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The Emotion Regulation Questionnaire: Validation and Psychometric Properties in Kuwaiti Teachers

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Abstract

This study evaluated the internal consistency and factor structure of the Kuwaiti version of the 10-item Emotion Regulation Questionnaire (ERQ), and its relation to demographic variables, teacher burnout, and psychological stress. The ERQ has two subscales measuring an individual's use of cognitive reappraisal and expressive suppression as emotion regulation strategies. A random non-referred sample of parents of 1733 teachers in the mainstream school teachers in the state of Kuwait completed the ERQ and other scales. The results indicated adequate internal consistencies (Cronbach's alpha) of the two subscales (cognitive reappraisal .88; expressive suppression.73). Confirmatory factor analysis resulted in close to acceptable fit (RMSEA=0.110;CFI=0.875; GFI=0.916). The ERQ cognitive reappraisal scale correlated negatively with both perceived stress; helplessness (r=-.127**,p<.000), self-efficacy (r=-.103**,p<.000). Also, it is negatively correlated with Positive-Difficulty identifying feelings (P-DIF) (r=-.131**,p<.000), Positive-Difficulty describing feelings (r=-.036,p<.131),General-Externally Oriented Thinking (G-EOT), (r=-.096**,p<.000). However, expressive suppression is positively correlated with perceived stress subscales and the subscales of alexithymia. To conclude, this study showed the adequate reliability and construct validity of the ERQ in a large sample of Kuwaiti teachers. Specific use of suppression or reappraisal as an emotion regulation strategy was related to job satisfaction, quality of work environment, and employment of adequate discipline strategies in the expected direction.

Keywords: Rating scales • Conirmatory factor analysis • Neuroscience

Introduction

Emotion has been identified as an important factor in many academic outcomes and a great deal of effort has been made to clarify the influence of emotional regulation in academic and educational settings [1-3]. According to response-trend perspective [4], emotional responses/results are the product of individual Emotional Response-trends (ER) strategies that are considered adaptive reactions to a previous stressor (e.g., uncomfortable situation). The degree of teachers' burnout depends on whether he/she uses an adaptive or maladaptive ER strategy to control work-related stress [3].

Emotion regulation encompasses both conscious and unconscious processes, positive and negative emotions, as well as the generation, reduction, and maintenance of emotions [5,6]. It is likely to have a central role in both severe and less severe forms of mental health and psychiatric disorders, such as anxiety [7], depression vulnerability [8], borderline personality disorder [9], and anorexia nervosa [10].

There is no doubt that dealing with various emotions is especially important for employees in the health care field. Researchers have conducted numerous studies on how to best cope with feelings because emotions are essential elements that influence how effective people are in guiding their individual lives and careers [11]. There are two primary research frameworks on emotion management. One is emotion regulation research [12], which focused on individuals' emotion regulatory processes to modulate emotions, and the other is emotional labor research, which focused on employees' [13] emotion management to meet the organization's objectives [11].

Concept of emotion regulation

The concept of emotion regulation has received a lot of attention in studies with adults [14], children [15], and from a neuroscience standpoint [16]. The growing popularity of emotion regulation is evidenced by the increasing number of popular [17,18] and scientific books [5,19-21]. Realizing that successful emotion management is the key to an individual's well-being, educational researchers have produced several studies using Hochs child's emotional labor framework however, there is still a lack of research in the educational field using Gross's [22] emotion regulation framework [23]. It is unclear how emotion regulation differs from other concepts such as self-regulation [25], emotional intelligence [25], emotion [26], and temperament [27,28].

The emphasis on internal and external context, monitoring, and change is reflected in current influential definitions of emotion regulation. Only a few will be highlighted here, as they are most relevant to the developmental neuroscience literature (for other definitions, see also [26]. An influential definition is from "The processes by which individuals influence which emotions they have, when they have them, and how they experience and express their emotions [4]." In addition to providing a comprehensive definition, Gross goes on to deconstruct emotion regulation into a five-stage emotion-generating process in which emotion regulation can occur at any point: Situation selection, situation modification, attention deployment, cognitive change, and response modulation [29].

Recently collaborated on a conceptualization of emotion regulation that represents an [5] integration of their respective foci on intrinsic and extrinsic processes in emotion regulation: "Emotion regulation refers to an individual's automatic or controlled, conscious or unconscious process of influencing emotion in self, others, or both."

Models of emotion regulation

The five-stage model of emotion regulation [4,5] has been especially influential in emotion regulation neuroscience studies including FMRI [30],

scalp recorded Event-Related Potentials (ERPs) [31], and physiological [32]. Based on the [4] model, there are two main strategies for emotional regulation; cognitive reappraisal (altering the emotional significance of an emotional situation, such as by reinterpreting an unpleasant situation in general, while expressive suppression alters emotional expression, it may be less effective in modulating emotional experiences. Expressive suppression, when compared to cognitive reappraisal, carries physiological costs that may jeopardize health [4,33,34].

