Validating Factor Structure of the Persian Version of Emotion Regulation Strategies Inventory among Iranian EFL University Teachers

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Abstract: The Persian translation of the emotion regulation strategies inventory (Gross & John, 2003) was validated among Iranian EFL teachers. The predictive power of variables (i.e. educational background, working experience, gender, and age) was also appraised. The present study sought to evaluate the psychometrics of the translated version of the emotion regulation strategies inventory among Iranian EFL teachers and investigate the extent to which demographic variables (gender, age, teaching experience, and educational background) can predict the regulation of emotions. To do so, 250 EFL teachers with at least five years of teaching experience at the state universities of Isfahan and Fars provinces were invited to take part in the study. The non-random convenient sampling technique was then adopted. Filling out the inventory was done after class time. The results of the principal component analysis (varimax rotation) verified the original two-factor model. The multiple regression analysis done by AMOS software also revealed that demographic variables could significantly affect teachers' emotion regulation, though their effect in the present sample was small (R^2=0.08 and R^2=0.02). The results also suggested that the teachers disagreed about the use of expressive suppression in their classes (m=3.28) and were rather undecided as to the use of cognitive reappraisal in their teaching (m=4.49).

Keywords: EFL Teachers, Emotion Regulation Strategies, Principal Component Analysis, Structural Equation Modeling, Multiple Regression Analysis.

Introduction

Not so long ago, the fragility of the relationship between emotion and its regulatory strategies on the one hand and language teaching and learning on the other hand could easily be felt. Language teachers, like all other staff, may be filled with, or even chocked by emotions, or need to release their emotions. A sudden rush of anger due to personal problems, a surge of annoyance because of conflicting issues with administrators or a wave of distraction as a result of students' misbehaviors would not distinctly taste odd (Katz et al., 2018). On the other hand, the affectionate hug, the empathic knowledge, and the inspired suggestion could tangibly be traced in the teacher-student interaction. What is important here is how teachers cope with their emotions during their class time (Taxer & Gross, 2018). Teachers have repeatedly highlighted the role of emotion management and control in their language classes (Chang, 2009). Teacher educators are required to develop effective strategies as for how teachers encounter problems or criticisms posed by students, their parents, and even managing directors (Jennings & Greenberg, 2009).

The product of such a regulatory mechanism can easily be tracked in an increased sense of well-being, as noted by Taxer and Frenzel (2015), classroom management and teaching efficacy, as stated by Sutton (2005), and pupils' motivation arousal, as cited in Becker, Goetz, Morger, and Ranellucci (2014) as well as van Doorn, van Kleef, and van der Pligt (2014). On the other hand, the hand-in-hand relationship of emotion and cognition in learning is now largely verified (c.f. Hargreaves, 2001). The more teachers and students, both, regulate their emotions, the more they can resort to their mental faculties, and the better they can teach and learn. Meanwhile, the role of an objective test that can specify the degree to which we, either as language teachers or language learners, can manipulate our emotions cannot be denied. Scholars have so far attempted to develop questionnaires that can vividly tell us how competent we are in controlling our emotions, one of which is the inventory devised by Gross and John (2003). Although this questionnaire has numerously been employed in different studies (e.g. Balzarotti, Jahn, & Gross, 2010; Gomez-Ortiz et al., 2016; Hasani, 2016; Lotfi et al., 2019; Melka, Lancaster, Bryant, & Rodriguez, 2011; Nolen-Hoeksema & Alado, 2011), its psychometrics among EFL teachers has seldom been reported among EFL teachers. Accordingly, the present study seeks to evaluate the psychometrics of the translated version of the emotion regulation strategies inventory among Iranian EFL teachers and investigate the extent to which demographic variables, including gender, age, teaching experience, and educational background, can predict the regulation of emotions.

Literature Review

Theoretical Framework

Evidently, in order to know how we can cope with the flood of our emotions and regulate them, we first need to identify its construct, that is, what constitutes emotion and emotion regulation in learning and teaching, and then plan to manipulate them. Emotion regulation has developmentally, cognitively, biologically, socially, and clinically been studied. Personality-based studies have also been reported (e.g. Bargh & William, 2007; Gross, 2007; Purnamaningsih, 2017; Sapolsky, 2007; Watts, 2007). A number of models, accordingly, have been suggested thereof, three of which are the focus of this review, namely, the two-factor model proposed by Campos, Frankel, and Camras (2004), the emotion regulation process model developed by Gross (2007), and the emotion regulation model put forward by Koole (2009). These models have been selected as they are most frequently reviewed and employed in the literature and pertains to the current work as well.

Conceptualizing emotion regulation, Campos et al. (2004) delineate two episodes of a scene, arousal of emotion and emotion release. That is to say, whatever is related to provoking the emotion is related to the first factor, while the second one involves what we do to confront a gamut of emotions, whether shake with them or suppress them. Though these two seem to be distinct, they are rather two parts of one whole; while interacting with an event, the person may experience a particular emotion, and does everything, whether for better or worse, to deal with such an interaction. This scenario may at first lead to a simplified classification of emotions as good or bad ones, and to an attempt to develop strategies to make utmost use of good emotions, while lesson as much as possible the bad ones. Nonetheless, this simplified delineation, according to these scholars, does not reflect the true nature of the regulatory mechanisms in emotion management. Emotion generation and regulation processes are in fact one factor, occurring concurrently within an individual, even regulatory strategies are plain prior to emotion elicitation. They are both inspired by the same processes. What imparts meaning to the emotions and provokes a set of emotions is environment or context. The regulation of the range of emotions in such a context is interwoven with the person's goal line Campos et al. (2004).

