Original Article



IEEPJ Vol. 3, No. 3, 2021, 256-267

http://ieepj.hormozgan.ac.ir/

Iranian Evolutionary and Educational Psychology Journal

IEEPJ

Investigating The Mediating Role of Cognitive Emotion Regulation Strategies in The Relationship Between Metacognitive Beliefs and Learning Anxiety

Mahtab Yoosefi[1], Majid Barzegar[2*], Maryam Kouroshnia[2], Mohammad Khayer[3]

1. PhD Student in Educational Psychology, Department of Educational Psychology, Marvdasht Branch, Islamic Azad University, Marvdasht, Iran.
2. Assistant Professor, Department of Psychology, Marvdasht Branch, Islamic Azad University, Marvdasht, Iran.
3. Professor of the Department of Psychology, Marvdasht Branch, Islamic Azad University, Marvdasht, Iran.

* Corresponding author's Email: mbarzegar55@gmail.com

ABSTRACT: The aim of this study is to investigate the mediating role of adaptive and maladaptive strategies of cognitive emotion regulation in the relationship between metacognitive beliefs and learning anxiety. The present study is a correlational method. The statistical population encompasses male and female high school students in Shiraz in the academic year of 2019. In this study, 253 students (131 girls and 122 boys) are selected using multistage cluster sampling, and evaluated using the Pekrun Learning Anxiety Questionnaire, Garnefski et al.' Cognitive Emotion Regulation Questionnaire, and Wells et al.' Metacognition Questionnaire. The results of the structural equation modeling exhibit that positive metacognitive beliefs and negative metacognitive beliefs predicted the strategy of maladaptive emotion regulation. Furthermore, negative metacognitive beliefs predict adaptive emotion regulation and maladaptive emotion regulation strategies predict learning anxiety. Correspondingly, the results of the structural equation analysis modeling indicate that the maladaptive emotion regulation mediates the relationship between the metacognitive beliefs and learning anxiety.

Keywords: Cognitive emotion regulation strategies, metacognitive beliefs, learning anxiety, high school students

Introduction

Anxiety is a pervasive, unpleasant, ambiguous condition associated with autonomic nervous system arousal, headache, sweating, palpitations, chest muscle cramps, indigestion, and restlessness in response to internal and external stimuli which leads to behavioral, cognitive, emotional, and physical symptoms. Today, one of the concerns of any educational system is the issue of anxiety in students. Learning anxiety occurs in students, and it is the most important type of anxiety in adolescence. This anxiety threatens the mental health of students and has a negative effect on the efficiency and flourishing of their talents and personality formation. Learning anxiety is a general term, which refers to a specific type of social anxiety or fear that casts doubt on a person's abilities and reduces ability to cope with situations such as exams or assessment situations (He, 2018; C. Liu et al., 2021).

Another issue related to anxiety that has attracted much empirical and theoretical attention in the last two decades is the issue of emotions. This interest and attention can be partly due to the role of emotional regulation. Emotion regulation is the process by which individuals modify their emotions consciously

Article information: Received: 2021/03/27 | Accepted: 2021/06/22 | Published: 2021/09/1. http://dx.doi.org/10.52547/ieepj.3.3.256

[Downloaded from ieepj.hormozgan.ac.ir on 2026-11-03]

[DOR: 20.1001.1.25884395.2021.3.3.6.3]

[DOI: 10.52547/ieepj.3.3.256]

or unconsciously to respond appropriately to environmental demands (Braunstein, Gross, & Ochsner, 2017; Gross, 1999, 2015). The concept of cognitive emotion regulation refers to the cognitive style of emotion management and coping (Bahrami, Vahedi, Adib, & Badri Gargari, 2020; Etminan, HajiAlizadeh, & Samavi, 2020; Gross, 2015; Ochsner & Gross, 2008).

Cognitive emotion regulation strategies may be adoptive or maladaptive. Maladaptive strategies play an essential role in the formation or persistence of psychological disorders (Garnefski, Hossain, & Kraaij, 2017; J. Liu, Subramaniam, Chong, & Mahendran, 2020; Westermann, Boden, Gross, & Lincoln, 2013). Seibert, Bauer, May, and Fincham (2017) in a study examine the relationship of emotion regulation with academic performance and indicate that there is a significant relationship between emotion regulation and academic performance and academic burnout. Løvaas et al. (2018) in a study examine the cognitive regulation of emotion and its relationship with anxiety symptoms in children aged 8-12 years. The results revealed that anxiety symptoms are associated with poorer cognitive emotion regulation. Cognitive emotion regulation strategies are likely to mediate the relationship between metacognitive beliefs and learning anxiety.