However, ER models do not take into account how emotions themselves regulate other emotions (for example, using anger to regulate sadness), cognition (for example, emotions constraining attention), and behavior (for example, emotions influencing behavioral choices). As a result, from this standpoint, a comprehensive examination of emotion regulation must include instances in which emotions are regulated and regulated.

Emotional reactivity, control, and inhibitory processes, as well as the interaction between the two, shape the development of emotion regulation [28,35,36]. Similarly, the neuroscience literature on emotion regulation has described the "neural architecture" of emotion regulation in a way that distinguishes two complementary but highly interconnected neural systems: A ventral system that underpins emotional arousal, emotional significance evaluation, and motivational processes, and a dorsal system that underpins relatively effortful, executive control processes [37-39].

The significance of emotion regulation: Deficits in emotion regulation have been linked to symptoms of depression [40] anxiety disorders [41,42], borderline personality disorder [43-45], eating disorders (46-48). Substance abuse [49,50], attention deficit hyperactivity disorder [51], and bipolar disorder [52].

Longitudinal studies show that emotional regulation deficits are not only symptoms of mental disorders, but also risk and maintenance factors for mental health problems such as depression [53-57]. Anxiety disorders [58,59], borderline personality disorder [60,61], or eating disorders [62,63].

Psychological interventions that specifically target improving emotion regulation skills prove to effective for a wide range of mental disorders. Emotion regulation, for example, is a core skill taught in dialectical behavior therapy [43]. Dialectical Behavior Therapy (DBT) is effective in reducing depression in people with BPD [44] and has at least preliminary evidence indicating efficacy in the treatment of chronic depression [64,65], substance abuse [66,67], and eating   disorders [68,69]. Treatments for PTSD related to childhood abuse [70], GAD [71], eating disorders [72,73] depression [55,74,75], and BPD [76,77] are other examples of promising treatments that focus on emotion regulation skills [78].

Numerous emotion regulation strategies have been identified, some of which may be beneficial, while others appear to have an unintended negative impact on the individual. The Cognitive Emotion Regulation Questionnaire (CERQ) [79] the Acceptance and Action Questionnaire-II (AAQ-II) [80], the Affective Style Questionnaire [81], the Berkeley Expressivity Questionnaire [32], and the Affective Style Questionnaire (ASQ) [81]. The Emotion Regulation Questionnaire (ERQ) [82] is based on a theoretically intriguing and partially validated process model of emotion regulation that includes several emotion regulation strategies. In experiments with undergraduate students and community samples of adults, two of these, cognitive reappraisal and expressive suppression, both included in the ERQ, have been linked to psychological wellbeing and social functioning in different ways [82].

Although it had some issues related to the methodology used in its development, the scale of the Emotion Regulation Questionnaire (ERQ) represents an element of absolute interest for studying teachers' conditions in working contexts. Considering a Middle Eastern context, especially the state of Kuwait, the present study aims to perform an empirical validation of the Emotion Regulation Questionnaire's psychometric properties in the Arabic language, based on the answers of a sample of Kuwaiti mainstream school teachers. The Emotion Regulation Questionnaire (ERQ) is based on a theoretically intriguing and partially validated process model of emotion

regulation that includes several emotion regulation strategies. Two of these, cognitive reappraisal and expressive suppression, both included in the ERQ, have been linked to psychological well-being and social functioning in experiments with undergraduate students and community samples of adults, respectively

To the best of the authors' knowledge, no previous investigation of Emotion Regulation Questionnaire (ERQ) validity and reliability has been conducted in the Kuwaiti society, or other Islamic-Arabic countries. Thus, from a psychometric point of view, the present study enriches knowledge, of the Emotion Regulation Questionnaire (ERQ) and in particular of its validation in the Arabic language, carried out in the present study. Exploiting the processes of the statistical analysis carried out, widens the scientific literature on the theme of teachers' burnout and work stress, providing data about teacher job stressors collected within a real sample of Kuwaiti teachers, whose answers we reported, for each item, at an aggregate level [82]. Also, it offers a tool that can be used by the scientists and professionals in educational institutions which may wish to evaluate cultural opinions on the role of emotion regulation strategies in the workplace in Gulf states as well as in other Arab-Islamic countries with the aim, if possible, to pursue the best possible balance in terms of improving the work environment quality for practitioners, instructors, and teachers.

Materials and Methods

Research design and sample

The study was a cross-sectional observational study. Kuwaiti teachers of different disciplines were randomly selected from the mainstream schools in the state of Kuwait and received information about the study. Teachers' consents were randomly assigned to respond to the questionnaire via Internet or paper and pencil. All the variables except for some demographics were continuous.