In a similar vein, to conceptually set the foundation of emotion regulation, Gross (2007) refers to the goal-oriented path of emotion regulation where the person finds a specific context or situation relevant or irrelevant to his/her goals, thus provoking a gamut of emotions. Four factors linearly mark our emotions, that is, "situation, attention, appraisal, and

response" (Gross, 2007, p. 5). Attending a specific situation, whether external or internal, may lead to emotion appraisal, if it is internally awarded or is recognized as relevant, or emotion suppression, if it is not internally awarded, thus resulting in a response to the situation. This response itself can change the situation, for better or worse, and discursively proceeds this linear path. Core to all emotion regulation conception, according to Gross (2007), are three facets. First, regulation of emotions occurs whether positively or negatively. Second, though initially seems conscious, the regulatory strategies later appear to occur with little awareness. Third, there is no predetermined goodness or badness in making the sketch of emotion regulation. Along with, coping styles, defense mechanisms, and regulatory mechanisms related to moods, emotion regulation can be categorized as one part of the affect dimension. Further refining the model, Gross (2007) suggests five components inherent to emotion regulation strategies. The first two components are related to the first aforementioned factor, i.e. situation (selection and modification of situation); the second factor deals with attention (deploying attention modules). The third factor denotes how we appraise the emotions in the context (i.e. changes in our cognition), and the last is about our responses to a situation (modulating our responses). Underlying the model under investigation in this study are two factors related to changes in cognition and modulation of responses, that is, cognitive reappraisal and expressive suppression, respectively. The former denotes redefinition of the situation where the person is trapped so as to get rid of negative affect. The latter, on the other hand, refers to how one modulates, that is, regulates, his behavior when expressing emotions. Suppose that due to the misbehavior of your student, you are irritated and chocked with frustration. Making your mind to express, display, or show your emotion, or rather, suppress and hide it, depends on expressive suppression strategies. That is, you decide to modulate your response for better or worse (Gross, 2007).

The third model discussed here was proposed by Koole (2009). According to him, it is difficult to realize whether the response made by the person is regulated or not, i.e. whether the person consciously feels emotion and clearly regulates behavior or not. Koole (2009) believes that people usually respond to a situation in two ways. That is to say, they initially draw on an unregulated response, called emotional sensitivity, and later modulate their action and evoke a regulated behavior, called emotion regulation. When the person feels a particular sense of emotion, whether negative or positive, he/she has high sensitivity, thus bringing forth a sudden wave of uncontrolled range of emotions. When the person is shaking with the emotion, he/she unconsciously up-regulates his/her emotions. The secondary loop of the

cycle occurs when the time passes, that is, the person gradually overcomes the sensitivity and does his best to control and regulate the surge of emotions, thus down-regulating the intensity of emotion. This secondary behavior is what emotion regulation does. As to the strategies taken to regulate emotion, Koole (2009) believes that in order to find out what strategies people adopt to regulate their emotions, first, we should study the systems that lead to the generation of such emotions, among which three are noteworthy. First, from a large number of inputs encoded by the sensory system of the mind, people decide to opt for those processes giving them a particular sense or feeling, thus attending to a specific input. This attention is one of the systems that have been of particular interest in studying how emotions are generated. Second, people use what they know about the situation in order to generate emotions. That is, the knowledge they have impact their regulatory mechanism. An instance of such knowledge is the cognitive appraisal, which is just mentioned, that is, when the person appraises the situation and emotionally generates a response. The third system involves all body movements and gestures that people make when releasing emotion. This system is particularly studied when the person adopts the strategies to express or suppress his/her emotions (i.e. expressive suppression) (Koole, 2009).

So far, we have reviewed the three models proposed as to how people regulate their emotions. This study focused on the second model proposed by Gross (2007). In 2003, Gross together with his colleague, John, invented an instrument based on two types of strategies, i.e. cognitive reappraisal and expressive suppression, to measure the strategies people adopt to regulate their emotions. This inventory has numerously been applied in various fields, including but not limited to psychology, education, and psychotherapy. The psychometric evaluation of the inventory was also done in different cultures. Also, the inventory had previously been translated by Hasani (2016), and its factor structure was verified; However, since the inventory was administered to university students and not EFL teachers, this study made an attempt to explore the factor structure of the inventory among Iranian EFL teachers.

Empirical Studies

The psychometric properties of ERQ have been examined in various countries. Balzarotti, et al., (2010) validated ERQ in Italy. An undergraduate sample of students comprising 416 students was selected. The factor structure of the adopted scale was then appraised. The results confirmed the two-factor structure of the inventory, i.e. four and six items explained expressive suppression and cognitive reappraisal, respectively. The subsequent confirmatory

factor analysis also verified the obtained structure. In Spain, Gomez-Ortiz et al. (2016) validated the inventory in a sample of 2060 students. Thus, the inventory was translated into Spanish and distributed among the students. The results of the exploratory factor analysis revealed a two-factor structure. In addition, confirmatory factor analysis indicated that the data were well fitted with the original model under investigation. The reliability of the scale was found to be 0.75 and 0.78 for expressive suppression and cognitive reappraisal, respectively. Melka et al. (2011) also confirmed the inventory among a multiethnic group of undergraduate students.

In Iran, Hasani (2016) examined the factor structure of the Persian adaptation of the inventory among university students. ERQ was translated and administered to 540 students. The internal consistency of the inventory varied between 0.81 and 0.91. The model fit indices were also acceptable. Thus, the authors concluded that the inventory could be used as a valid and reliable scale among university students. In another study, Lotfi et al. (2019) validated the questionnaire among a sample of public elementary and secondary school students in Iran. Both exploratory and confirmatory factor analyses verified the factor structure of the inventory. Thus, they pointed to the conclusion that the Persian translation of the inventory could safely be administered among public students in Iran.