It seems that one of the most important and influential cognitive variables on cognitive regulation of emotions is metacognitive beliefs. Metacognitive beliefs refer to psychological structures, knowledge, and processes that deal with the control, change, and interpretation of thoughts and cognitions (Caselli et al., 2017). Metacognitive beliefs also refer to the part of metacognitive knowledge that relates a person's beliefs about cognition and emotional experiences (Wells, 2008). According to Wells (2008), the five metacognitive beliefs are: (1) positive beliefs about worry; (2) negative beliefs about worry concerning uncontrollability and danger; (3) cognitive confidence; (4) beliefs about the need to control thoughts; and (5) cognitive self-consciousness.

Heidarei, Ahtasham zadh, and Hallajanie (2009) propose the relationship between emotional regulation and metacognition with students' test anxiety. It indicates that there is a significant positive relationship between emotional regulation and test anxiety. But there is a negative relationship between metacognition and test anxiety. Leahy, Wupperman, Edwards, Shivaji, and Molina (2019) in a study propose that metacognitive processes are more likely to be activated if individuals have negative beliefs about emotional experience. They indicate that metacognition has an effect on anxiety and metacognitive, avoidance, and emotional schema models contribute to depression and anxiety.

Moradizadeh, nouri ghasmabadi, and hasani (2017) examine the role of metacognitive beliefs and control strategies of thought in students' test anxiety symptoms. The results show that metacognitive components of positive beliefs about anxiety, uncontrollability and risk and cognitive confidence are positively related to students' test anxiety symptoms. Also, among the control strategies of thought,

[Downloaded from ieepj.hormozgan.ac.ir on 2026-11-03]
[DOR: 20.1001.1.25884395.2021.3.3.6.3]
[DOI: 10.52547/ieepj.3.3.256]

anxiety, social control and punishment are positively related to students' test anxiety symptoms. Haghshenas, Nouri, Moradi, and Sarami (2014) in a study evaluate metacognitive beliefs and their relationship with test anxiety in undergraduate students and show that out of the five dimensions of metacognition, only positive metacognitive beliefs and cognitive assurance have direct effects on anxiety while other dimensions have indirect effects.

According to the results of previous research and existing theoretical foundations, the purpose of this study is to investigate the mediating role of cognitive emotion regulation strategies in the relationship between metacognitive beliefs and learning anxiety. Accordingly, in the proposed model, cognitive emotion regulation strategies have been tested as a mediating variable (Figure 1).