The survey was completed by 1733 of the invited 2000 parents. Ten respondents failed to submit the completed scales and were thus excluded, leaving 1733 parents (13.35 percent). Because all teachers are native speakers of Arabic, the questionnaires and scales were translated into Arabic, to get rid of difficulties in speaking and understanding English. Complete data on the ERQ expressive suppression and cognitive reappraisal subscales, as well as the perceived stress scale, were available for all participants, due to missing data. There were no differences in background characteristics between those who had complete ERQ/PSS data and those who had missing items. The teachers' mean age was 37.51 years (SD=1.10), and there was the supremacy of females over male participants in the study; females (N=1543;89.0%) and males (N=190;11.0%) in the sample. A majority of teachers (N=1138;65.7%) work in the primary schools, and (N=31;1.8%) in the kindergarten, (N=413;23.8%) intermediate, and (N=151;8.7%) works in the secondary schools.

Also, the majority of the participants (N=1611;93.0%) teach ordinary students whereas a small number of teachers work with a special category of students; handicapped (N=47;2.7%), LD students (N=41;2.4%), and gifted students (N=34;2.0%). In terms of the type of educational institutions, the majority of participants (N= 1706;98.4%) work in government schools, and private schools (N=27;1.6%). Concerning the highest degree or certificate teachers obtained, the majority of the teachers are fresh graduates with bachelor's degree (N=1562;90.1%), whereas pre-university degree in education (N=68;3.9%), postgraduate diploma (N=42;2.4%), teachers with Masters & Ph.D. degree (N=61;3.5%).

In terms of the work experience, tenure, about half of the study sample (N=820;47.3), whereas teachers with 11-20 years constitute (N=478;27.5%), 6-10 years of experience (N-372;21.5%), and teachers with 20-25 years of experience (N=33;1.9%), and teachers with teaching experience that exceeds 25 years (N=30;1.7%). Concerning the workload; the majority of participants (N=967;55.8%) teach 7-12 classes a week, teachers with 1-6 classes workload (N=606;35%), teachers teaching 13-20

classes (N=136;7.8%), teachers with zero class (N=19;1.1), and teachers who are overloaded with 21-25 classes (N=53).

Measures

Translation and back-translation of the ERQ from English, as well as the other questionnaires that were not already available in the Arabic language, was carried out according to the procedure suggested by the World Health Organization.

Assessment of demographics

The teachers were asked to provide information about the following: gender, the educational stage they teach for, types of students they teach, work center, their highest level of formal education (teaching diploma, BA Degree in education, Postgraduates diploma, and MA & Ph.D.), workload and their tenure.

The Emotion Regulation Questionnaire (ERQ) [82] is a well-established 10-item self-report questionnaire that focuses on emotion-regulatory processes and strategies for emotion regulation and management. Individuals are asked to rate how often they try to think or act differently in different situations to change their emotions. On a 7-point Likert scale, 1 means "strongly disagree," 4 means "neutral," and 7 means "strongly agree," the questionnaire contains 10 items that capture two specific emotion regulation strategies, cognitive reappraisal, and expressive suppression. A higher mean score on a subscale indicates a higher level of support for the strategy. The expressive suppression scale has four items and the cognitive reappraisal scale has six. "I control my emotions by changing the way I think about the situation I'm in", for example, on the cognitive reappraisal scale, and "I control my emotions by not expressing them" on the expressive suppression scale. There are no items that have been reversed. Both the cognitive reappraisal and expressive suppression subscales of the ERQ had high internal consistency in previous studies (=0.79 and 0.73, respectively). Several measures have been reported to have good convergent validity, such as the COPE reinterpretation and venting scales, and discriminant validity, such as the 44-item Big Five Inventory. For a thorough description of validity, see [82]. The scales were stable after 3 and 2 months (cognitive reappraisal, r=67; expressive suppression, r=0.71.

Perceived Stress Scale (PSS-10): The 10-item Perceived Stress Scale (PSS-10) is one of the most frequently used instruments to measure perceived stress [83]. The original PSS was developed by Cohen et al. and consists of 14 items (PSS-14); however, this scale was later reduced to

10 items (PSS-10), removing 4 items due to low factor loading based on principal component analysis results. A four-item version was also created as a condensed version for settings with a limited time frame (e.g., survey research or telephone interviews). Among the PSS tree versions, the PSS-10 is recommended because it has better psychometric properties than the PSS-14 and PSS-4 [84]. The PSS, in 14, 10, and 4-item versions, has been widely used across cultures and populations and has been translated into several languages, including Persian [84,85]. To sum up, the PSS-10 is a self-report instrument comprised of ten items designed to assess "how unpredictable, uncontrollable, and overburdened respondents find their lives." Each item on the PSS- 10 is rated on a 5-point Likert scale, ranging from 0 (never) to 4 (always) (very often). The PSS-10 contained six positively (items 1, 2, 3, 6, 9, and 10) and four negatively (items 4, 5, 7, and 8: Negative factor) worded items. During the analysis, negative-worded items were recorded. The total score ranges from 0 to 40, with higher total scores indicating higher levels of perceived stress [83].

