	68.35	12.03	.80	-.167	304	.097
	Private	80	70.98	12.29	1.37			

As seen in table 17, the scores of the English language teachers who constitute the study group from the IIS were analyzed according to the type of school. As a result of the Independent Groups T-Test, the arithmetic mean difference of English teachers' individual innovativeness according to type of school was not found to be significant (t = -.167; p > .05). Thus, the individual innovativeness levels of English teachers do not differ depending on whether they work in public or private schools.

Findings of the Correlative Analysis of TSE Beliefs and II levels

Pearson Product Moment analysis was carried out to present whether there is a relationship between the total scores of the teachers' TSE beliefs and the II levels. Also, Simple Regression analysis was conducted to examine the extent to which the teachers' TSE beliefs predicted their II levels. The correlation values for the relationships between EFL teachers' TSE beliefs and their II levels are given in Table 18.

Table 18. The results of Pearson product moment analysis

Variables	1	2
1. Self-Efficacy Beliefs	-	
2. Individual Innovativeness	0.43*	-
Standard Deviation	21.98	12.14
Mean	111.88	69.04

p<.05

As seen in table 18, it is seen that there is a moderate positive and significant relationship between TSE beliefs and individual innovativeness (r = .43, p < .05). As a result, it can be said that as EFL teachers' TSE beliefs increase, their II levels increase, and as their TSE belief levels decrease, their II levels decrease. Since the correlation result was significant, a simple regression analysis was used to test to what extent the EFL teachers' TSE beliefs predict their II levels, and these results are demonstrated in Table 19.

Table 19.Simple regression analysis of TSE beliefs predicting II levels

Variables		b	(β)	R^2	SE	Mean Square	*p*
Self-Efficacy Beliefs ⟶	*Individual Innovativeness*	.24	.43	.18	.03	8.25	.00

As seen in table 19, the direct effect of the teachers' TSE beliefs on their II levels was significant (β = .43, p < .05). In addition, teacher self-efficacy beliefs explained 18% of individual innovativeness levels. As a result, it can be emphasized that TSE beliefs are a prominent predictor for the II levels of EFL teachers.

DISCUSSION

Discussion on demographic variables of EFL teachers' TSE beliefs

The teachers' scores related to their TSE beliefs demonstrate a statistically significant difference in terms of the gender demographic variable. This was found to be in favour of male English teachers. The fact that female teachers have lower self-efficacy compared to male teachers may be due to traditional gender roles and expectations, gender discrimination in the education system and business life. In addition, the fact that female teachers try to balance both home and work load, and that they are evaluated more critically by the society may create anxiety on the performance of female teachers, which may reduce their self-efficacy. On the other hand, in Deneme's study (2022), it was found that EFL teachers' self-efficacy did not display a significant difference in term of gender. The result can be defined by the fact that increasing gender equality perception or participants' personality traits. Unlike our research finding, Veisi, Azizifar, Gowhary, and Jamalinesari (2015) conducted a study on Iranian foreign language teachers and found a statistical difference between genders in teacher self-efficacy, but this difference was in favour of women. This may be due to the complexity of the concept of self-efficacy or the fact that the aforementioned research was conducted in a different culture.

The scores related to the EFL teachers' TSE beliefs do not display a statistically meaningful difference in accordance with the demographic variable of age. This can be accounted by the fact that teachers' professional competencies generally go through similar education and experience processes regardless of age. However, the fact that there is a continuous professional development process in the field of education may allow teachers to maintain their knowledge and skills up to date. Similar to our research finding, Delican and Adıyaman (2021) examined teachers' TSE perceptions towards teaching literacy methods in their research and found that self-efficacy did not differ according to age. This can also be explained by the fact that teachers who have recently graduated from undergraduate education have fresh knowledge, while older teachers feel themselves sufficient by using their experience. However, Tutkun (2017) stated that older teachers' have more self- efficacy and this situation may stem from their experience and social respect. Moreover, Bausch, Michel and Sonntag (2014) revealed that there was a significant relationship between age and self-efficacy in favour of the older ones. On the contrary, Authier (2012) stated that the younger teachers had higher sense of teacher self-efficacy. Also, according to a study conducted by Gkolia, Dimitrios, and Koustelios (2016) teachers' age affect their self-efficacy factors.