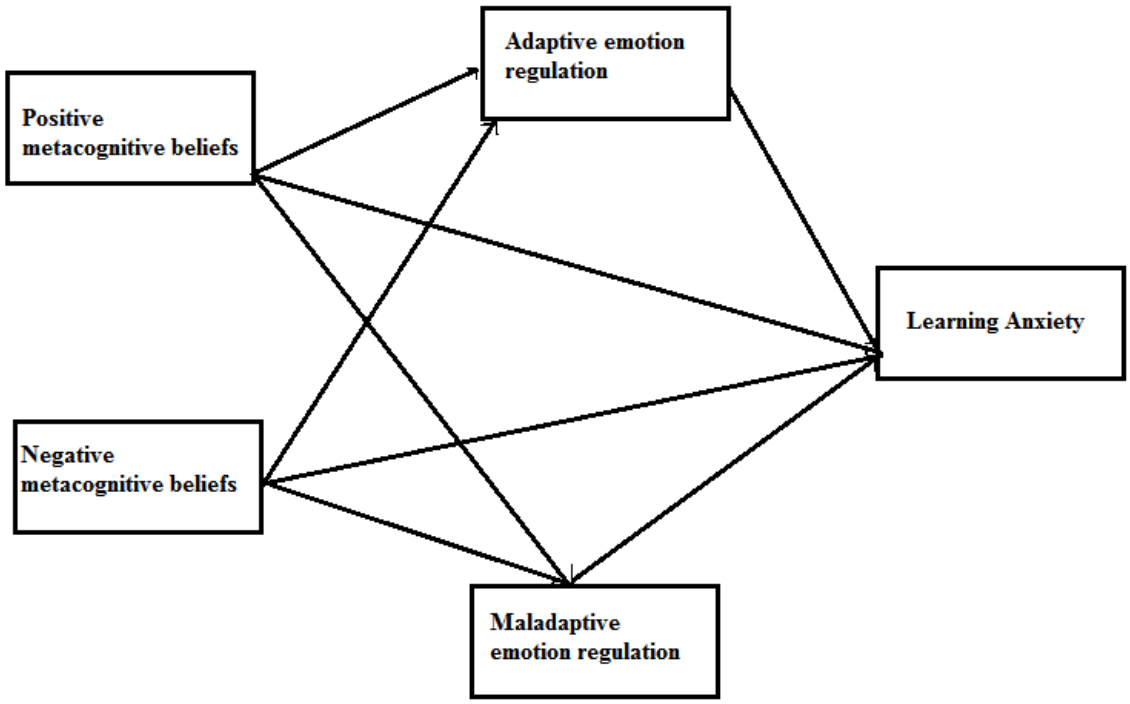


Figure 1. The proposed model

Material and Methods

The research method concerns structural equation modeling is used to test the research hypotheses. The statistical population includes male and female high school students in Shiraz, Iran in the academic year 2019. 253 people (131 girls and 122 boys) are selected using multi-stage cluster sampling. For data collection, three questionnaires of learning anxiety (Pekrun, Goetz, Titz, & Perry, 2002), cognitive emotion regulation questionnaire (Garnefski & Kraaij, 2007) and metacognitive questionnaire (Wells & Cartwright-Hatton, 2004) are used.

[Downloaded from ieepj.hormozgan.ac.ir on 2026-11-03]
[DOR: 20.1001.1.25884395.2021.3.3.6.3]
[DOI: 10.52547/ieepj.3.3.256]

Learning Anxiety Questionnaire (Pekrun et al., 2002): This questionnaire has 11 questions and its purpose is to assess the level of anxiety about learning. Respondents estimate their learning anxiety on a five point Likert scale from "strongly disagree" (1) to "strongly agree" (5). The minimum possible score will be 11 and the maximum will be 55. In Kdivar, Farzad, Kavousian, and Nikdel (2010) study, Cronbach's alpha coefficient and confirmatory factor analysis are used to evaluate the reliability and validity of this questionnaire. Cronbach's alpha on this scale is .802. Therefore, this questionnaire is a good tool to determine the level of anxiety related to learning. The reliability of this scale in the present study is 82 by using Cronbach's alpha method.

Cognitive Emotion Regulation Questionnaire (Garnefski & Kraaij, 2007): The Cognitive Emotion Regulation Questionnaire is developed by Garnefski and Kraaij (2007). This multidimensional questionnaire is a self-report tool that has 36 items and has a special form for adults and children. The scoring of the questionnaire is based on the Likert scale: never (1), rarely (2), sometimes (3), often (4) and always (5). This questionnaire has two components: Adaptive cognitive regulation is assessed by items (28, 27, 26, 25, 24, 23, 22, 21, 20, 19, 18, 17, 16, 15, 14 and 13) and maladaptive cognitive regulation is assessed by items (36, 35, 34, 33, 32, 31, 30, 29, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1). A score between 36 and 72 indicates weak cognitive emotion regulation, a score between 72 and 108 indicates moderate emotion cognitive regulation, and a score above 108 indicates strong emotion cognitive regulation. Garnefski and Kraaij (2007) report the validity and reliability of this questionnaire using Cronbach's alpha and correlation. The alpha coefficient for the subscales of this questionnaire was reported by Garnefski and Kraaij (2007) in the range of .71 to .81. Khanzadeh, Saeidian, Hosseinchari, and Idrisi (2012) report Cronbach's alpha coefficient of this scale between .79 to .91. Cronbach's alpha coefficient of this questionnaire in the present study is 0.84.