Perth Alexithymia Questionnaire: The PAQ is designed for clinicians and researchers who want to assess alexithymia in adults and adolescents using the attention-appraisal model [86]. It is a 24-item self-report questionnaire with each item consisting of a statement designed to assess the DIF, DDF, or EOT components of alexithymia. Respondents rate each item on a 7-point Likert scale, from 1 (strongly disagree) to 7, with higher scores indicating higher levels of alexithymia. Because it is common in emotional assessment tools, it uses a 7-point Likert scale format (e.g., Emotion Regulation Questionnaire [ERQ]; Gross & John, 2003) 2003), and there is some evidence that 7-point Likert scales outperform 5-point (or less) scales when measuring a continuous construct such as alexithymia [87]. No items are reverse-scored, as recommended by and others [88,89].

All items in the appraisal stage of emotion valuation (i.e., the DIF and DDF components) account for valence and are designed to assess people's ability to appraise either negative or positive emotions; thus, all DIF and DDF items begin with some variant of the phrase "When I'm feeling bad, " or "When I'm feeling good, " The goal of this phrasing style is to describe an undifferentiated unpleasant or pleasant state that reflects how people with low emotional awareness experience emotions [90]. The remainder of the item then describes one's ability to progress beyond this low developmental level (for example, "When I'm feeling bad, I can't tell if I'm sad, scared, or angry" or "When I'm feeling good, I can't find the right words to describe those feelings") (Tables 1-4).

Item	M	SD	Sk	Ku
1. When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about.	4.95	1.58	-.77	.38
2. I keep my emotions to myself.	4.65	1.76	-.47	-.74
3. When I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about.	5.18	1.39	-.87	1.26
4. When I am feeling positive emotions, I am careful not to express them.	3.35	1.71	.27	-.82
5. When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.	5.23	1.93	-.85	1.05
6. I control my emotions by not expressing them.	4.60	1.51	-.40	-.30
7. When I want to feel more positive emotion, I change the way I'm thinking about the situation.	5.06	1.26	-.57	.94
8. I control my emotions by changing the way I think about the situation I'm in.	5.04	1.14	-.38	.82
9. When I am feeling negative emotions, I make sure not to express them.	4.72	1.57	-.47	-.29
10. When I want to feel less negative emotion, I change the way I'm thinking about the situation.	5.13	1.18	-.45	.95
cognitive reappraisal scale	30.60	5.85	-.49	1.10
expressive suppression scale	17.31	4.53	-.093	.21
Total	47.91	8.82	-.29	1.31

Table 1. Pharmacokinetic parameters of test and reference products.

Item	Communality (h2)	Factor loadings	
		1	2
1. When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about.	.81	.73	.52
3. When I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about.	.72	.72	.42
5. When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.	.53	.70	.011
7. When I want to feel more positive emotion, I change the way I'm thinking about the situation.	.72	.78	.26
8. I control my emotions by changing the way I think about the situation I'm in.	.73	.77	.30
10. When I want to feel less negative emotion, I change the way I'm thinking about the situation.	.71	.76	.26
2. I keep my emotions to myself.	.71	.44	.68
4. When I am feeling positive emotions, I am careful not to express them.	.51	.24	.67
6. I control my emotions by not expressing them.	.50	.26	.65
9. When I am feeling negative emotions, I make sure not to express them.	.52	.37	.56

Table 2. Principal component analysis with oblique factor rotation.

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10
Item 1	1.00									
Item 2	.24**	1.00								
Item 3	.53**	.26**	1.00							
Item 4	.49**	.53**	.73**	1.00						
Item 5	.38**	.49**	.48**	.40**	1.00					
Item 6	.26**	.28**	.36**	.38**	.38**	1.00				
Item 7	.30**	.26**	.49**	.35**	.48**	.41**	1.00			
Item 8	.27**	.28**	.42**	.30**	.47**	.42**	.68**	1.00		
Item 9	.15**	.38**	.49**	.48**	.49**	.36**	.29**	.34**	1.00	
Item 10	.28**	.26**	.46**	.39**	.48**	.36**	.63**	.63**	.39**	1.00

Table 3. Inter-item Pearson's correlation matrix and corrected item-total correlation.