Although ERQ has been shown to have plausible psychometric properties among the students, its factor structure is open to dispute among a larger sample of adults in the communities. Spaapen et al. (2014) validated the inventory among a sample of UK and Australian adults and found that exploratory factor analysis could not extract and load the items as it was. By removing one item, however, the model fitted the data and was confirmed. Thus, a 9-item structure was verified. Likewise, Balzarotti (2019) investigated an adult sample in Italy and confirmed an eight-item structure. The author concluded that the inventory could well be confirmed among students, while in larger community samples a number of changes, including dropping items, may be required.

As to age and gender differences, Nolen-Hoeksema and Aldao (2011) concluded that the use of emotion regulation strategies in females exceeded that in males; among women, they also observed that the older they got, the higher the use of suppression was. This pattern, however, was not seen among men. They also found a correlation between depression and the use of maladaptive strategy use in both females and males as well as all age groups. Likewise, Zimmermann and Iwanski (2014) found that with growing age people tend to use more adaptive strategies, though a number of variations may be encountered in this path.

They also reported no significant differences between males and females in employing adaptive emotion regulation strategies. Zhang et al. (2020) also investigated how the use of emotion regulation strategies could mediate between depressive symptoms and forgiveness, and whether (or not) this mediating role differed among females and males. They found that the use of the given strategies could partly mediate between the two mentioned variables, where the intervening impact of cognitive reappraisal in females was meaningfully higher in comparison with males.

As to teachers' emotions, Jian, Vauras, Volet, and Wang (2016) found that the role of reappraisal, in comparison with expressive suppression, was more highlighted when fostering positive emotions, rather than negative ones, were taken into consideration. In another study, Taxer and Gross (2018) used the model suggested by Gross to investigate the use of emotion regulation strategies among teachers. The authors underlined that the use of response modulation, as an expressive suppression strategy, albeit verifying that teachers resorted to different types of regulation strategies. Although the literature on emotion regulation strategy use among different groups is thick, a handful can be found related to the validation of a sound inventory among EFL teachers in Iran, which is the purpose of the present study. Thus, to fill the given gap, the authors did their best to adopt and validate one of the most commonly used emotion regulation strategy questionnaires among the EFL university instructors in Iran via both confirmatory and exploratory factor analyses. It was also tried to probe the effect of gender, age, teaching experience, and educational background, on the use of ER strategies through multiple regression analysis.

Methodology

Participants

Two hundred and fifty EFL teachers (131 female and 119 male), teaching at different universities in Iran, participated in this study. Teachers were chosen from a number of state and Islamic Azad universities, including the University of Isfahan, Isfahan University of Medical Science, Isfahan University of Technology, Sheikh Bahaei University, Shiraz University, Jahrom University, Islamic Azad Universities of Najafabad, and of Khorasgan. The non-random availability sampling technique was followed in this study. It should also be noted that the authors did their best to select a rather equal number of participants from each university. They all had the experience of teaching the English language to EFL learners (5 to 30 years). Teachers' age ranged from 25 to 50 years, and their educational degrees varied

from MA (n=165) to PhD (n=85) of TEFL (Teaching English as a Foreign Language).

Instrument

The teachers' questionnaire (see appendix A) which was given to the teachers consisted of two parts. In the first part of the questionnaire, teachers were asked how old they were, whether they were female or male, how long they had been teaching English, and what degree they received from the university. The second part was the inventory itself. A total number of 10 statements were provided for the respondent to select the degree to which they agreed or disagreed with the statements. The questions appraised how they felt they were cognitively involved, that is, cognitive reappraisal (CR), and how they expressed or showed the surge of emotions they encountered, namely expressive suppression (ES). The inventory was first translated into Persian (see appendix B) to ensure the inventory was perfectly comprehensible to the participants, and the expert judgment was used to examine the understandability of the translation by three experts. It is noteworthy that the developers limited the inventory to ten items so as to restrict the statements to only those which examine the two related subcomponents, that is, cognitive reappraisal and expressive suppression, and to clear up any possible confusion with other positive/ negative affect.

Procedure

Next to obtaining the permission of the authors of the inventory, the questionnaire was translated by the researchers. To ensure the maximum comprehensibility, three experts in the field were invited to read the translated items meticulously so as to remove potential ambiguities. The inventory was then administered to EFL teachers. Filling out the inventory was done after class time. It took nearly 15 minutes. Subsequently, the psychometric properties of the inventory were appraised using SPSS and AMOS software.

Data Analysis

With the help of the Statistical Package for Social Sciences (SPSS) and AMOS software, the pertaining data were analyzed. For checking the internal consistency of the questionnaires, the Alpha coefficient was used. Descriptive statistics of the studied variables, including frequency, mean, and standard deviation, were conducted. The factor structure of the inventory was assessed by principal component analysis (PCA), using varimax rotation. The confirmatory factor analysis was done using AMOS software. To predict the effect of

educational background, working experience, gender, and age on the use of the related strategies, multiples regression analysis was done using AMOS software.

Results

Exploratory Factor Analysis

To examine the factorial arrangement of the hypothesized model, PCA was done. Based on the results of the KMO test of sampling adequacy, the sampling was adequate, though not marvelous (.73). Bartlett's test also denoted the significance of sphericity or the relationship between the variables (0.000).

Table 1. *KMO and Bartlett's Test for ERQ*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.735
Bartlett's test of sphericity	Approx. Chi-Square	875.419
	df	45
	sig.	.000

Initially, three factors, explaining nearly 67% of the total variance, had eigenvalues > 1. To ensure what factors should remain for further analysis, the authors used O'Connor's syntax to do parallel analysis. Based on the results, only the eigenvalues of the first two factors were more than the mean eigenvalues of the random data. Thus, the two factors were used for further analysis.

Table 2. *Parallel analysis for ERQ*

Components	Initial Eigenvalues	Random data eigenvalues
1	3.37	1.32
2	2.34	1.22
3	1.04	1.14

The principal component analysis was subsequently done with varimax rotation. The results confirmed the original model, that is to say, the loaded items on the first factor included 1,3,5,7,8, and 10, while the loaded items on the second factor consisted of 2,4,6, and 9. The rotated statements had values between .5 and .8.

