Technology-Assisted Language Education **TALE**

Construction and Validation of a Teachers' Remotivational Strategies Measure: Ecological Systems and Self-Determination Theories in Perspective

Hadis Sadr Alavian[1], Hassan Asadollahfam[2], Mohammad Hossein Yousefi[4]
[1]Ph.D. Candidate, Department of English Language, Faculty of Humanities, Islamic Azad University, Bonab, Iran. Email: hadissadr2017@gmail.com
[2]Assistant Professor, Department of English Language, Faculty of Humanities Bonab Branch, Islamic Azad University, Bonab, Iran. Email: asadollahfam@gmail.com
[3]Assistant Professor, Department of English Language, Faculty of Humanities, Bonab Branch, Islamic Azad University, Bonab, Iran, Male: mhh.yousefi@gmail.com

Abstract

Given the paramount importance of motivation and the paucity of research into teachers' remotivational strategies, this study, adopting a sequential mixed-methods design, constructed and validated a teachers' remotivational strategies questionnaire. In so doing, the present study built upon an integrative framework encompassing Ecological Systems Theory (EST) and Self-Determination Theory (SDT). The participants comprised 235 EFL teachers within the age range of 21 to 45 (M=30.63, SD=5.28) and teaching experience of three months to 23 years (M=7.30, SD=3.87). Semi-structured interviews were conducted to gather data. Following that, the interview contents became subject to thematic analysis and the results and the existing themes in the extant theoretical and empirical literature were used to develop the questionnaire. The results of thematic data analysis demonstrated that the emerging theme instances were situated within the integrative SDT/EST frame. The results of Exploratory Factor Analysis (EFA) suggested a three-factor structure encompassing relatedness, competence, and autonomy. Moreover, the Confirmatory Factor Analysis (CFA) results indicated that the three-factor structure fits the Iranian EFL teachers' population. Based on the results, teachers' remotivational strategies questionnaire can be safely used for developing professional programs aiming at determining and promoting EFL teachers' understanding and use of remotivational strategies.

*****Corresponding Author:** Hassan Asadollahfam, 2Assistant Professor, Department of English Language, Faculty of Humanities Bonab Branch, Islamic Azad University, Bonab, Iran.   **Email:** asadollahfam@gmail.com

Introduction

Motivation as the main driving force behind the second language acquisition (SLA) process (Dörnyei & Ushioda, 2021; Gardner, 2010) has attracted substantial attention in language learning and teaching (Darvin & Norton, 2021; Kim, 2021; Ushioda, 2020). The bulk of current investigations into learners' motivation (e.g., Bećirović et al., 2022; Ebadi, & Amini, 2022; Jiang et al., 2023) and teachers' motivational strategies (e.g., Min & Chon, 2021; Yang & Sanchez, 2021) is a confirmation seal on the paramount importance of motivation in language learning and teaching. However, some English as Foreign Language (EFL) learners lose their motivation in the course of language learning and become demotivated (Falout et al., 2009; Wang & Littlewood, 2021). Accordingly, teachers should adopt strategies to remotivate the demotivated learners and return the lost motivation online (Falout et al., 2013). A distinction should be made here for distinguishing motivational strategies and remotivational strategies as the focus of the current investigation is on remotivational strategies and not motivational strategies. While motivational strategies are characterized as those strategies employed by teachers to initiate and sustain learners' motivation (Cheng & Dörnyei, 2007; Tim et al., 2021; Yang & Sanchez, 2022), remotivational strategies refer to those strategies which teachers draw on to motivate the demotivated learners and bring back motivation online gain (Falout, 2012; Falout et al., 2013; Song & Kim, 2017; Wang & Littlewood, 2021).

Notwithstanding the central role of teachers in motivating learners (Cheng & Dörnyei, 2007), a review of previous investigations (e.g., Cheng & Dörnyei, 2007; Lin et al., 2021; Maeng & Lee, 2017; Min & Chon, 2021; Sugita et al., 2014; Tim et al., 2021; Yang & Sanchez, 2021) reveals the non-existence of a valid and reliable measure to investigate teachers' remotivational strategies. Additionally, a review of previous studies indicates that self-determination theory (SDT) (e.g., Annamalai et al., 2023; Chen & Zhao, 2022; Garhani & Supriyono, 2021; He & Li, 2023), and ecological systems theory (EST) (e.g., Amali et al., 2023; Chong, 2021; Gadella Kamstra, 2021; Guo & Lee, 2023; King, 2021) have not been used to investigate teachers' motivational or remotivational strategies. Based on SDT, individuals seek to meet three innate psychological needs: autonomy, relatedness, and competence (Deci & Ryan, 1985; Ryan & Deci, 2022, 2023).

EST as a multi-layered system comprising microsystem, mesosystem, exosystem, and macrosystem, has the potential to provide a multi-level, interconnected lens helping to map the developmental patterns of an individual about a specific construct. Therefore, to fill the lacuna in the empirical literature, this study aimed to develop and validate a questionnaire measuring EFL teachers' remotivational strategies utilizing an integrative framework constituting SDT and EST. Drawing on the integrative framework of SDT and EST, this study can provide valuable insights into EFL teachers' perceptions of remotivational strategies and highlights the importance of considering both individual

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and contextual factors when designing prospective interventions to enhance learners' motivation.