Variables	Cognitive reappraisal		Expressive suppression	
	Correlation coefficients	p-value	Correlation coefficients	p-value
PS Helplessness	-.127**	.000	.066**	006
PS Self-efficacy	-.103*	.000	.025	.294
PS total scale	-.121**	.000	.050*	.036
N-DIF	.057*	.019	.280**	.000
P-DIF	-.131**	.000	.219**	.000
N-DDF	.000	.999	.224**	.000
P-DDF	-.036	.131	.209**	.00
G-EOT	-.096*	.000	.238**	.059

Note: PS Helplessness=perceived stress, helplessness; PS Self-efficacy=perceived stress, self-efficacy; N-DIF=Negative-difficulty identifying feelings; P-DIF=Positive-difficulty identifying feelings; N-DDF=Negative-difficulty describing feelings; P-DDF=Positive-difficulty describing feelings; G-EOT=General-Externally Orientated Thinking.

Table 4. Correlation coefficients between the emotion regulation questionnaire and the total scale and subscales of perceived stress and Perth Alexithymia Questionnaire.

The 24-item PAQ was designed so that there is an equal number of items (8 items) corresponding to the construct's DIF, DDF, and EOT components. This number of items was chosen to achieve high levels of reliability while keeping the measure relatively brief. Because the DIF and DDF components contain items with both negative and positive valence, half of their items correspond to negative feelings and a half to positive feelings. As a result, five subscale scores can be calculated see Table 2: Negative-Difficulty identifying feelings (N-DIF; 4 items, e.g., "When I'm feeling bad, I get confused about what emotion it is"), Positive-Difficulty identifying feelings (P-DIF; 4 items, e.g., "When I'm feeling good, I can't tell whether I'm happy, excited, or amused"), Negative-Difficulty describing feelings (N-DDF; 4 items, e.g., "When something bad happens, it's hard for me to put into words how I'm feeling"), Positive-Difficulty describing feelings (P-DDF; 4 items, e.g., "When I'm feeling good, I can't talk about those feelings in much depth or detail"), and General-Externally Orientated Thinking (G-EOT, 8 items, e.g., "I prefer to focus on things I can see or touch, rather than my emotions").

Furthermore, the PAQ's five subscales are intended to be combined into some theoretically meaningful composite scores. The N-DIF and P-DIF subscales can be combined to form a General-Difficulty identifying feelings composite (G-DIF, 8 items), and the N-DDF and P-DDF subscales can be combined to form a General-Difficulty describing feelings composite (G-DDF, 8 items) (G-DDF, 8 items). Furthermore, because DIF and DDF are thought to be especially closely related (i.e., both correspond to the appraisal stage of emotion valuation), broader scores reflecting the appraisal stage can be derived. The N-DIF and N-DDF subscales can be combined to form a Negative-Difficulty Appraising Feelings Composite (N-DAF, 8 items), the P-DIF and P-DDF subscales can form a Positive-Difficulty Appraising Feelings Composite (P-DAF, 8 items), and the N-DIF, N-DDF, P-DIF, and P-DDF subscales can form a General- (G-DAF, 16 items). Finally, all five subscales can be combined to create an Alexithymia composite to produce an overall marker of alexithymia (ALEXI, 24 items).

Procedure and ethical considerations

The first wave of information letters through emails detailing the study's purpose and procedures was sent to 2000 teachers. The teachers were informed of the study's voluntary nature and that they would be randomly assigned to respond to emotional regulation as well as perceived stress scales via the Internet or the traditional method (paper and pencil). To reduce drop-out rates, all teachers were given a pre-paid envelope and a checklist to indicate if they did not want to participate in the study or if they preferred to receive the study tools via mail if they were assigned to the Internet condition. Due to the COVID-19 outbreak, the total sample preferred to respond to the study scales via the Internet. Randomization was carried out using the website www.randomizer.org. The teachers were also directed to a link where they could learn more about the study. Besides, the researchers were in contact with the sample to answer any question they may have to ask. Teachers who agreed to participate in the study answered questions about their demographic data (see measures). The teachers were also asked to complete a series of questionnaires containing family background information, such as gender, the educational stage they teach for, types of students they teach, work center, their highest level of formal education (teaching diploma, BA Degree in education, postgraduate diploma, and MA & Ph.D.), and their workload. Within one month, a reminder was sent to the teachers. We also called a randomly selected subset of teachers to remind them about the study. The third wave of information letters, informed consent, and questionnaires were sent to all remaining non-respondents within 3-6 weeks of the emails sent. Participating teachers were given a small incentive for taking part in the survey. The study was approved by the Regional Research Ethics Committee.