Table 3. *Rotated Component Matrix: Principal Component Analysis*

Components	Cognitive Reappraisal	Expressive Suppression
S1	.66	
S2		.86
S3	.77	
S4		.78
S5	.54	
S6		.86
S7	.73	
S8	.68	
S9		.69
S10	.70	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

The Reliability of the Questionnaire

The internal consistency of the questionnaire together with its two subcomponents was appraised using Cronbach's alpha. The results (Table 4) indicated that the inventory enjoyed adequate internal consistency (>.70).

Table 4. *Reliability Analysis of ERQ*

Factor	Cronbach's Alpha	N of items
ERQ	.77	10
CR	.77	6
ES	.83	4
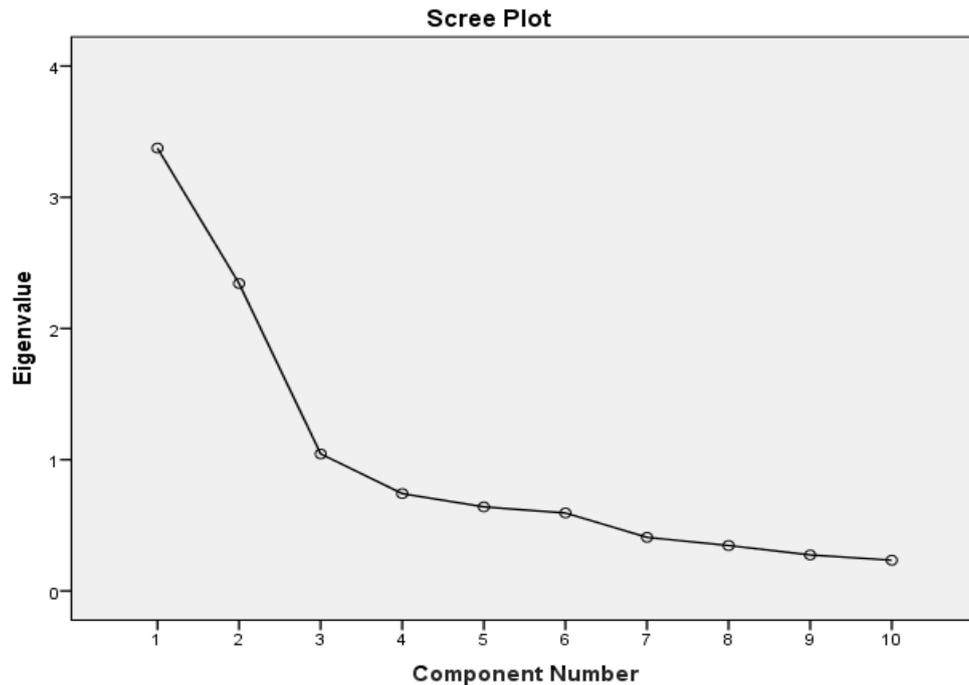
Figure 1. *Scree Plot for ERQ*

Confirmatory Factor Analysis

The fit indices in Table 5 indicated that the two-factor model of ERQ was confirmed. CMIN /Df was 4.12, which was below the suggested value 5; CFI was more than 0.90 (=0.93), PCFI was 0.54 which was greater than 0.50, and RMSEA was less than 0.08 (=0.06). In addition, the two latent variables (CR and ES) under investigation (Figure 2) partially correlated (r= 0.18), indicating that the distinctness of the construct. Therefore, the model did not need to be modified.

Table 5. *The Goodness of Fit Statistics of ERQ*

Model fit index	PCFI	CFI	CMIN/ Df	RMSEA
Value	0.54	0.93	4.12	0.06
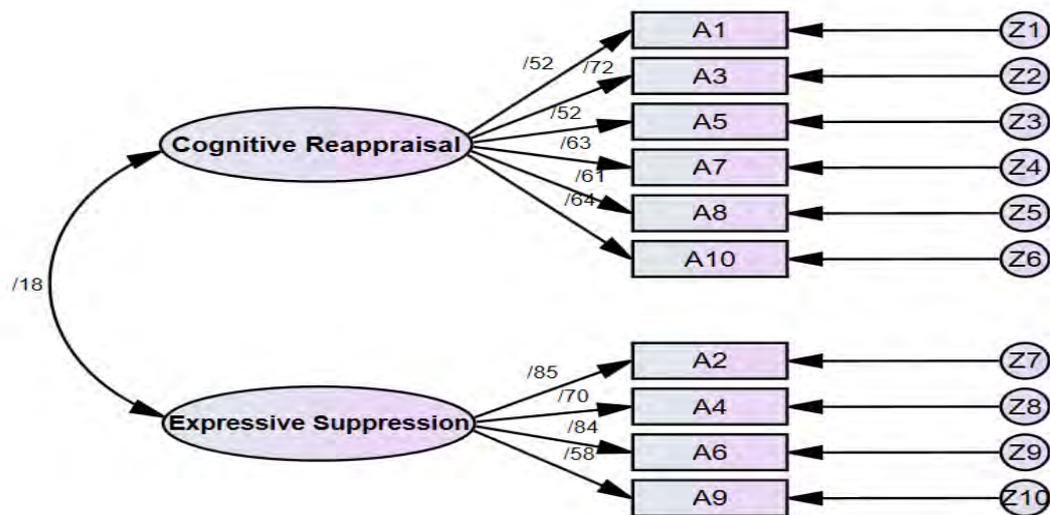
Fig 2. *Standardized factor loading for CFA of ERQ*

Descriptive Statistics of Teachers' Questionnaires

Table 6 reports the descriptive statistics, containing mean and standard deviation of ERQ components (CR and ES).