Metacognition Questionnaire (Wells & Cartwright-Hatton, 2004): This scale has 30 questions. The questionnaire has two factors (positive and negative metacognitive beliefs) and five subscales. The positive metacognitive belief factor includes positive belief about anxiety and cognitive self-awareness, and negative metacognitive belief factor include negative belief about thought controllability and the risks associated with anxiety, cognitive uncertainty, and control thoughts. The answers to the questions are calculated in the form of a four-point Likert scale 1 (Disagree) to 4 (Strongly Agree). The correlation coefficient of the metacognitive questionnaire with the Spielberger (2010) state trait anxiety questionnaire is .53 (Wells & Cartwright-Hatton, 2004). In Wells and Cartwright-Hatton (2004)study, Cronbach's alpha coefficient is used to measure the internal validity of the scale. Total reliability is .87. Also, in Iran, in order to evaluate the reliability of the questionnaire, this tool is performed on 52 people

[Downloaded from ieepj.hormozgan.ac.ir on 2026-11-03]
[DOR: 20.1001.1.25884395.2021.3.3.6.3]
[DOI: 10.52547/ieepj.3.3.256]

and its alpha was .88 (Yousefi, Jangi Aghdam, Seyvanizadeh, & Adhamian, 2008). The reliability of this scale in the present study using Cronbach's alpha method is .87.

Results

Mean and standard deviation of learning anxiety, cognitive emotion regulation strategies and metacognitive beliefs are presented in Table 1. Also, in table 2, the correlation matrix of the research variables and in table 3, the results of the normality test of the variables are presented.

Table 1. Descriptive statistics of research variables

Variables		Mean	SD
Learning anxiety		33.82	5.74
Adaptive emotion regulation strategy		48.19	7.37
Maladaptive emotion regulation strategy		59.75	7.10
Metacognitive beliefs	Positive metacognitive beliefs	30.30	5.36
	Negative metacognitive beliefs	45.47	6.95
	The total score of metacognitive beliefs	75.77	5.61

Table 2. Correlation matrix of research variables

Research variables	Positive metacognitive beliefs	Negative metacognitive beliefs	Metacognitive beliefs	Adaptive emotion regulation strategy	Maladaptive emotion regulation strategy
Negative metacognitive beliefs	-.612**				
Metacognitive beliefs	.198**	.654**			
Adaptive emotion regulation strategy	.176**	-.188**	-.065		
Maladaptive emotion regulation strategy	-.501**	.530**	.178**	-.169**	
Learning anxiety	-.597**	.603**	.176**	-.144*	.486**

**P< .01, *P< .05

According to Table 2, the positive metacognitive beliefs has a negative and significant correlation with the regulation of maladaptive emotion regulation and learning anxiety, and a positive and significant correlation with the adaptive emotion regulation. Negative metacognitive beliefs have a positive and significant correlation with maladaptive emotion regulation and learning anxiety and a negative and significant correlation with adaptive emotion regulation. The total score of metacognitive beliefs is negatively and significantly correlated with maladaptive emotional regulation and learning anxiety.

Table 3. Results of the test of normality of research variables

Variable	Kolmogorov–Smirnov		Shapiro–Wilk	
	Statistic	*p*	Statistic	*p*

[Downloaded from ieepj.hormozgan.ac.ir on 2026-11-03]

[DOR: 20.1001.1.25884395.2021.3.3.6.3]
[DOI: 10.52547/ieepj.3.3.256]

Positive metacognitive beliefs	.062	.081	.98	.12
Negative metacognitive beliefs	.055	.058	.99	.13
Adaptive emotion regulation strategy	.147	.200	.99	.34
Maladaptive emotion regulation strategy	.063	.076	.98	.13
Learning anxiety	.053	.084	.99	.56

According to Table 3, the significance level values in all variables are higher than 0.05, which indicates the normality of the research variables. The results also show that the tolerance values obtained for the variables are higher than 0.10 and the amount of variance inflation factor for the variables is less than 10, which indicates a lack of multicollinearity between the predictor variables.

Results related to testing the proposed model

In order to investigate the structural relationship between exogenous variables (positive and negative metacognitive beliefs) and endogenous variables (learning anxiety) with mediation (adaptive and maladaptive strategies of cognitive emotion regulation), structural equation modeling is used. In the present study, model paths and research hypotheses are examined. Hypotheses about the assumed model are presented.

Research sub-hypotheses

Sub-hypothesis 1: Exogenous variables (positive and negative metacognitive beliefs) predict mediating variables (adaptive and maladaptive strategies of cognitive emotion regulation).

Sub-hypothesis 2: Exogenous variables (positive and negative metacognitive beliefs) predict the endogenous variable (learning anxiety).

Sub-hypothesis 3: Mediating variables (adaptive and maladaptive strategies of cognitive emotion regulation) predict the endogenous variable (learning anxiety).