Statistical analysis

The Statistical Package for the Social Sciences (SPSS) version 22.0 was used for the statistical analyses. There were 0.9% non-systematic missing values for single items in the ERQ, resulting in missing values on the ERQ for 59 (ERQ suppression) and 71 (ERQ reappraisal) individuals. In total, 29 outliers were identified (11 on ERQ suppression, and 18 on ERQ reappraisal). Data on the ERQ suppression subscale is therefore available for 1733 teachers and the reappraisal subscale for teachers. Internal consistencies (Cronbach's alpha) and corrected item-to-total correlations were calculated. Chi-square, t-tests, and ANOVAs were used to explore possible differences in categorical and continuous background variables between the genders and respondents. Multiple group comparisons after significant F-test were done using Bonferroni correction. Other comparative analyses were done using Pearson's correlation coefficients. In line with the recommended thresholds [83] we considered a correlation of .1 as small, .3 as a medium, and .5 as high. Cohen's d or partial eta squared was used as a measure of effect size for group comparisons. With a Confirmatory Factor Analysis (CFA) we examined the fit of the two-factor model of the ERQ, with cognitive reappraisal and an expressive suppression subscale, of respectively [81]. For the CFA we used Amos 23.0 [91]. The global model fit to the data was tested by Chi-square, Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CF), and Goodness of Fit Index (GFI). The alpha was set to p<.05.

Results

Demographics and emotion regulation

A t-test showed no statistically significant differences between males and females in using emotional regulation strategies levels; cognitive reappraisal (males; M=29.84, SD=5.57,females; M=30.68, SD= 5.88), expressive suppression (males; M=46.70, SD=8.44, females; M=48.05, SD=8.85)p=.40. However, no statistically significant differences between mainstream governmental schools and private schools in using emotional regulation strategies levels; cognitive reappraisal (government; M=30.59, SD=5.84, private; M=30.07, SD=6.63), expressive suppression (government; M=17.32, SD=4.51, private; M=16.59, SD=4.81), t=560, p=.73.

One-way Analysis of Variance (ANOVA) has been used to test the mean differences between the study participants. ANOVA shows that there was a statistically significant difference in the mean scores of participants use of emotion regulation strategies in terms of the stage in which they teach; cognitive reappraisal (kindergarten, M=32.29, SD=4.63, primary school, M=30.56, SD=6.06, intermediate, M=31.07, SD=5.40, secondary, M=29.13, SD=5.40), expressive suppression (kindergarten, M=16.42, SD=4.53, primary school, M=17.45, SD=4.35, intermediate, M=17.37, SD=4.88, secondary, M=16.29, SD=4.60)t=1.99, p<.24.

In addition, there was a statistically significant difference in the mean scores of participants use of emotion regulation strategies in terms of the educational stage in which they teach; cognitive reappraisal (kindergarten, M=32.29, SD=4.63, primary school, M=30.56, SD=6.06, intermediate, M=31.07, SD=5.40, secondary, M=29.13, SD= 5.40), expressive suppression (kindergarten, M=16.42, SD=4.53, primary school, M=17.45, SD=4.35, intermediate, M=17.37, SD=4.88, secondary, M=16.29, SD=4.60) F(4.650), p<.002.

Besides, there was no statistically significant difference in the mean scores of participants use of emotion regulation strategies in terms of the stage in which they teach; cognitive reappraisal (ordinary, M=30.55, SD= 5.91, handicapped, M=30.19, SD=4.09, LD students, M=31.78, SD=5.57, gifted students, M=31.26, SD=5.68), expressive suppression (ordinary, M=17.36, SD=4.55, handicapped, M=16.74, SD=3.51, LD students, M=16.87, SD= 4.53, gifted students, M=16.38, SD=4.12), F(.299), p<.83.

Also, there was a statistically significant difference in the mean scores of participants' use of emotion regulation strategies in terms of teachers' highest qualification/certificate; cognitive reappraisal (teacher diploma, M=30.97, SD=4.75, Bachelor's degree, M=30.56, SD=5.94, postgraduate diploma, M=29.19, SD=5.57, Masters & PhD, M=31.91, SD=4.45), expressive suppression (teacher diploma, M=20.57, SD=4.81, Bachelor's degree, M=17.26, SD=4.46, postgraduate diploma, M=16.11, SD=3.27, Masters & PhD, M=15.83, SD=4.64), F(5.17), p<.001.

In addition, there was a statistically significant difference in the mean scores of participants' use of emotion regulation strategies in terms of teachers' teaching load; cognitive reappraisal (zero load, M=29.00, SD=3.82, 1-6 classes, M=31.39, SD=5.39, 7-12 classes, M=29.96, SD=6.01, 13-20 classes, M=31.55, SD=6.38, and 21-25 classes, M=32.80, SD=4.20), expressive suppression (zero load, M=29.0015.21, SD=3.99, 1-6 classes, M=17.96, SD=4.50, 7-12 classes, M=16.99, SD=4.54, 13-20 classes, M=17.01, SD=4.04, and 21-25 classes, M=15.60, SD=6.94), F(5.789), p<.001.