The teachers' scores related to their TSE beliefs do not indicate a statistically significant difference in term of the demographic variable of seniority year. Similar to our research result, Oğuz Özcanlı and Bada (2022) find that the EFL teachers' TSE perceptions do not differ with respect to their years of seniority. This result is in parallel with the finding obtained from the age variable. As stated in the analysis of the age demographic variable, the current knowledge that newly graduated teachers have may make the teacher feel competent, while the years of experience of senior teachers may cause them to feel self-efficacious. At the same time, the fact that educational institutions offer similar training and professional development programs for

all teachers regardless of seniority may also explain why self-efficacy does not differ according to seniority. Still, Eker and Seçkin (2022) stated that newly started EFL teachers had higher self-efficacy than the experienced ones owing to the fact that newly started teachers may count on their fresh knowledge and they are excited about teaching. Different from this research finding, Soodak and Podell (1997) examined the relationship between teacher experience and self-efficacy and stated that self-efficacy increased as years of seniority increased. The reason for obtaining a different result from this study may be cultural differences since the study was conducted in another country and a different educational policy was implemented.

The teachers' TSE belief scores do not show a statistically significant difference considering the demographic variable of the faculty of graduation. This can be explained by the fact that teachers graduated from the faculties indicated have a similar degree of competence in English language. At the same time, graduates of the faculties of science and letters can catch up with graduates of the faculties of education regarding teacher self-efficacy since they usually participate in pedagogical formation programs to become teachers. Similarly, Aslan (2019) found that the TSE perception of English teachers does not differ statistically depending on the department of graduation.

The teachers' TSE beliefs do not show a statistically significant difference with respect to the demographic variable of educational status. This can be explained by the fact that basic pedagogical skills and language teaching methods are given in undergraduate education and teachers are given the opportunity to develop in the field of scientific research in master's/doctoral studies. At the same time, self-efficacy in teaching may also be increased by practicing in the classroom. Similar to our research finding, Aslan (2019) found that TSE did not differ according to the level of education achieved. Unlike this study, Şen and Yildiz-Durak (2022) stated in their study that English teachers' technological self-efficacy scores were higher in teachers with postgraduate education than in teachers with bachelor education. Teachers with postgraduate education can follow technological developments while receiving training in scientific research. Moreover, postgraduate education enriches research skills, the motivation for continuous learning, and critical thinking abilities.

As for the teachers' TSE belief scores, they do not show a statistically significant difference based on the demographic variable of school level. This may be because the basic pedagogical knowledge required for teaching is independent of the level of teaching. In addition, the trainings that teachers receive may be generally designed to teach at different levels. Similar to our research results Aygüneş (2023) concluded in his study that teacher efficacy does not vary according to the level at which teachers work. However, Şen and Yildiz-Durak (2022) stated in their study that self-efficacy results differed according to school level and this differentiation is against the secondary education level. Also Ryan, Kuusinen, and Beyoda-Skoog (2015) reported that middle school teachers' self-efficacy in managing peer relationship and classroom was lower than primary school teacher.

The teachers' TSE belief scores reveal a statistically significant difference according to the demographic variable of the school type they work in. This is in favour of the private school type. This difference can be clarified by the fact that private schools have more resources and better technological equipment. This may enable teachers to conduct their lessons with more effective and innovative methods. In addition, the lower class sizes in private schools may cause teachers to feel more competent by paying more attention to students. Similar to our research result, in their study, Kararmaz and Arslan (2014) discovered that among English teachers working in primary schools, those working in private schools had higher TSE. Similarly, Butucha (2013) found that teachers in private schools are more self-efficacious in instructional strategies and overall self-efficacy than their colleagues in the public schools.