Literature review

Remotivational Strategies

Remotivational strategies refer to those specific steps teachers take to help demotivated learners become motivated again (Jung, 2011). In today's educational programs, assisting demotivated learners in becoming motivated again is an important aspect, and consequently, teachers should accommodate remotivational strategies in their teaching (Ghasemi, 2021). Awareness about the strategies to remotivate learners can assist teachers in systematically helping demotivated learners and, thus, pave the way for taking appropriate measures in dealing with those EFL learners who have lost their motivation during language learning (Fallout, 2012). Therefore, researchers (e.g., Falout, 2012; Falout et al., 2013; Jung, 2011; Sahragard & Ansaripour, 2014; Song & Kim, 2017) have realized that it is vital to investigate teachers' remotivational strategies.

Second language studies have progressively concentrated on teachers' perceptions in the previous two decades. Nevertheless, few investigations have analyzed L2 instructors' perceptions concerning remotivational strategies (Song & Kim, 2017; Wang & Littlewood, 2021) despite the focal role that teachers' perceptions of remotivational strategies play in the motivational processes of learners (Albalawi & Al-Hoorie, 2021). A review of extant empirical literature evinces that remotivation has, thus far, been explored demotivation (Albalawi & Al-Hoorie, 2021; Falout, 2012), agency (Carpenter et al., 2009), EFL learners' strategies (Falout et al., 2013), the dynamics of demotivation and remotivation (Song & Kim, 2017), and students' perceptions (Wang & Littlewood, 2021). Nonetheless, researching EFL teachers' perceptions of remotivational strategies is quite under-explored. More specifically, there is no study, to the nest knowledge of researchers, which has focused on teachers' remotivational strategies.

Self-determination Theory

One of the most applicable theories of motivation in educational psychology is SDT (Dorniye & Ushioda, 2021). Dorniye and Ushioda (2021), highlighting the uniqueness of SDT, assert that this theory emphasizes "people's inherent motivational propensities" (p. 17), which renders this theory as an important motivational theory with the potential to offer immense contributions to the study of motivation in L2 settings (Alamer et al., 2023; He & Li, 2023; Hu & Zhang, 2017). As Deci and Ryan (1985), who initially conceived SDT, maintain, there are three psychological needs consisting of autonomy, relatedness, and competence, which individuals should address. As Ryan and Deci (2000) hold, relatedness is characterized as the learners' established feelings of being welcome on the part of the teachers and the speaking community. Competence refers to the learners'

feelings of capability in learning the subject matter. Autonomy features the individual learner's feelings of choice regarding the subject matter rather than the external impositions being excreted on the learner's choices.

According to SDT, "to be self-determining means to experience a sense of choice in initiating and regulating one's actions" (Deci et al., 1989, p. 580). Self-determination is a prerequisite for any behavior to be inherently satisfying (Dörnyei, 1994). The bulk of very recent investigations (e.g., Alamer et al., 2023; He & Li, 2023; Printer, 2023; Shelton-Strong, 2022; Sumi & Sumi, 2023) into SDT in mainstream education contexts and language learning settings is a confirmation seal on Dorniye and Ushioda's (2021) remarks on the pivotal importance of this theory in motivational psychology. Therefore, although the introduction of this theory dates back to the works initiated by scholars in mid 1980s, 1990s, and early 21st century (e.g., Deci & Ryan, 1985; Deci et al., 1989; Ryan & Deci, 2000), the recent publications of Deci and Ryan (Ryan & Deci, 2022; 2023) attest to the rigorous and the developmental foundation of SDT. Accordingly, SDT was adopted in this study due to the empirical and theoretical potentials and affordances that this theory can offer in studying teachers' remotivational strategies.

Ecological Systems Theory

The EST has four interconnected layers: microsystem, mesosystem, exosystem, and macrosystem (Bronfenbrenner, 1979). The microsystem level of EST concerns the individual's immediate environment, such as their family, peers, and teachers. In studying EFL teachers' remotivational strategies, the microsystem level is crucial as it highlights the importance of the teacher-student relationships (King, 2021). The mesosystem level of the EST in investigating EFL teachers' remotivational strategies is crucial as it highlights the significance of the environment as an important contributor to motivation (Milne, 1998). Green et al. (2023) argued that the school environment significantly shapes learners' motivation. The EST emphasizes that learners' motivation can be influenced by their interactions with their school environment. Therefore, investigating EFL teachers' motivational strategies through the lens of the EST can help us understand how teachers can create supportive mesosystems that foster learners' motivation.

The exosystem level of the EST refers to the relationships and processes between the previous layers, such as policies, media, and other institutions. In exploring EFL teachers' remotivational strategies, the exosystem level is pivotal as it underscores the importance of the policies and other institutional factors as connected with the immediate settings. Policies and institutional factors play a significant role in shaping learners' motivation (Eccles, 2004). Therefore, investigating EFL teachers' motivational strategies through an exosystem lens can help us understand how teachers can navigate institutional factors to create supportive environments that foster learners' motivation. The macrosystem level of the EST refers to the realization of a specific culture, such as values, beliefs, and norms. Artelt (2005), Munro et al. (2014), and Chen et al. (2005) argued that

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cultural factors embedded and connected to educational contexts play a significant role in shaping learners' motivation. Therefore, investigating EFL teachers' remotivational strategies through the macrosystem level of the EST can help us understand how teachers can navigate cultural factors to create supportive environments that foster learners' motivation. The holistic nature of the EST is its greatest potential for investigating EFL teachers' remotivational strategies. Investigating EFL teachers' remotivational strategies through the lens of the EST can help us understand how different levels interact to create educational environments that can cultivate learners' motivation.