Table 6. *Descriptive Statistics of Variables*

Variables	Frequency	Mean	Std. Deviation
CR	250	4.49	0.97
ES	250	3.28	1.29

The descriptive statistics summarized in Table 6 shows that the mean scores of CR and ES were 4.49 and 3.28, respectively, indicating that the participants rather disagreed on the use of expressive suppression strategies in their classes, while they tended to agree with the application of cognitive appraisal strategies in their teaching. Since the mean score of CR was 4.49, it can also be inferred that the teachers were somehow undecided whether they employed such strategies in their classes to control their emotions or not.

The Effects of Age, Gender, Teaching Experience, and Educational Degree on ER Strategies

In order to find out the effect of the independent variables, that is, age, gender, teaching experience, and educational degree, on the dependent variables (i.e. cognitive reappraisal and expressive suppression strategies) multiple regression models were developed. Figure 3 shows the extent to which CR strategy use can be predicted by EFL teachers' age, gender, educational degree, and years of teaching experience. According to the multiple regression model and its standardized output from AMOS, it can be said that only 8 percent of CR strategy variance can be explained by independent variables, such as educational background, working experience, gender, and age (coefficient of determination (R^2) = 0.08).

Fig 3. *Multiple regression for the effect of age, gender, education degree, and years of teaching experience on CR strategy use*

Table 7. *Bootstrapping Test Output in Coefficient of Determination*

Standardized value	upper limit	Lower limit	Significance level
0.08	0.16	0.03	0.01

The value of significance level, according to the bootstrapping test's output in the coefficient of determination, was reported to be 0.01 (<0.05), it was not 0 in the upper and lower limit intervals. Thus, statistically, CR strategies can be predicted based on variables,

including educational background, working experience, gender, and age, though this effect in the sample under investigation was low.

Figure 4 indicates the extent to which ES strategy use can be predicted by EFL teachers' age, gender, educational degree, and years of teaching experience. According to the multiple regression model and its standardized output from AMOS, it can be said that 2% of ES strategy variance can be explained by the independent variables, including educational background, working experience, gender, and age (coefficient of determination (R^2) = 0.02)
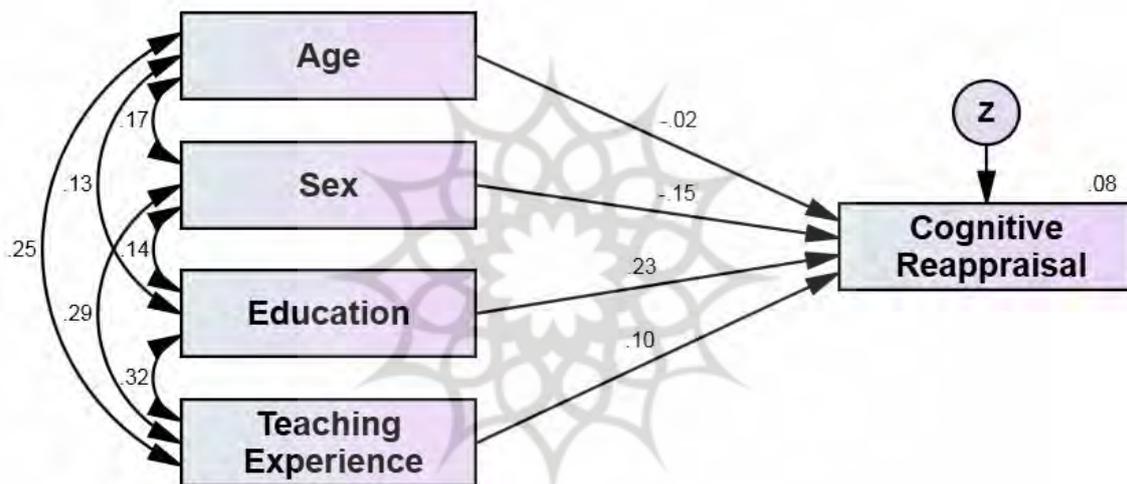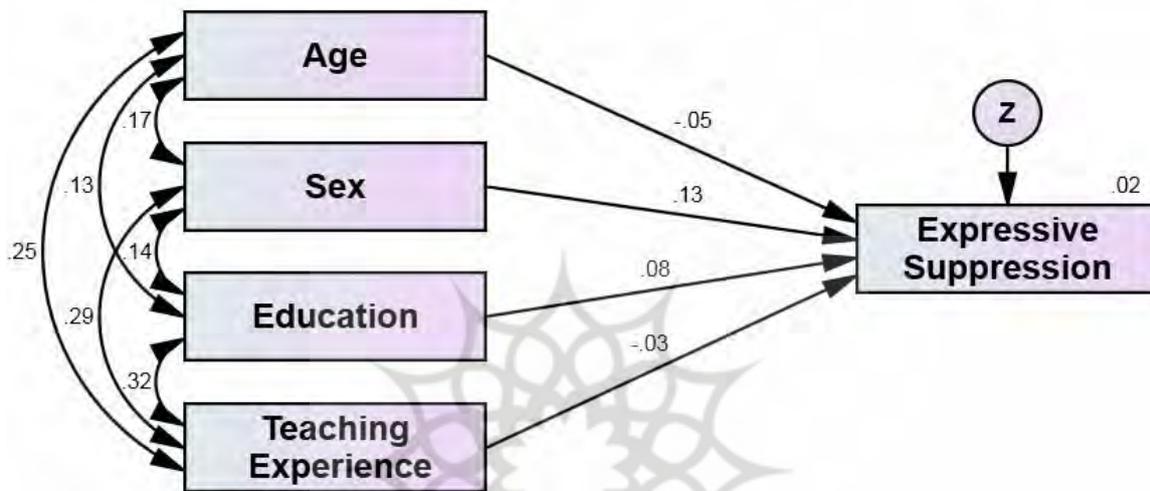

Fig 4. *Multiple regression for the effect of age, gender, education degree, and years of teaching experience on ES strategy use*

The value of significance level according to the bootstrapping test's output in the coefficient of determination for ES was reported to be 0.04 (<0.05) and was not 0 in upper and lower limit intervals. Thus, in this statistical population, ES strategies can be predicted based on the following variables: educational background, working experience, gender, and age, though the effect was so low.