Discussion on demographic variables of English teachers' II levels

The scores of English teachers' II levels do not show a statistically significant difference based the gender demographic variable. This can be explained by the fact that individual

innovativeness develops with education and experience rather than gender-related factors. In an environment of collaboration and information sharing, teachers of both genders can freely express their innovative ideas. Similar to our research finding, Li and Chang (2023) found that the II levels of teachers working in China did not differ according to gender. According to this result, it can be thought that both genders have similar characteristics in adopting and spreading individualism. Similarly, Kotsev and Stoycheva (2024) found no significant gender differences in individual attitudes towards innovativeness.

The II level scores of EFL teachers indicate a statistically significant difference depending on the age variable. The difference between the group of English teachers aged 31-40 and the group of English teachers aged 41-50 is in favour of the 31-40 age group. This can be interpreted by the fact that young teachers are educated in a period when technology is more widely used in education and they are more familiar with digital tools and new teaching methods. Also, younger teachers may be more open to change and new methods and more senior teachers may have become accustomed to certain teaching methods and routines over the years. Similar to our research result, Üstün (2023) sought the relationship between individual innovativeness and digital citizenship and stated that individual innovativeness differs according to age. According to the results of the research, this difference was between 25-34 years old and 18-24 years old, and the difference was in favour of 18-24 years old. Similar to our study, the younger group was found to be more innovative.

The demographic variable of seniority year did not make a statistically meaningful difference in the teachers' II level scores. This can be explained by the fact that individual innovativeness is an action based on continuous learning and development. At the same time, a school's or educational institution's attitude towards innovation may also affect leadership style and innovation potential. Similar to our research finding, Atalay-Altaş (2021) examined the critical thinking and II levels of English teachers and found that their II attitudes of English teachers did not differ according to seniority. On the other hand, in his study, Kocasaraç (2021) found that the II levels of the teachers differed according to the 'seniority' variable, and it was discovered that the TSE beliefs of the teachers with 6-10 years of teaching practice was lower than those of the teachers with other seniority.

The teachers' II level scores do not exhibit a statistically significant difference according to the demographic variable of faculty of graduation. This can be explained by the fact that both the teachers who graduated from the faculty of science and letters, and the teachers who graduated from the faculty of education were able to provide students with similar skills related to teaching and learning processes although they received education in different disciplines. In addition, individual innovativeness in teaching may be shaped by the professional development process and experiences rather than the faculty from which teachers graduated. Similar to our research finding, Atalay-Altaş (2021) examined English teachers' critical thinking and individual innovativeness and concluded that individual innovativeness did not differ according to the faculty from which teachers graduated.

The II level scores of the teachers do not demonstrate a statistically meaningful difference according to the demographic variable of educational status. The reason may be the fact that individual innovativeness is not a theoretical knowledge that can be acquired through education, but a skill developed through practical experience and continuous learning. Moreover, a teacher's innovativeness may stem from his/her personal characteristics and motivation regardless of his/her level of education. Similar to our research finding, Kocasaraç (2018) examined the innovativeness of high school teachers and concluded that individual innovativeness did not differ according to educational status.

As concerns the 'school level' variable, the teachers' II level scores do not display a statistically significant difference in this respect. This can be interpreted by the fact that teachers working at each school level develop new methods and approaches in accordance with the needs of their students. In addition, the fact that individual innovativeness is more influenced by school culture

rather than school level may also be a reason. Similar to our research finding, Şentürk, Uçar, Gümüş and Diksoy (2021) examined the relationship between teachers' techno- pedagogical levels and II levels; and found that innovativeness did not differ according to school level variable.

The II level scores of English teachers do not demonstrate a statistically remarkable difference according to the demographic variable of school type. The reason could be the fact that the teaching profession is basically the same in all kinds of schools and educational institutions and that innovative approaches are necessary to provide education in accordance with the interests and abilities of students in every school type. When the literature was examined, no study was encountered in which individual innovativeness in teachers did not differ according to school type. This may be due to the limited group of teachers working in private schools in our study. Unlike our research result, Kocasaraç (2021) examined the innovative status of teachers in his study and found that individual innovativeness differed according to whether they worked in a private or public institution. This distinctness was found to be in favour of teachers in private schools. The teachers working in private schools are laid off when they have the slightest problem with their administrators, feel the need to fulfil every request of the students, and most importantly, they have to struggle with financial problems (Cerev and Çoşkun, 2020).