In line with the objectives, the following research question was formulated:

- What are the components of Iranian EFL teachers' perceptions of remotivational strategies based on SDT and EST?

Method

Participants

The participants comprised 235 Iranian EFL teachers teaching different levels of language proficiency in six different language institutes. All participants were native speakers of Persian; 108 were male, and 127 were female. The teachers were selected based on convenience non-random sampling procedures, and their ages ranged between 21 to 45. Their teaching experience fell within the range of three months to 23 years. To collect qualitative data, 64 teachers selected randomly from the initial 235 samples were invited to participate in interviews. The number of teachers for the interviews was 64 to ensure an adequate number of interviewees. Moreover, this number of teachers was necessary to reach the maximum saturation level for the collected qualitative data (Braun & Clarke, 2021) to provide rich data for the integrative framework. Moreover, 64 participants were included for interviews to accommodate maximum variation in the selection of the participants and enhance the generalizability of the findings. Maximum variation sampling can help yield results highlighting the shared patterns while cutting across individual participants to capitalize on the extant heterogeneity in the sample (Patton, 2002). Accordingly, variations in terms of gender, academic degrees, and age to the extent possible were considered to accommodate a wide range of participants.

Instrumentation

Semi-structured Interviews on Teachers' Perceptions toward Strategies to Remotivate Learners

To seek the strategies Iranian EFL teachers perceived to use to remotivate Iranian EFL learners, the participants were interviewed using a set of semi-structured interview questions. To come up with the interview questions, the researcher initially reviewed the literature on remotivational strategies, EST, and SDT and developed an initial list of 12

questions. Three general questions were developed specifically drawing on literature (e.g., Falout et al., 2013; Falout, 2012; Sahragard & Ansaripour, 2014; Song & Kim, 2017; Wang & Littlewood, 2021; Yekta, 2017) pertinent to remotivational strategies. Interview questions 4, 5, 6, 7, 8, and 9 were informed by the literature related to remotivational strategies and EST (e.g., Amali et al., 2023; Gadella Kamstra, 2021; Guo & Lee, 2023; King, 2021; Tanhan et al., 2023; Zhang & Modehiran, 2021). Finally, the last three interview questions 10, 11, and 12 were made drawing on the literature related to remotivational strategies as well as SDT (e.g., Alamer et al., 2023; Annamalai et al., 2023; Chen & Zhao, 2022; He & Li, 2023; Liu & Oga-Baldwin, 2022; Printer, 2023; Sumi & Sumi, 2023). This list of questions was subject to expert opinion in a panel of experts comprising three PhD holders in the field of TEFL to ensure content validity. The list of questions was reviewed and minor modifications were made. Moreover, three questions were discarded due to overlapping content, and a final list of nine questions won the approval of the panel. Thus, the final list of questions consisted of nine questions of which the first two questions addressed remotivational strategies from a general perspective to help set the stage for the whole interview process. Questions 3, 4, 5, and 6 addressed the EST perspective regarding remotivational strategies and the last three questions tapped into teachers' perceptions of remotivational strategies via an SDT lens. Next, this list of questions was piloted on five teachers to address any vagueness and ambiguity concerning content to enhance the questions' readability and clarity. The final list of questions was prepared after minor changes based on the teachers' comments at the piloting stage.

Questionnaire on Remotivational Strategies

This study aimed to develop a questionnaire for measuring the strategies Iranian EFL teachers perceived to use to remotivate their EFL learners. To this end, the content areas were determined based on content analysis run on the teachers' interview responses. These content areas and those found in the previous findings related to remotivation literature served as the foundation for developing the items representing the components constituting the remotivational strategies construct. The table below displays the existing themes available in the literature related to motivation and remotivation, in general, and remotivational strategies in particular, which were used to develop the initial items.

Table 1
Available Themes in the Literature

Number	Theme	Investigations
1	Choice and control	(Cheng & Dörnyei, 2007; Lee & Lo, 2017; Min & Chon, 2021; Wang & Littlewood, 2021).

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2	Autonomy	(Bernaus & Gardner, 2008; Hu & Zhang, 2017; Liu, 2015).
3	Preferences	(Cheng & Dörnyei, 2007; Keskin, 2019).
4	Encouragement	(Cheng & Dörnyei, 2007; Sugita & Takeuchi, 2014).

In order to empirically test the construct, many items tapping various aspects of the identified components were written in the form of a Likert-type scale. A sample of items tapping each component was prepared and given to three Ph.D. holders in TEFL. Notably, an appeal to expert opinion was used to ensure the content validity of the questionnaire (Brown, 2007). A team of experts analyzed all the items written by the researcher. The redundant items were removed, and similar items were merged into one or separated into different items. The initial draft of the questionnaire comprised 26 items. The experts were provided with the 26 items and asked to comment on the alignment of the items with the components. Based on the comments, 2 items were merged into one item and three items were discarded as they were identified as items which contained overlapping content with other items. Moreover, one item was divided into two items due to its content diversity. Consequently, the approved draft of the questionnaire contained 23 items. The approved draft was then piloted on 30 teachers with characteristics similar to those of the main participants to identify any ambiguities affecting the items' readability and clarity. Two items were revised regarding lexicon and grammar, and the finalized, approved questionnaire was obtained.