Main Hypothesis: Mediating variables (adaptive and maladaptive strategies of cognitive emotion regulation) play a mediating role in the relationship between exogenous variables (positive and negative metacognitive beliefs) and endogenous variables (learning anxiety).

One of the criteria for fitting the structural model is the index R^2. This index states how much of the variance of the dependent variable is explained by the independent variables. The values of 0.19, 0.33 and 0.67 are weak, medium and strong values, respectively. Another criterion for fitting the structural model is the criterion Q^2. This index indicates whether the prediction of the behavior of endogenous variables by exogenous variables is of good quality or not? Values of 0.02, 0.15 and 0.35 show weak, medium and strong prediction, respectively. Table 4 presents the findings of the R^2 and Q^2 indices, which are at an appropriate level.

[Downloaded from ieepj.hormozgan.ac.ir on 2026-11-03]
[DOR: 20.1001.1.25884395.2021.3.3.6.3]
[DOI: 10.52547/ieepj.3.3.256]

Table 4. Values of R^2 and Q^2

Variable	R^2	Q^2
Positive metacognitive beliefs		.18
Negative metacognitive beliefs		.35
Learning anxiety	.84	.13
Adaptive emotion regulation strategy	.45	.15
Maladaptive emotion regulation strategy	.04	.06

The GOF index is used to fit the overall model. Values of 0.01, 0.25 and 0.36 indicate weak, medium and strong fit for the model. The value of this index for the model is 0.47, which indicates a strong fit of the overall model. In Table 5, significant values of path coefficients are presented in the proposed model.

Table 5. Significant values of path coefficients in the proposed model

Hypotheses	Path	Statistic	Result
Sub- hypothesis 1	Negative metacognitive beliefs to adaptive cognitive regulation	1.21	Significant
	Positive metacognitive beliefs to adaptive cognitive regulation	.81	Non-significant
	Negative metacognitive beliefs to maladaptive cognitive regulation	4.34	Significant
	Positive metacognitive beliefs to maladaptive cognitive regulation	5.02	Significant
Sub- hypothesis 2	Positive metacognitive beliefs to learning anxiety	8.88	Significant
	Negative metacognitive beliefs to learning anxiety	7.47	Significant
Sub- hypothesis 3	Maladaptive cognitive regulation to learning anxiety	5.92	Significant
	Adaptive cognitive regulation to learning anxiety	.63	Non-significant

According to the Table 5, the positive metacognitive beliefs and negative metacognitive beliefs do not affect the learning anxiety variable due to the mediating variable of adaptive emotion regulation strategy,

[Downloaded from ieepj.hormozgan.ac.ir on 2026-11-03]
[DOR: 20.1001.1.25884395.2021.3.3.6.3]
[DOI: 10.52547/ieepj.3.3.256]

but they have the significant effect on learning anxiety mediated by maladaptive emotion regulation strategy.

Discussion

Results indicate that positive metacognitive beliefs are not able to predict adaptive emotion regulation strategy but negative metacognitive beliefs are able to predict adaptive emotion regulation strategy. Positive metacognitive beliefs and negative metacognitive beliefs are able to predict the strategy of maladaptive emotion regulation. This finding is consistent with the earlier studies (Manser, Cooper, & Trefusis, 2012; Namani & Nemati Shahri, 2018). In explaining this finding, according to Hutton, Morrison, Wardle, and Wells (2014), people with high cognitive self-awareness are constantly paying attention to their thoughts, controlling their thoughts, and somehow paying special attention to their mental functioning. They acknowledge that they can control their emotions. In this study, positive beliefs are able to predict maladaptive emotion regulation. In other words, as positive beliefs increase, maladaptive strategies decrease. Explaining this finding, a positive belief about worry indicates that people believe that if they are worried, worry will help them avoid future problems and solve them. People who have a positive belief about anxiety think that because of this belief, they can plan better and have more control over their behavior and actions and choices. Therefore, they can negatively predict maladaptive emotions that are not controllable.

Based on the findings of this study, negative metacognitive beliefs could positively predict maladaptive emotion regulation strategies. Belief in uncontrollability is a reflection of one's belief that anxiety is dangerous. Statements such as "worry is dangerous for me", "sometimes I really get sick by worrying" show people's belief in controlling their worrying thoughts. These anxious thoughts continue, regardless of the person's efforts to stop them and will lead to the emergence and persistence of negative emotions. According to the Welsh metacognitive model (Welsh, Cartwright-Hatton, Wells, Snow, & Tiffin, 2014), people fall into the trap of emotional distress because their cognition responds in a certain way and causes negative emotions and negative beliefs (worry and rumination) to persist in them (Spada, Nikčević, Moneta, & Wells, 2008). Therefore, it can be said that students who fall into the trap of negative metacognition, use maladaptive emotion regulation strategies when facing life stresses.