Discussion on the correlation between II levels and TSE Beliefs

As indicated, the study found that there is a moderate positive relationship between the TSE scores and their II level scores of the EFL teachers. Their TSE beliefs explain 18% of their individual innovativeness. When the research is reviewed, it is seen that some studies support the findings in this study. Zainal and Mohd-Matore (2021) concluded that teachers' TSE and school principals' transformational leadership roles have a predictive effect on teachers' individual innovativeness levels in their research on educators working in secondary education institutions. Hsiao, Chang, Tu, and Chen (2011) examined the effect of self-efficacy on innovative work behaviour in secondary school teachers. In the research findings, it was concluded that teachers with high self-efficacy showed better innovative work behaviour. In another study, Gündüz (2018) investigated the pre-service teachers' TSE and II levels and found that there was a significant positive relationship between their II levels and academic self-efficacy levels. Huang, Lee, and Yang (2019) also conducted a study on self-efficacy and creative identity levels of kindergarten teachers. The results of the study show that teachers' self-efficacy has an impact on their creative role identities and creative practice attitudes. Self-efficacy denotes a person's belief in their ability to effectively accomplish a particular task, and possessing high self-efficacy can bolster teachers' confidence in themselves and encourage them to experiment with new techniques and approaches. (Tschannen-Moran and McMaster, 2009)

CONCLUSION

According to the study's findings, it can be concluded that there is a statistically significant difference in the TSE belief scores of English language teachers based on the demographic variables of gender and school type. This discrepancy favours private schools and male English teachers. However, there is no statistically significant difference in the TSE belief scores of EFL teachers with respect to the factors such as age, experience, faculty of graduation, educational attainment, or school-level demographics.

Furthermore, there is no statistically significant difference in the II level ratings of the English teachers according to demographic variables such as gender, experience, faculty of graduation, educational level, school level, or school type. However, based on the demographic variable of age, there is a statistically significant variation in the II level scores of EFL teachers. The age group of English teachers between the ages of 31 and 40 has a statistically significant advantage over the group of English teachers between the ages of 41 and 50.

Moreover, there is a moderate positive correlation between EFL teachers' scores on TSE beliefs and their II level scores. It is necessary to remark that and EFL teachers' TSE beliefs explain 18% of individual innovativeness.

To boost teachers' self-efficacy, policymakers should set up professional development programs. To raise teachers' skill and self-efficacy, these programs may incorporate creative instructional techniques, methods, and activities. Through in-service or other training, policymakers can give teachers the tools and chances they need to improve their self-efficacy. Additionally, they can develop courses that inspire teachers to experiment. Planning early intervention initiatives can also be made easier by policymakers regularly assessing teachers' self-efficacy. The education system might incorporate a mentorship and support structure for teachers, whereby experienced teachers guide novice ones, promoting self-efficacy and creative abilities. Additionally, by encouraging teachers to attempt new methods, school principals can reward and promote creative teaching methods.

In the research, the relationship between TSE and II level was obtained using cross-sectional methods. In future studies, longitudinal methods can be used to present the causal relationship between TSE and II level more clearly. In addition, such studies can reveal the changes in teachers' TSE and II levels throughout their careers and their effects on student achievement. However, the data and results obtained from this study reflect teachers who live in Türkiye. In future studies, a multicultural study can be conducted by including teachers living in different countries. Thus, comparative results can be obtained about teacher education and education systems in different countries. Such a study would also allow for cross-cultural comparisons of the English teachers' TSE and II levels. Finally, the data from this study only reflects quantitative data obtained from teachers. In prospective studies, a multidimensional view of the variables examined can be obtained by collecting data from educational stakeholders (school administration, students, families) who witness, affect and are affected by teacher self-efficacy and individual innovativeness. In addition, future studies based on the mixed methods by including qualitative data may provide more detailed information on the background of these variables.

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