In the final version of the questionnaire, 7 items were made to tap into the autonomy aspect of EST (two items for the microsystem layer, two items for the mesosystem layer, two items for the exosystem layer, and one item for the macrosystem layer of EST). Moreover, 8 items were developed to address the relatedness dimension of SDT (three items for the microsystem layer, two items for the mesosystem layer, two items for the exosystem layer, and one item for the macrosystem layer of EST). Similarly, 8 items were designed to assess the competence facet of SDT (three items for the microsystem layer, two items for the mesosystem layer, two items for the exosystem layer, and one item for the macrosystem layer of EST). Therefore, there were 8 items for the microsystem layer, 6 items for the mesosystem layer, 6 items for the exosystem layer, and 3 items for the macrosystem layer. Table 2 presents the item numbers belonging to each SDT dimension and the associated EST layers in which the items are situated.

Table 2

Item numbers Situated within the Tripartite SDT Dimensions and Quadripartite EST Layers

SDT Dimensions	Microsystem Layer	Mesosystem Layer	Exosystem Layer	Macrosystem Layer	Total
Autonomy	2	2	2	1	7
Relatedness	3	2	2	1	8

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Competence	3	2	2	1	8
Total	8	6	6	3	23

After assuring the content validity of the instrument, in order to address its construct validity, the remotivational strategies questionnaire was developed following a Likert type format to yield numerical data for empirical scrutiny. Each item contained five choices (1 = *Never true of me*; 2 = *Rarely true of me*; 3 = *Sometimes true of me*; 4 = *Usually true of me*; and 5 = *Always true of me*) and the respondents were required to choose one of the choices which best described him/her in relation to the characteristic under question. Then, the questionnaire was distributed to the 235 EFL teachers to fill out. Exploratory Factors Analysis was run to develop the remotivation construct's components. In order to identify the factors, two methods were employed; namely, eigenvalue table through Principal Component Analysis and eigenvalue plot.

To measure the reliability of the questionnaire and its associated components, Cronbach's Alpha was run to assure that the instrument had an acceptable level of internal consistency.

Data Collection Procedure

Initially, 235 language teachers were selected based on convenience sampling from six different language institutes in Hamedan and Isfahan. These teachers were briefed on the purposes of the study and data collection. Moreover, they were assured that the collected data would be used only for research purposes and held confidential. Also, they were informed that they could withdraw from the study at any stage of data collection as participation in the study was completely voluntary. Through making proper arrangements and checking the class hour schedules of the teachers, 64 teachers were interviewed about the strategies they adopted to remotivate Iranian EFL learners. Data were collected through semi-structured interviews. The duration of interviews was within the range of 45 minutes to 1.5 hours. The interviews were conducted face-to-face in Persian, the teachers' mother tongue. Using participants' mother tongue was because they felt more comfortable with Persian than English, as they could express their perceptions without the possible hindrance caused by a second language. Note should be taken that although the participants were English teachers and speculatively had a satisfactory level of English language proficiency, the researcher gave them the choice of either of the two languages for the interview process, and all the participants selected their mother tongue. The interview contents were audio-recorded and transcribed verbatim for content analysis. To propose the construct, two sources were drawn. Initially, the researcher reviewed the literature on remotivation extensively to come up with different tentative components associated with remotivation. To analyze the interview contents, the researcher followed thematic analysis procedures proposed by Auerbach and Silverstein (2003) to analyze the qualitative data.

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According to Auerbach and Silverstein (2003), six stages should be covered for analyzing qualitative data. These phases are: getting familiar with the data, developing initial codes, looking for themes among codes, reviewing the themes, defining and labeling the themes, and producing the final report. The two analysers followed all these stages to produce the final report. To establish trustworthiness, as an important step in qualitative research, the researcher employed member checking to validate the responses in line with Merriam (1997). In so doing, the results of analysis were submitted to 10 participants, 5 from each group, to make sure that the interpretation of the data had been carried out appropriately. To establish credibility, the researcher and a research assistant with a Ph.D. degree in applied linguistics independently categorized the data. Following that, the degree of agreement was calculated based on Holsti's (1969) coefficient of reliability. The value turned out to be 0.89, which indicated an acceptable level of consistency about categorization. Following that, the results of the content analysis of the interviews were also used to inform the development of the tentative components of the remotivation construct. Next, a sample of items tapping each component of remotivation was prepared and given to three Ph.D. holders in TEFL. Once the remotivation questionnaire was developed, it was administered to the 235 participants. The collected data were subject to EFA, CFA, and Cronbach's Alpha to establish the validity and reliability of the instrument.

Findings and Discussion

This study explored the components of the construct of Iranian EFL teachers' perceptions of their strategies to remotivate Iranian EFL learners. EFA was carried out to explore the components of the remotivational strategies questionnaire (RSQ). Initially, it was deemed necessary to check the factorability of the data for running EFA. To this aim, the KMO index and Bartlett's test were used. The results are shown in Table 3.