According to the results, positive metacognitive beliefs and negative metacognitive beliefs are able to predict learning anxiety. This finding is consistent with the findings of earlier studies (Leahy et al., 2019; Sirota, Moskovchenko, Yaltonsky, & Yaltonskaya, 2018; Spada et al., 2008; Zivcic-Becirevic, Guretic,

[Downloaded from ieepj.hormozgan.ac.ir on 2026-11-03]
[DOR: 20.1001.1.25884395.2021.3.3.6.3]
[DOI: 10.52547/ieepj.3.3.256]

[Downloaded from ieepj.hormozgan.ac.ir on 2026-11-03]

[DOR: 20.1001.1.25884395.2021.3.3.6.3]

[DOI: 10.52547/ieepj.3.3.256]

& Miljevic, 2009). The more positive metacognitive beliefs a person has, the more they will reinforce positive experiences and reduce anxiety. It can be said that positive metacognitive beliefs include our cognition, feelings and experiences, and cognitive experience or cognitive control and regulation processes. They guide one's thinking in problem-solving and decision-making situations that lead to better working memory performance. As a result, it can be said that having positive beliefs can be a predictor of learning anxiety.

According to the findings, adaptive emotion regulation strategies are not able to predict learning anxiety while maladaptive emotion regulation strategies are able to predict learning anxiety. This finding is consistent with the previous studies (Sirota et al., 2018) (Ghasemi Jobaneh, Mousavi, Zanipoor, & Hoseini Seddigh, 2016; Trógolo & Medrano, 2012).

Explaining this finding, it can be said that people with high adaptive emotion regulation can set up positive and facilitating emotions by regulating and managing their emotions. They make decisions in a desirable way or pay attention to themselves, even under stressful conditions.

In regulating maladaptive emotion, people act poorly in accepting and being aware of their emotions; their inner emotions are out of their reach and the memory responds to them in a reactive way, as if they are affected by these emotions. In general, students who use maladaptive emotion regulation strategies often suffer from psychological distress and suffer from a great deal of negative emotions, which in turn leads to the development of learning anxiety.

Finally, according to the findings, positive metacognitive beliefs and negative metacognitive beliefs due to the mediating variable of adaptive emotion regulation strategy do not affect learning anxiety variable, but the variables of positive metacognitive beliefs and negative metacognitive beliefs due to the mediating variable of maladaptive emotion regulation strategy have an effect on learning anxiety. This finding is in accordance with the findings of Ghribnavaz, Nouri, and Moghadasin (2018). This finding suggests that metacognitive beliefs predict learning anxiety, if not completely, but in part through cognitive emotion regulation. It can be argued that somehow negative metacognitive beliefs, through maladaptive cognitive emotion regulation strategies, exacerbate and perpetuate anxiety in people with anxiety.

In addition to the findings, the present study has been associated with limitations that should be considered in the generalizability of the findings. One of the limitations of this study is that the selected students are from secondary schools for girls and boys in Shiraz. Therefore, one must be careful to extend it to other cities. Based on this, it is suggested that the present study be conducted in other samples as well. Also, due to the mediating role of maladaptive and adaptive cognitive regulation in the

relationship between metacognitive beliefs and learning anxiety, it is suggested that workshops being held in schools related to emotional cognitive regulation and metacognitive beliefs.

Conflict of interest: The authors state no conflict of interest in the study.

Financial sponsor: The authors acknowledge that they have not received any financial support for all stages of the study, writing and publication of the paper.

Acknowledgment: We hereby appreciate all the participants of the study as well as all those participating in the implementation of this project.

References

Bahrami, M., Vahedi, S., Adib, Y., & Badri Gargari, R. (2020). Effectiveness of parent management training (pmt) on reducing bullying and improving cognitive emotion regulation in students. *Quarterly journal of child mental health, 7*(1), 155-167.

Braunstein, L. M., Gross, J. J., & Ochsner, K. N. (2017). Explicit and implicit emotion regulation: a multi-level framework. *Social cognitive and affective neuroscience, 12*(10), 1545-1557.