Table 8. *Bootstrapping Test Output in Coefficient of Determination ES and Independent Variables*

Standardized value	upper limit	Lower limit	Significance level
0.02	0.08	0.009	0.04

Discussion

The role of emotion regulation for teachers in managing the atmosphere of the classes is indisputable. A teacher whose stress, accumulated gradually in personal life or daily work, makes him/her emotionally unstable, cannot foster students who are emotionally and socially competent, thereby affecting their academic success. The present study was carried out to examine the psychometric properties of ERQ inventory among English language teachers teaching at different universities in Iran. It also studied the significant effects of gender, age, educational background, and teaching experience on emotional regulation among teachers. In this section, the authors try to discuss the results of the study in relation to the previously reported findings.

As to the reliability and validity of the present study, the results are comparable to other studies done in Spain, Italy, and Iran. Developing and validating the Italian version of ERQ, Balzarotti, et al. (2010) confirmed the original questionnaire comprising two factors (CFI= 0.91). They also reported an alpha of 0.84 for cognitive reappraisal and of .72 for expressive suppression. Studying a sample of Spanish students, Gomez-Ortiz et al. (2016) found that ERQ is a valid and reliable instrument to be employed in Spanish samples. The results of their study confirmed a two-factor model with the CFI of nearly 0.93, which coincided with the results of the current study. The reliability of the whole inventory was found to be 0.75, so close to the value derived in this study. The validation studies which were also done in Iran on different samples, including university students (Hasani, 2016) and children and adolescents (Lotfi et al., 2019) confirmed the original two-factor model with Cronbach alpha > 0.8. The questionnaire was also validated among a multiethnic sample taken from a large mid-western university, the data of which confirmed the original model, verifying the psychometrics of the inventory (CFI= .096, R= 0.73-0.79) Nonetheless, studies that were done on a larger sample of adults, rather than students, reported the data which did not support the original model, among which we can name Spaapen et al. (2014) who examined a mixed sample of Australian and UK adults and Balzarotti (2019) who studied an Italian sample Italy.

In terms of demographic variables, which the current study found the statistically significant trace, though small, on emotion regulation strategies, the results partially confirmed those obtained by Nolen-Hoeksema and Aldao (2011), who reported gender and age differences on the use of regulation strategies, where the use of suppression went up among females with increasing age, while no difference was found among the males.

Zimmerman and Iwanski (2015) also reported significant age and gender differences in the use of emotion regulation strategies, i.e. the older the people got, the more adaptive their emotion regulation strategies were. Examining the mediating effects of emotion regulation modules, i.e. cognitive reappraisal and expressive suppression, Zhang et al. (2020) found gender differences, where the intervention of cognitive reappraisal in girls statistically exceeded that in boys.

Conclusion

The theorist working in the field of affect and emotion (e.g. Becker, Goetz, Morger, & Ranellucci, 2014; Frijda, 1986; Greenberg, 2002; Greenberg & Paivio, 1997; Greenberg & Safran, 1987; Gross & Levenson, 1993; Kuhl, 2008; Lazarus, 1991; Miller, 2015) believe in the adaptivity of the emotions and underlie the pivotal role of emotion regulation in handling complicated information. This regulatory system assists us in choosing how to act suitably in meeting our private demands. For example, a sense of security (or fear) may make you not get into any more fights. That is, a range of emotions makes you select what benefits your well-being before deciding how to act. In the process of action-taking, our background information or past experiences put us on the right track as to what direction to follow.

This study made an attempt to validate the Persian translation of the emotion regulation model proposed by Gross and John (2003). It was also tried to figure out how demographic variables, including age, gender, working experience, and educational background, could affect the regulation of emotion. The results of the principal component analysis revealed that ERQ involves two factors, i.e. cognitive reappraisal and expressive suppression. The reliability of the scale was found to be .77, which was sufficiently adequate to ensure the internal consistency of the inventory. The structural equation modelling indices suggested adequate model fit values for the inventory under investigation (PCFI= 0.54; CFI= 0.93; CMIN/Df= 4.12; RMSEA= 0.06). The multiple regression analysis also revealed that age, gender, educational background, and teaching experience can predict the use of regulation strategies by the teacher; nonetheless, this effect was truly low in the sample under investigation. The results also revealed that the teachers did not agree on the use of expressive suppression strategies in their teaching (m=3.28), while their use of cognitive reappraisal strategies, based on their own answers, indicated that they somehow were uncertain about the use of CR strategies in their classes (m=4.49).

It is hoped that the results of the present study could benefit educationalists for safely

using the given inventories among the EFL teachers so as to examine how they may regulate their emotions inside their classes and to provide assistance if needed. This can help them to have teacher training programs to foster adaptive strategies among the teachers. In the present study, we confined our discussion to teachers; future studies could look at the use of emotion regulation strategies from the angle of students, that is, how they perceive the use of emotion regulation strategies among their teachers. Moreover, this study was mainly about the validation of an inventory among the teachers; further studies could run ethnographic interviewing with EFL teachers while using grounded theory to see whether (or not) the generated hypotheses would coincide with the results of the current study. Likewise, further investigation could empirically investigate how adaptive emotion regulation strategies can be fostered in EFL teachers. The modelling of the relationship between emotion regulation strategy use and a number of other variables, such as emotional intelligence, classroom management, teacher burnout, and defense mechanism, is also suggested.