Table 3
Bartlett's Test and KMO Index Results

KMO index		.772
Bartlett's test	χ^2-statistic value	4899.45
	DOF (df)	148
	P-value	.001

As noticed in Table 3., the value of the KMO index turned out to be 0.772. Accordingly, the 23 RSQ items can be reduced to fewer factors, and the sample size is sufficient for this purpose. Also, according to Bartlett's significance test, it can be said that there is a significant difference in the correlation matrix among the 23 RSQ items at the significance level of 0.001 ($p < 0.01$). Thus, there is a significant correlation between the items within each factor to be extracted, while there is no significant correlation between the factor items and other factors. Then, the percentage of the variance of each item

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explained by the set of the intended factors was determined. This amount of variance for each variable is called pooled variance. Table 4 presents the covariance rate.

Table 4
Covariance Indices of RSQ Items

Item Number	Percentage of variance extracted
Item 1	.82
Item 2	.62
Item 3	.80
Item 4	.86
Item 5	.71
Item 6	.76
Item 7	.71
Item 8	.88
Item 9	.66
Item 10	.78
Item 11	.85
Item 12	.75
Item 13	.97
Item 14	.95
Item 15	.82
Item 16	.97
Item 17	.66
Item 18	.98
Item 19	.72
Item 20	.96
Item 21	.88
Item 22	.83
Item 23	.97

According to this table, the minimum and maximum pooled variance indices are 62% and 98%, respectively. As a general rule, if the pooled variance of a variable is less than 50%, it should be excluded from the EFA process. Since the average variances extracted (AVE) for all the items fell above 50%, all items were retained for EFA. The next step was to determine the contribution of each factor in explaining the sum of the variances of all items. This step determines the percentage of the total variance of the items explained by each factor. Finally, several factors are extracted to explain the significant variance (at least 70%) and prevent data loss. For this purpose, three methods are used: Kaiser criterion (eigenvalues method), cumulative variance, and Scree plot. Only factors with an eigenvalue greater than 1 are selected in the Kaiser method. Table 5 displays the eigenvalues of the cumulative variance of extracted factors on RSQ.

Table 5
Eigenvalues of Cumulative Variance of Extracted Factors on RSQ
Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	8.12	35.33	35.33	7.91	34.41	34.41	7.90
2	7.72	33.59	68.93	6.56	28.52	62.94	7.83
3	5.35	23.29	92.22	5.26	22.88	85.83	5.60

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

As presented in Table 5, the EFA method extracted three factors with eigenvalues greater than 1 based on the data. In the cumulative variance method, selecting the three factors explained about 92% of the variance of the variables. Also, as shown in Figure 1, a sudden fall of the Scree plot can be observed after the initial three factors.
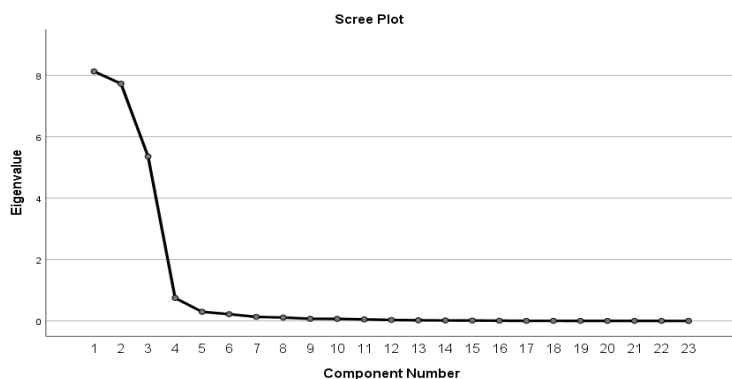

Figure 1 Scree Plot of the RSQ

To provide further assurance in regard to the existence of three factors and unravel the items for each factor, the output of rotated component matrix was consulted. Table 6 presents the respective results.

Table 6
Rotated Component Matrix Results for Extracted Factors on RSQ

	Component		
	1	2	3
Item 1			.83
Item 2			.72
Item 3			.74
Item 4			.71
Item 5			.84
Item 6			.71
Item 7			.71
Item 8		.88	
Item 9		.78	

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Item 10		.84
Item 11		.84
Item 12		.83
Item 13		.94
Item 14		.72
Item 15		.65
Item 16	.71	
Item 17	.64	
Item 18	.72	
Item 19	.87	
Item 20	.72	
Item 21	.88	
Item 22	.92	
Item 23	.88	

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 4 iterations.