Additionally, there was a statistically significant difference in the mean scores of participants' use of emotion regulation strategies in terms of teachers' tenure; cognitive reappraisal (1-5years' experience, M=30.24, SD= 5.95, 6-10 years, M=30.21, SD=6.40, 11-20 years, M=31.32, SD=5.21, 20-25 years, M=31.12, SD=4.70, and more than 25 years old, M=32.50, SD=5.72), expressive suppression (1-5 years' experience, M=17.53, SD=4.63, 6-10 years, M=17.14, SD=4.83,11-20 years, M=17.12, SD=4.08, 20-25 years, M=18.66, SD=3.49, and more than 25 years old, M=14.80, SD=3.92), F(3.905), p<.001.

Reliability

Internal consistency: The cognitive reappraisal scale had an internal consistency (Cronbach's alpha) of .83, while the expressive suppression scale had an internal consistency (Cronbach's alpha) of .63. Within each scale, the corrected item-total correlations were generally high (>.59). Each scale had one item with a small item-total correlation. The suppression scale item was "When I'm feeling positive emotions, I am careful not to express them." (r=.39). The removal of these items from their subscales resulted in a small increase in alpha for the cognitive reappraisal scale (alpha .88), and a change in alpha for the expressive suppression scale (alpha.73), above the cut-off value of .70 suggested by. Overall, these results suggest a high level of internal consistency.

Factor structure of the ER

To evaluate the construct validity of the ERQ, we conducted a Confirmatory Factor Analysis.

Two-factor explanatory factor analysis reveals relatively high item loadings ranging from .49to.86 denoting high validity of the scale to be used in the Kuwaiti and Arabic contexts.

Confirmatory factor analyses

A CFA was run to test whether or not the ten strategies for emotion regulation cohered together into a two-dimensional construct. The results supported the PCA findings (see Figure 1) by demonstrating that the two-factor model. The chi-square analysis of the model was significant ($\chi^2(34;N=1733)=743.27,p<.001$), thus rejecting the model based on the data, a finding that is usual in large samples. On the other hand, fit indices adjusted for the large sample size showed that a two-dimensional model had fairly acceptable fit: RMSEA= 0.110, and 90% CI for RMSEA = (.290; .0974), CFI =.875; TLI 0.83; SRMR 0.15 and GFI =.916 (Figure1).

Corrected item to total correlations ranged from .21 (item 4) to .62 (item 7). Cronbach alphas if an item were deleted ranged from .78 (items 3, 5, 6, 7, 8,10), and .79 (items 1, 2, 9) to .82 (items 4).

Table 4 Correlation coefficients between the emotion regulation questionnaire and the total scale and subscales of perceived stress and Perth Alexithymia Questionnaire

Correlation between the emotion regulation strategies questionnaire subscales; cognitive reappraisal and expressive suppression from the one hand and two other scales of the perceived stress questionnaire and Perth Alexithymia Questionnaire showed that positive significant correlations were found between the expressive suppression of the emotion regulation questionnaire and the perceived stress scale. However, there are negative correlations between the cognitive reappraisal and all subscales of the perceived stress, and almost all subscales of the Perth Alexithymia Questionnaire.
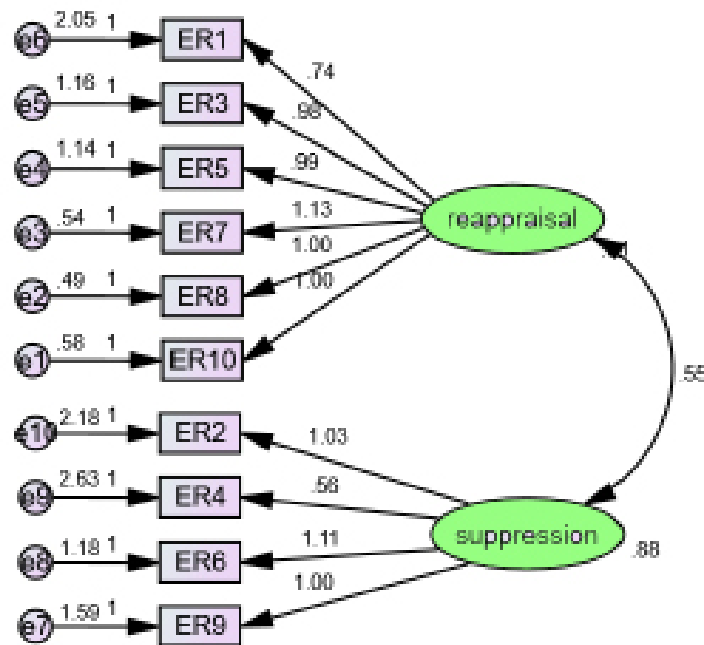
Figure 1. Two-factor CFA model. Model-based on Bootstrap Maximum Likelihood (ML) estimations (2000 samples). All of the standardized coefficients are significant at the .05 level. Emotion regulation questionnaire two subscales; Cognitive reappraisal and expressive suppression. Note: Chi-Square =743.27, df = 34, P-value =0.00001, RMSEA= 0.290.