References

Balzarotti, S. (2019). The Emotion Regulation Questionnaire: Factor Structure and Measurement Invariance in an Italian Sample of Community Dwelling Adults. *Current Psychology*, https://doi.org/10.1007/s12144-019-00426-3.

Balzarotti, S., Jahn, O. P., & Gross, J. J. (2010). An Italian Adaptation of the Emotion Regulation Questionnaire. *European Journal of Psychological Assessment*, *26*(1), 61-67.

Bargh, J. A., & Williams, L. E. (2007). The Nonconscious Regulation of Emotion. In J.J. Gross (Ed.), *Handbook of Emotion Regulation* (429-445). New York & London: The Guilford Press.

Becker, E. S., Goetz, T., Morger, V., & Ranellucci, J. (2014). The Importance of Teachers' Emotions and Instructional Behaviour for Their Students' Emotions, An Experience Sampling Analysis. *Journal of Teaching and Teacher Education*, *43*, 15-26.

Campos, J. J., Frankel, C. B., & Camras, L. (2004). On the Nature of Emotion Regulation. *Journal of Child Development*, *75*(2), 377-394.

Chang, M. L. (2009). *Teacher Emotional Management in the Classroom: Appraisals, Regulation, and Coping with Emotions*. Paper presented at the American Educational Research, San Diego, CA.

Frijda, N. H. (1986). *The Emotions*. Cambridge, England: Cambridge University Press.

Gomez-Ortiz, O., Romera, E. M., Ortega-Ruiz, R., Cabello, R, & Fernandez-Berrocal, P. (2016). Analysis of Emotion Regulation in Spanish Adolescents: Validation of the Emotion Regulation Questionnaire. *Journal of Frontiers in Psychology*, 6, 1-11.

Greenberg, L. S. (2002). *Emotion-focused Therapy: Coaching Clients to Work through Their Feelings.* Washington, DC: American Psychological Association.

Greenberg, L. S., & Paivio, S. (1997). *Working with Emotions in Psychotherapy*. New York, NY: Guilford Press.

Greenberg, L. S., & Safran, J. D. (1987). The Guilford Clinical Psychology and Psychotherapy Series. *Emotion In Psychotherapy: Affect, Cognition, and the Process of Change.* New York, NY, US: Guilford Press.

Gross, J. J. (2007). *The Handbook of Emotion Regulation.* New York, NY: Guilford Press.

Gross, J. J. (Ed.). (2007). *The Handbook of Emotion Regulation*. New York & London: The Guilford Press.

Gross, J. J., & John, O. P. (2003). Individual Differences in Two Emotion Regulation Processes: Implications for Affect, Relationships, and Well-being. *Journal of Personality and Social Psychology*, 85(2), 348.

Gross, J. J., & Levenson, R. W. (1993). Emotional Suppression: Physiology, Self-report, and Expressive Behaviour. *Journal of Personality and Social Psychology*, 64(6), 970.

Hargreaves, A. (2001). Emotional Geographies of Teaching. *Journal of Teachers College Record*, 103(6), 1056-1080.

Hasani, J. (2016). Persian Version of the Emotion Regulation Questionnaire: Factor Structure, Reliability, and Validity. *International Journal of Behavioral Sciences*, 10(3), 156-161.

Jennings, P. A., & Greenberg, M. T. (2009). The Pro-social Classroom: Teacher Social and Emotional Competence in Relation to Student and Classroom Outcomes. *Journal of Review of Educational Research*, 79(1), 491-525.

Jian, J., Vauras, M., Volet, S., & Wang, Y. (2016). Teachers' Emotions and Emotion Regulation Strategies: Self- and Students' Perceptions. *Journal of Teaching and Teacher Education*, 54, 22-31.

Katz, A. D., Harris, A., Abenavoil, R. Greenberg, M. T., & Jennings, P. A. (2018). Educators' Emotion Regulation Strategies and Their Physiological Indicators of Chronic Stress over 1 Year. *Journal of Stress and Health*, 34(2), 278-285.

Koole, S. L. (2009). The Psychology of Emotion Regulation: An Integrative Review. *Journal of Cognition and Emotion*, 23(1), 4-41.

Kuhl, J. (2008). Individual Differences in Self-regulation. In J. Heckhausen & H. Laghi, F., Lonigro, A., Pallini, S., & Baiocco, R. (2018). Emotion Regulation and Empathy: Which Relation with Social Conduct? *The Journal of Genetic Psychology*, *179*(2), 62-70.

Lazarus, R. S. (1991). *Emotion and adaptation*. Oxford: Oxford University Press.

Lotfi, M., Bahrampouri, L., Amini, M., Fatemitabar, R., Birashk, B., Entezari, M., & Shiasi, Y. (2019). Persian Adaptation of Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA). *Journal of Mazandaran University of Medical Sciences*, *29* (175), 117-128.

Melka, S. S., Lancaster, S. L., Bryant, A. R., & Rodriguez, B. F. (2011). Confirmatory Factor and Measurement Invariance Analyses of the Emotion Regulation Questionnaire. *Journal of Clinical Psychology*, *67*(12), 1283-1293.

Miller, M. (2015). *Teachers' Emotion Regulation as a Protective Factor against Burnout.* Unpublished Doctoral Dissertation, University of British Columbia, Vancouver, Canada.

Nolen-Hoeksema, S., & Aldao, A. (2011). Gender and Age Differences in Emotion Regulation Strategies and Their Relationship to Depressive Symptoms. *Journal of Personality and Individual Differences*, *51*, 704-708.

Purnamaningsih, E. H. (2017). Personality and Emotion Regulation Strategies. *International Journal of Psychological Research*, *10*(1), 53-60.

Sapolsky, R. M. (2007). Stress, stress-related disease, and emotional regulation. In J.J. Gross (Ed.), *Handbook of emotion regulation* (606-615). New York & London: The Guilford Press.