As indicated in Table 6, items 1, 2, 3, 4, 5, 6, and 7 belong to the first factor, while items 8, 9, 10, 11, 12, 13, 14, and 15 represent the second factor, and items 16, 17, 18,19, 20, 21, 22, and 23 fit the third factor. To examine whether the developed questionnaire fits the Iranian EFL teacher population, CFA was run on the extracted factors of the teachers' RSQ.
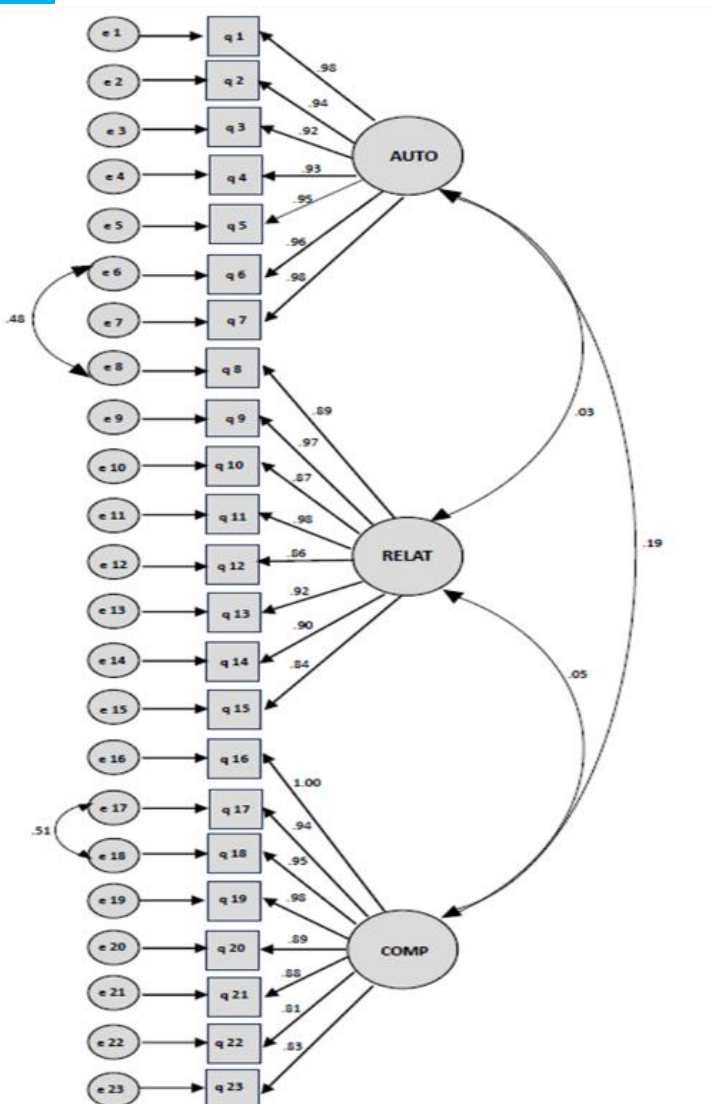
Figure 2 CFA Model of the Teachers' RSQ

As the information in Figure 2 indicates, the standardized factor loadings for the items are all above .70, which is considered satisfactory. Table 7 presents the goodness of fit indices (GFIs) for the factor analysis model of the teachers' RSQ.

Table 7
GFIs of Factor Analysis Model of the Teachers' RSQ

GFI type	The range for acceptable fitness	The range for good fitness	Observed GFI	Result
χ^2(df)-statistic value	χ^2.df ratio<5	χ^2.df ratio = 3	178.221 (65)	Good fitness
P-value of the χ^2 test			<0.00002	Good fitness

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			2.95	Good fitness
χ².df ratio				
RMSEA	χ².df ratio<0.07	χ².df ratio<0.05	0.032	Good fitness
P (RMSEA<0.05)	χ².df ratio>0.05	χ².df ratio>0.1	0.0002	Good fitness
CFI	χ².df ratio>0.90	χ².df ratio>0.95	0.981	Good fitness
NNFI	χ².df ratio>0.90	χ².df ratio>0.95	0.972	Good fitness
GFI	χ².df ratio>0.85	χ².df ratio>0.90	0.911	Good fitness
AGFI	χ².df ratio>0.85	χ².df ratio>0.90	0.904	Good fitness

Based on the information in the above table, this model has good fitness according to the data and is acceptable in terms of all good fitness indices. Table 8 portrays the significance of factor loadings of the teachers' RSQ factor analysis model.

Table 8
Significance of Factor Loadings of the Teachers' RSQ Factor Analysis Model

Path			Estimate of unstandardized factor loading	Estimate of standardized factor loading	t-statistic value	P-value
Q1	<---	Autonomy	0.833	0.032	22.451	<0.0001
Q2	<---	Autonomy	0.822	0.013	21.358	<0.0001
Q3	<---	Autonomy	0.878	0.023	25.412	<0.0001
Q4	<---	Autonomy	0.931	0.018	28.225	<0.0001
Q5	<---	Autonomy	0.922	0.031	40.312	<0.0001
Q6	<---	Autonomy	0.988	0.025	39.456	<0.0001
Q7	<---	Autonomy	0.851	0.012	42.470	<0.0001
Q8	<---	Relatedness	0.935	0.051	11.105	<0.0001
Q9	<---	Relatedness	0.842	0.041	19.126	<0.0001
Q10	<---	Relatedness	0.877	0.017	32.187	<0.0001
Q11	<---	Relatedness	0.895	0.019	40.125	<0.0001
Q12	<---	Relatedness	0.941	0.022	25.231	<0.0001
Q13	<---	Relatedness	0.854	0.035	32.156	<0.0001
Q14	<---	Relatedness	0.865	0.024	28.228	<0.0001
Q15	<---	Relatedness	0.869	0.001	32.125	<0.0001
Q16	<---	Competence	0.877	0.010	36.145	<0.0001
Q17	<---	Competence	0.897	0.019	50.212	<0.0001
Q18	<---	Competence	0.935	0.035	60.123	<0.0001
Q19	<---	Competence	0.932	0.039	24.119	<0.0001
Q20	<---	Competence	0.902	0.028	39.257	<0.0001
Q21	<---	Competence	0.811	0.038	38.189	<0.0001
Q22	<---	Competence	0.993	0.045	30.212	<0.0001
Q23	<---	Competence	0.921	0.021	41.185	<0.0001