Discussion

This study presents data from one of the first assessments of emotion regulation in a normative sample of Kuwaiti teachers. Our findings add to the limited knowledge on the type and level of emotion regulation used by teachers to overcome job stress and work pressures, as well as to the body of knowledge on how teachers' emotion regulation is related to adjustment, perceived stress, and alexithymia.

In a large representative sample of Kuwaiti teachers, the ERQ appears to work well. Its psychometric properties, including internal consistency, item-to-total correlations, factor structure, and correlation to a variety of other relevant measures, are consistent with previous research [81]. With two exceptions, we discovered significant demographic differences in the participants' use of emotional regulation strategies. When compared to males, females reported significantly higher levels of both cognitive reappraisal and expressive suppression, a difference with a medium-size effect. This is not consistent with previous research indicating a higher

prevalence of suppression use among men [81]. The Corrected Item-Total Correlation (CITC) for item 4 was lower than the rest of the items (.21). Item 5 on the cognitive reappraisal scale (When confronted with a stressful situation, I force myself to think about it in a way that helps me stay calm) had a medium CITC (.55), therefore it was between medium and large (.48) in the Balzarotti and colleagues' study (2010). The CITC of item 9 on the expressive suppression scale (When I am feeling negative emotions, I make an effort not to express them) was between medium and large (.47), which was very similar to the findings of Balzarotti and colleagues (2010) and Wiltink and colleagues (2011) (CITC =.48, respectively).

The two subscales were correlated (r=.43,p.001), with a large effect size. Other research has found small correlations between the reappraisal and suppression scales [81,92]. Furthermore, the factor analysis essentially confirmed two relatively independent factors; similar to those previously reported [81]. Whereas report two independent factors through both exploratory and confirmatory factor analyses and describe a good fit, were unable to replicate the ERQ's two-factor solutions (2(42)=1172.44,

P.001;RMSEA=.11;SRMR=.097; CFI=.90). In the latter study, allowing item 8 to load on both factors reduced the overall chi2 (2 (41)=662.95, p.001; RMSEA=.078;SRMR=.064;CFI=.95). The RMSEA level in the CFA should ideally be less than .06 to indicate a good fit, but levels up to.08 are considered acceptable.

Our models' fit indices are relatively good achieving the minimum model fit, and making a few minor changes to the model would result in an acceptable fit (e.g., allowing some error covariances among the indicators to correlate). We chose not to make such changes simply to achieve a better fit to report because such changes do not correspond to how the instrument was formed, used, and perceived by the participants. One of these changes is to exclude item 4 that has low factor loading, we thought that excluding such an item may improve the model fit indices. Overall, the fit indices are very close to being adequate.

The ERQ cognitive reappraisal scale correlated negatively with perceived stress subscales; helplessness and self-efficacy, and alexithymia subscales; negative-difficulty identifying feelings, positive-difficulty identifying feelings, negative-difficulty describing feelings, positive-difficulty describing feelings, and general-externally oriental thinking. However, the ERQ expressive suppression scale correlated positively with perceived stress and alexithymia scales and subscales, as predicted. These outcomes, targeting teachers, expand on previous research that found individuals who use reappraisal as a strategy to have closer and more rewarding relationships, while those who use suppression have more strained relationships, avoidance of sharing, and discomfort with closeness [81].

Teachers in general and teachers with a high level of psychological burnout as a direct result of exaggerated work stress need to learn more effective emotion regulation strategies to cope with such demotivating work conditions. A difficulty regulating emotions during these years has been linked to an increased risk of developing psychopathology [92]. In general, when teachers respond sympathetically and supportively to work stressors, therefore, they may learn how to regulate his or her emotions in a new situation. Otherwise, teachers may think seriously to quit the teaching profession, it linked to negative outcomes [93].

Conclusion

The findings of this study indicate that the ERQ has adequate internal consistency and an acceptable factor structure in a sample of teachers working in the Kuwaiti mainstream schools. Emotion regulation in stressful situations may be critical for providing supportive, validating, and positive teachers. If the current findings are replicated and expanded upon, the ERQ could be a useful tool in research and clinical work with teachers, instructors, clinicians, and others involved in the educational field.

Limitations

Despite intensive efforts, the male response rate was low compared with their female counterparts, and there is a risk of bias in terms of respondents having an unequal distribution of males compared with females. This can be justified in the light of the cultural values and traditions of Kuwaiti society; the co-author who distributes study tools online is a female and is in touch with female teachers. Also, a higher level of education than those who chose not to participate in the study. The limited number of teachers with higher postgraduates' degrees in the sample limits how representative this sample of teachers with higher degrees than bachelor's degrees is in comparison to the general population of teachers. Nonetheless, teachers with different education levels and teaching to different types of students have been fairly represented and corresponded in the current study.

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