Spaapen, D. L., Waters, F., Brummer, L., Stopa, L., & Bucks, R. S. (2014). The Emotion Regulation Questionnaire: Validation of the ERQ-9 in Two Community Samples. *Journal of Psychological Assessment*, *26*(1), 46-54.

Sutton, R. E. (2005). Teachers' Emotions and Classroom Effectiveness: Implications from Recent Research. *Journal of the Clearing House*, *78*(5), 229-234.

Taxer, J. L., & Frenzel, A. C. (2015). Facets of Teachers' Emotional Lives: A Quantitative Investigation of Teachers' Genuine, Faked, and Hidden Emotions. *Journal of Teaching and Teacher Education*, *49*, 78-88.

Taxer, J. L., & Gross, J. J. (2018). Emotion Regulation in Teachers: the "Why" and "How". *Journal of Teaching and Teacher Education, 74*, 180-189.

van Doorn, E. A., van Kleef, G. A., & van der Pligt, J. (2014). How Instructors' Emotional Expressions Shape Students' Learning Performance: The Roles of Anger, Happiness, and Regulatory Focus. *Journal of Experimental Psychology: General, 143*(3), 980–984.

Watts, F. (2007). Emotion Regulation and Religion. In J.J. Gross (Ed.), *The Handbook of Emotion Regulation* (504-520). New York & London: The Guilford Press.

Zhang, L., Jiamei, L., Binbing, L., Wang, X, & Shangguan, C. (2020). Gender Differences in the Mediating Effects of Emotion-Regulation Strategies: Forgiveness and Depression among Adolescents. *Personality and Individual Differences*, *163*, 1-6.

Zimmerman, P., & Iwonski, A. (2014). Emotion Regulation from Early Adolescence to Emerging Adulthood and Middle Adulthood: Age Differences, Gender Differences, and Emotion-Specific Developmental Variations. *International Journal of Behavioral Development*, *38*(2), 182-194.

APPENDIX A: Gross, J. J., & John, O. P. (2003), **Emotion Regulation Strategies Questionnaire**

Instructions and Items

We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer using the following scale:

1------------------2-------------------3-------------4-----------5--------------6---------------7

strongly   neutral   strongly

disagree   agree

Sentences	1	2	3	4	5	6	7
1. When I want to feel more *positive* emotions (such as joy or amusement), I *change what I'm thinking about*.							
2. I keep my emotions to myself.							
3. When I want to feel less *negative* emotion (such as sadness or anger), I *change what I'm thinking about*							
4. When I am feeling *positive* emotions, I am careful not to express them.							
5. When I'm faced with a stressful situation, I make myself *think about it* in a way that helps me stay calm.							
6. I control my emotions by *not expressing them*.							
7. When I want to feel more *positive* emotion, I *change the way I'm thinking* about the situation.							
8. I control my emotions by *changing the way I think* about the situation I'm in.							
9. When I am feeling *negative* emotions, I make sure not to express them.							
10. When I want to feel less *negative* emotion, I *change the way I'm thinking* about the situation.							

APPENDIX B: Emotion Regulation Strategies Questionnaire, the Translated Version

عبارات زیر دربارهٔ هیجان‌های شما است؛ به‌ویژه دربارهٔ اینکه شما چگونه هیجان‌های خود را کنترل و مـدیریت می‌کنیـد. این عبارات دربارهٔ دو جنبهٔ مجزا است. جنبهٔ اول، تجربهٔ هیجانی شماست؛ یعنی چیـزی کـه شـما در درون خـود احسـاس می‌کنید. جنبهٔ دوم، بروز هیجانی شماست؛ یعنی شما هیجان‌های خود را در حین حـرف‌زدن و رفتارکردن چگونـه نشـان می‌دهید. هرچند ممکن است برخی از آنها مشابه هم باشند؛ تفاوت‌های زیادی با یکدیگر دارند.

مدرك تحصیلی: سن:

جنسیت: سابقهٔ تدریس:

لطفاً به هر یک از گزینه‌ها با استفاده از مقیاس داده‌شده در بالای جدول پاسخ دهید. (لطفاً به پرسش‌ها با توجـه بـه زمـان حضور خود در کلاس درس و حین تدریس پاسخ دهید.)

همیشه (۷)	تقریباً همیشه (۶)	اغلب اوقات (۵)	تاحدودی (۴)	به‌ندرت (۳)	خیلی به‌ندرت (۲)	هرگز (۱)	عبارات
							۱. وقتی می‌خواهم هیجان مثبت بیشتری (مانند لذت و سرگرمی) را احساس کنم، فکرم را تغییر می‌دهم.
							۲. هیجان‌های خود را پنهان می‌کنم (بروز نمی‌دهم).
							۳. وقتی می‌خواهم هیجان منفی کمتری (مانند غمگینی یا خشم) را احساس کنم، فکرم را تغییر می‌دهم.
							۴. وقتی هیجان‌های مثبتی را احساس می‌کنم، سعی می‌کنم آنها را بروز ندهم.
							۵. وقتی با موقعیتی استرس‌زا مواجه می‌شوم، فکرم را به گونه‌ای تغییرمی‌دهم که منجر به آرام‌شدنم شود.
							۶. من هیجان‌های خود را با ابرازنکردن آنها کنترل می‌کنم.

							۷. وقتی می‌خواهم هیجان مثبت بیشتری را احساس کنم، فکرم را دربارهٔ آن موقعیت تغییر می‌دهم.
							۸. هیجان‌های خود را با تغییردادن فکرم دربارهٔ موقعیتی که در آن هستم کنترل می‌کنم.
							۹. وقتی هیجان‌های منفی را احساس می‌کنم، سعی می‌کنم آنها را بروز ندهم.
							۱۰. وقتی می‌خواهم هیجان‌های منفی کمتری را احساس کنم، فکرم را دربارهٔ آن موقعیت تغییر می‌دهم.