As shown in Table 8, all factor loadings are significant (<0.5), indicating that this model has a good fit and is acceptable based on the collected data. To establish the reliability of

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the RSQ and its three extracted factors, Cronbach's Alpha was run on the obtained scores. Table 9 presents the respective results.

Table 9
Cronbach's Alpha Results for the RSQ and the Extracted Factors

	N of Items	Cronbach's Alpha
Factor 1 (Autonomy)	7	.82
Factor 2 (Relatedness)	8	.88
Factor 3 (Competence)	8	.86
RSQ	23	.86

As noticed in Table 9, all the reliability indices were above .70 and hence considered satisfactory. Table 10 displays the items and the extracted factors associated with the content items belonging to each factor, along with the descriptive statistics.

Table 10
The Items and the Extracted Factors for the RSQ

No	Factor	Item	EST Layer	Mean	SD
Item 1		I give learners control over the learning content.	Micro	3.06	.98
Item 2		I encourage learners to voice their needs and wants.	Micro	3.09	.99
Item 3		I ask other teachers about how they accommodate learners' preferences in teaching.	Meso	2.09	.71
Item 4	Autonomy	I ask the supervisor about the ways learner control can be promoted.	Meso	2.06	.78
Item 5		I explain how learners' autonomy is related to motivation in professional meetings.	Exo	1.54	.62
Item 6		I draw colleagues' attention to promoting learners' autonomy in teacher development sessions.	Exo	1.47	.61
Item 7		I hold and promote a holistic view towards accommodating learners' control and preferences.	Macro	1.13	.57
Total Items 1 to 7		Total Autonomy		**2.06**	**.75**
Item 8		I encourage learners to cooperate in learning.	Micro	3.16	.69
Item 9		I ask learners to respect each other's opinions.	Micro	4.15	.68
Item 10		I teach learners to empathize with other classmates.	Micro	4.17	.68
Item 11	Relatedness	I seek colleagues' advice concerning the improvement of interpersonal relationships between learners.	Meso	2.57	.68
Item 12		I ask the board of managers for holding sessions on how to cultivate rapport among learners.	Meso	2.46	.69
Item 13		I explain the linkages between cooperative learning and motivation in professional meetings.	Exo	2.17	.69
Item 14		I explicate how teachers' acknowledgement of the benefits of cooperation leads to more student motivation in teachers' meetings.	Exo	2.15	.68

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Item 15		I hold and promote a multidimensional view towards cooperative learning.	Macro 1.88	.59
Total Items 8 to 15		Total Relatedness	**2.84**	**.67**
Item 16		I encourage learners to self-assess themselves	Micro 3.73	1.35
Item 17		I encourage learners to compare their performance with others.	Micro 4.19	1.34
Item 18		I complement learners who have good performance.	Micro 3.65	1.35
Item 19	Competence	I seek more experienced teachers' expertise in regard to learners' self-assessment techniques.	Meso 3.21	1.34
Item 20		I ask the board of education for holding sessions on self-assessment.	Meso 3.29	1.34
Item 21		I emphasize a process-oriented perspective towards learners' competence in teacher development sessions.	Exo 2.19	1.34
Item 22		I explain the linkages between colleagues' perceptions of competence and development of learners' competence in teachers' meetings.	Exo 2.16	1.34
Item 23		I hold and promote a multi-perspective, competence-development view in teaching and learning.	Macro 1.31	.85
Total Items 16 to 23		Total Competence	**2.97**	**1.28**

As demonstrated in Table 10, the total mean for the autonomy aspect turned out to be 2.06 while the total mean indices for the relatedness and competence equaled 2.84 and 2.97. These numerical values indicate that teachers display a lower inclination for the autonomy-related remotivational strategies as compared with the relatedness and competence dimensions. Table 11 presents descriptive statistics of the RSQ in regard to the quadripartite EST layers.

Table 11
Descriptive Statistics of the RSQ for the Quadripartite EST Layers

	N of Items	Mean	Std. Deviation
Microsystem	8	3.65	.49
Mesosystem	6	2.61	.53
Exosystem	6	1.95	.34
Macrosystem	3	1.44	.39

As demonstrated in Table 11, the score means for the microsystem, mesosystem, exosystem, and macrosystem layers of EST were 3.65, 2.61, 1.95, and 1.44, respectively. This indicates a decline in teachers' inclinations to adopt motivational strategies from the micro to the macro levels of the system.

This study aimed to develop and validate a questionnaire for measuring EFL teachers' remotivational strategies via an integrative framework encompassing SDT and EST. The results of EFA, CFA, and Cronbach's Alpha indicated that the developed questionnaire, constituting three factors, possesses acceptable psychometric properties in

measuring teachers' remotivational strategies. Moreover, the results indicated that the three SDT factors fit into the quadripartite EST. Additionally, the results demonstrated a decline in teachers' inclinations of adopting remotivational strategies from the micro level to the macro level of EST.