Caselli, G., Offredi, A., Martino, F., Varalli, D., Ruggiero, G. M., Sassaroli, S., . . . Wells, A. (2017). Metacognitive beliefs and rumination as predictors of anger: A prospective study. *Aggressive behavior, 43*(5), 421-429.

Etminan, F. A., HajiAlizadeh, K., & Samavi, A. (2020). Psychometric Properties of Emotional Self-Efficacy Questionnaire: Relationships between Emotional Self-Efficacy and Risky Sexual Behaviors. *Iranian Evolutionary and Educational Psychology, 2*(4), 309-315. doi:10.52547/ieepj.2.4.309

Garnefski, N., Hossain, S., & Kraaij, V. (2017). Relationships between maladaptive cognitive emotion regulation strategies and psychopathology in adolescents from Bangladesh. *Archives of Depression and Anxiety, 3*(2), 23-29.

Garnefski, N., & Kraaij, V. (2007). The cognitive emotion regulation questionnaire. *European Journal of Psychological Assessment, 23*(3), 141-149.

Ghasemi Jobaneh, R., Mousavi, S. V., Zanipoor, A., & Hoseini Seddigh, M. A. (2016). The relationship between mindfulness and emotion regulation with academic procrastination of students. *EDUCATIONAL STRATEGIES, 9*(2), 134-141.

Ghribnavaz, S., Nouri, R., & Moghadasin, M. (2018). Relationship between Metacognition believes and Exam Anxiety: Mediating role of Cognitive Emotion Regulation. *Journal of Cognitive Psychology, 5*(4), 1-10.

Gross, J. J. (1999). Emotion regulation: Past, present, future. *Cognition & emotion, 13*(5), 551-573.

Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological Inquiry, 26*(1), 1-26.

Haghshenas, Z., Nouri, R., Moradi, A., & Sarami, G. (2014). Evaluation of Coping Styles, Metacognition and its Relationship with Test Anxiety in Tehran Teacher Training University. *Journal of Mazandaran University of Medical Sciences, 23*(1), 145-155.

[Downloaded from ieepj.hormozgan.ac.ir on 2026-11-03]

[DOR: 20.1001.1.25884395.2021.3.3.6.3]

[DOI: 10.52547/ieepj.3.3.256]

He, D. (2018). *Foreign language learning anxiety in China: Theories and applications in English language teaching*: Springer.

Heidarei, a., Ahtasham zadh, p., & Hallajanie, f. (2009). The relationship of emotional regulation, meta cognitive and optimism with test anxiety of complementary education of university students. *JOURNAL OF SOCIAL PSYCHOLOGY (NEW FINDINGS IN PSYCHOLOGY), 3*(11), 6-19.

Hutton, P., Morrison, A. P., Wardle, M., & Wells, A. (2014). Metacognitive therapy in treatment-resistant psychosis: a multiple-baseline study. *Behavioural and cognitive psychotherapy, 42*(2), 166-185.

Kdivar, P., Farzad, V., Kavousian, J., & Nikdel, F. (2010). A study on factorial validity and reliability of pekrun's achievement emotion questionnaire. *JOURNAL OF EDUCATIONAL INNOVATIONS, 8*(32), 7-38.

Khanzadeh, M., Saeidian, M., Hosseinchari, M., & Idrisi, F. (2012). Factor Structure and Psychometric Properties of Scale of Difficulty in Emotional Regulation. *Behavioral Sciences, 6*(1), 24-33.

Leahy, R. L., Wupperman, P., Edwards, E., Shivaji, S., & Molina, N. (2019). Metacognition and emotional schemas: Effects on depression and anxiety. *International Journal of Cognitive Therapy, 12*(1), 25-37.

Liu, C., He, J., Ding, C., Fan, X., Hwang, G.-J., & Zhang, Y. (2021). Self-oriented learning perfectionism and English learning burnout among EFL learners using mobile applications: The mediating roles of English learning anxiety and grit. *Learning and individual Differences, 88*, 102011.

Liu, J., Subramaniam, M., Chong, S. A., & Mahendran, R. (2020). Maladaptive cognitive emotion regulation strategies and positive symptoms in schizophrenia spectrum disorders: The mediating role of global emotion dysregulation. *Clinical Psychology & Psychotherapy, 27*(6), 826-836.