The results of the current study concerning the autonomy dimension of remotivational strategies are consist with the findings of previous investigations (e.g., Bernaus & Gardner, 2008; Hu & Zhang, 2017; Liu, 2015) in terms of associations between autonomy and motivation. As for learners' control over the learning content, acknowledging learners' voices, and their preferences, the results of the current study substantiate the findings of extant empirical studies (e.g., Cheng & Dörnyei, 2007; Keskin, 2019; Lee & Lo, 2017; Wang & Littlewood, 2021) regarding the interconnection between these concepts and learners' motivation. Such results suggest that teachers should consider the role of learners' autonomy and choice and voice when delivering remotivational strategies.

The results of this study regarding the relatedness aspect of SDT corroborate the findings of previous studies for the associations between motivation, on the one hand, and cooperative learning (Bećirović et al., 2022), social presence (Ebadi, & Amini, 2022), and the importance of encouraging social relationships among learners (Cheng & Dörnyei, 2007; Sugita & Takeuchi, 2014), on the other hand. Such findings confirm the importance of interpersonal and social relationships in motivating learners. Thus, teachers should regard the pivotal role of relatedness when delivering remotivational strategies.

The results of the present study about the competence facet of SDT corroborate the findings of previous studies regarding the associations between motivation and competence (Deci & Ryan, 2002) in general and motivation and assessment in particular (Bui & Nguyen, 2022; Chou, 2014; Ritonga et al., 2022). Encouraging learners to self-assess themselves and compare their performance with others can assist learners in developing their ability to learn the subject matter more effectively, as through assessment, learners will understand their strengths and weaknesses. Accordingly, teachers should acknowledge and accommodate the important role of assessment when attempting to remotivate learners.

The results of the study concerning a pattern of decrease in the number of theme instances from the microsystem layer to the macrosystem layer can be justified in the progressive complexity of the EST for the micro to macro level (Bronfenbrenner, 1979). The microsystem is concerned with only the immediate environment, hence quite tangible for capturing the developmental process (Guo & Lee, 2023). Conversely, the macro system entails a high level of complexity as it characterizes the interconnection and inter-dependence of several layers (King, 2021). This finding suggests that teacher educators should assist teachers in expanding their understanding of the higher layers of the EST.

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Conclusion

This study demonstrated that the developed RSQ possesses acceptable psychometric properties in measuring teachers' remotivational strategies. This finding suggests that the questionnaire can be a reliable tool for assessing EFL teachers' perceptions of their strategies to remotivate their learners. The three factors identified by the questionnaire (autonomy, relatedness, and competence) can serve as a useful framework for guiding teacher training programs and professional development workshops to enhance teachers' understanding of remotivational strategies. Overall, this study provides valuable insights into EFL teachers' perceptions of remotivational strategies and highlights the importance of considering individual and contextual factors when designing interventions to enhance learner motivation. More specifically, through the integrative framework, this study provided a robust, multi-dimensional, and holistic perspective which lent itself to uncovering the complexities and multi-dimensionalities inherent in language teachers' cognition in general and their perceptions of remotivational strategies.

The integrative framework adopted in this study can be employed by researchers in the future to address teachers' perceptions in terms of strategies they use to develop learners' self-efficacy self-regulation, and learning engagement. Moreover, studies can compare teachers' remotivational strategies in online and face-to-face teaching contexts. Other investigations may compare teachers' remotivational strategies across private and public educational contexts as previous studies (e.g., Ghasemi, 2022; Simpson et al., 2022) have demonstrated contextual variations as factors contributing to teachers' perceptions. Future research may draw on other extant theoretical frameworks related to motivation such as motivational self-system to enrich the literature regarding teachers' remotivational strategies in the light of EST.

Bio-data

Hadis Sadr Alavian is a Ph.D. candidate at the department of English language at Islamic Azad university in Bonab, Iran. She has taught at different language institutes across the country. Her research interests include teacher education, affective variables in language learning, and EFL learners' writing and vocabulary development. She has published two books in the realms of research methodology and teaching methodology. She has also published an article in *Teaching English as a Second Language Quarterly*.

Hassan Asadollah Fam is an assistant professor at the department of English language at Islamic Azad university in Bonab, Iran. His research interests encompass English and Persian linguistics, minimalist, syntax, semantics, and first and second language acquisition, and discourse analysis. He has published extensively in various local and international journals including *System, International Journal of Language Testing, International Journal of Emotional Education, Research in English Language Pedagogy, and Journal of Language and Translation,* among others.

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Mohammad Hossein Yousefi is an assistant professor at the department of English language at Islamic Azad university in Bonab, Iran. His research interests constitute teacher education, professional identity, reflective practice, multiple identities, and meta-analysis. He has published extensively in various local and international journals including *The Asian-Pacific Journal of Second and Foreign Language Education, Reflective Practice, Journal of Modern Research in English Language Studies, Theory & Practice in Language Studies, International Journal of Multicultural Education, and The Journal of Applied Linguistics and Discourse Analysis,* among others.

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Third Author: Reviewed the final draft, helped with the data analysis.

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