Løvaas, M. E. S., Sund, A. M., Patras, J., Martinsen, K., Hjemdal, O., Neumer, S.-P., . . . Reinfjell, T. (2018). Emotion regulation and its relation to symptoms of anxiety and depression in children aged 8–12 years: does parental gender play a differentiating role? *BMC psychology, 6*(1), 1-11.

Manser, R., Cooper, M., & Trefusis, J. (2012). Beliefs about emotions as a metacognitive construct: Initial development of a self-report questionnaire measure and preliminary investigation in relation to emotion regulation. *Clinical Psychology & Psychotherapy, 19*(3), 235-246.

Moradizadeh, y., nouri ghasmabadi, r., & hasani, j. (2017). The role of metacognitive beliefs and thought control strategies in test anxiety. *Journal of Cognitive Psychology, 4*(4), 21-30.

Namani, E., & Nemati Shahri, S. (2018). Mediating role hardiness in relation early maladaptive schemas with cognitive emotion regulation in women freed from substance use disorder. *JOURNAL OF SABZEVAR UNIVERSITY OF MEDICAL SCIENCES, 25*(3), 317-326.

Ochsner, K. N., & Gross, J. J. (2008). Cognitive emotion regulation: Insights from social cognitive and affective neuroscience. *Current directions in psychological science, 17*(2), 153-158.

Pekrun, R., Goetz, T., Titz, W., & Perry, R. P. (2002). Academic emotions in students' self-regulated learning and achievement: A program of qualitative and quantitative research. *Educational psychologist, 37*(2), 91-105.

Seibert, G. S., Bauer, K. N., May, R. W., & Fincham, F. D. (2017). Emotion regulation and academic underperformance: The role of school burnout. *Learning and individual Differences, 60*, 1-9.

[Downloaded from ieepj.hormozgan.ac.ir on 2026-11-03]

[DOR: 20.1001.1.25884395.2021.3.3.6.3]

[DOI: 10.52547/ieepj.3.3.256]

Sirota, N. A., Moskovchenko, D. V., Yaltonsky, V. M., & Yaltonskaya, A. V. (2018). The role of emotional schemas in anxiety and depression among russian medical students. *Psychology in Russia: state of the art, 11*(4).

Spada, M. M., Nikčević, A. V., Moneta, G. B., & Wells, A. (2008). Metacognition, perceived stress, and negative emotion. *Personality and Individual Differences, 44*(5), 1172-1181.

Spielberger, C. D. (2010). State-Trait anxiety inventory. *The Corsini encyclopedia of psychology*, 1-1.

Trógolo, M., & Medrano, L. A. (2012). Personality traits, difficulties in emotion regulation and academic satisfaction in a sample of argentine college students. *International journal of psychological research, 5*(2), 30-39.

Wells, A. (2008). Metacognitive therapy: Cognition applied to regulating cognition. *Behavioural and cognitive psychotherapy, 36*(6), 651-658.

Wells, A., & Cartwright-Hatton, S. (2004). A short form of the metacognitions questionnaire: properties of the MCQ-30. *Behaviour research and therapy, 42*(4), 385-396.

Welsh, P., Cartwright-Hatton, S., Wells, A., Snow, L., & Tiffin, P. A. (2014). Metacognitive beliefs in adolescents with an at-risk mental state for psychosis. *Early intervention in psychiatry, 8*(1), 82-86.

Westermann, S., Boden, M. T., Gross, J. J., & Lincoln, T. M. (2013). Maladaptive cognitive emotion regulation prospectively predicts subclinical paranoia. *Cognitive therapy and research, 37*(4), 881-885.

Yousefi, R., Jangi Aghdam, H., Seyvanizadeh, M., & Adhamian, E. (2008). A comparison of metacognition in patients with schizophrenia, anxiety disorder, and non-patient control. *ADVANCES IN COGNITIVE SCIENCE, 10*(2 (38)), 1-8.

Zivcic-Becirevic, I., Guretic, J., & Miljevic, M. (2009). The role of metacognitive beliefs, automatic thoughts during learning and attribution of success in students, test anxiety and academic achievement. *The journal of social science, 18*(1), 119-136.

This work is licensed under a Creative Commons Attribution-Noncommercial 4.0 International License

[Downloaded from ieepj.hormozgan.ac.ir on 2026-11-03]

[DOR: 20.1001.1.25884395.2021.3.3.6.3]

[DOI: 10.52547/ieepj.3.3.256]