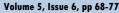
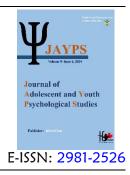


Article history: Received 09 February 2024 Revised 24 April 2024 Accepted 07 May 2024 Published online 10 June 2024

Journal of Adolescent and Youth **Psychological Studies**





The Causal Model of Cognitive Emotion Regulation: Maladaptive **Early Schemas and Parenting Styles**

Sepideh. Razavi¹^(b), Leila. Khajehpour^{2*}^(b), Ghavam. Moltafet³^(b)

¹ PhD student, Department of Psychology, Qeshm Branch, Islamic Azad University, Qeshm, Iran ² Professor Department of Psychology, Qeshm Branch, Islamic Azad University, Qeshm, Iran ³ Assistant Professor, Department of Psychology, University of Yasouj, Yasouj, Iran

* Corresponding author email address: khajepoor24@gmail.com

Article Info

Article type: Original Research

How to cite this article:

Razavi, S., Khajehpour, L., & Moltafet, G. (2024). The Causal Model of Cognitive Emotion **Regulation:** Maladaptive Early Schemas and Parenting Styles. Journal of Adolescent and Youth Psychological Studies, 5(6), 68-77.

http://doi.org/10.61838/kman.jayps.5.6.8



© 2024 the authors. Published by KMAN Publication Inc. (KMANPUB), Ontario, Canada. This is an open access article under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) License.

ABSTRACT

Objective: The aim of this study was to predict adolescents' cognitive emotion regulation strategies based on the mothers' maladaptive early schemas and their parenting styles.

Methods and Materials This descriptive correlational study involved a randomly selected cluster sample of 406 high school students (comprising 200 girls and 206 boys) from Tabriz. Data were collected using three scales: Young's Schema Questionnaire-Short Form (YSQ-SF), the short form of the Persian version of the Cognitive Emotion Regulation Questionnaire for adults (CERQ-P), and the Family as a Social Context Scale by Skinner. The collected data were analyzed using correlational statistics and structural equation modeling.

Findings: The results confirmed the role of mothers' maladaptive early schemas and their parenting styles in the formation and application of their children's cognitive emotion regulation strategies.

Conclusion: The findings of this study indicated that when parents' schemas are adjusted, it leads to the selection of effective parenting methods, which in turn increases adolescents' use of positive cognitive emotion regulation strategies.

Keywords: Emotion, Cognitive Emotion Regulation, Maladaptive Early Schemas, Parenting Styles

1. Introduction

n the realm of emotion, various concepts can be discussed, with the most important being emotion regulation. According to Bridge, Marghi, and Reiff (2001), emotion regulation is considered a set of processes that an individual may use to invoke, maintain, control, or change a positive or negative emotion. Dahl (2001) views emotion regulation as an individual's effort to manage emotions for a specific goal. Emotion regulation, as a complex and

multifaceted phenomenon, develops through the integration of numerous biological and behavioral processes (Thompson & Goodvin, 2007). These internal and external processes operate to monitor, evaluate, and modify emotional actions, especially when there are obstacles to achieving goals. Internal and external processes can be viewed as the physiological, cognitive, behavioral, and social processes of humans that represent a person's unique responses in relation to themselves and their surroundings (Thompson, 1994).

Garnefski (2001) introduces strategies related to cognitive emotion regulation, identifying how individuals react and act in stressful situations (Garnefski et al., 2001). According to Garnefski and Kraaij (2006), cognitive emotion regulation strategies are self-awareness mechanisms used by individuals to cope with adverse conditions (Garnefski & Kraaij, 2006). Many researchers believe that cognitive emotion regulation strategies have a special place in diagnostic and therapeutic activities in the field of clinical psychology. According to these researchers, individuals with emotional disorders use different strategies when dealing with adverse conditions. These strategies include self-blame, blaming others, acceptance, rumination, positive refocusing, refocusing on planning, positive perspective-taking, and reappraisal, catastrophizing (Garnefski & Kraaij, 2006).

The development and initiation of emotion regulation occur during childhood, which leads to the ability to control one's own and others' emotional information processing, contributing to both internal and external success in daily life (Crandall et al., 2015; Morris et al., 2007; Silk et al., 2003). Research has shown that emotion regulation has a positive effect on mental health and all aspects of an individual's life. Therefore, if individuals can regulate their emotions, they achieve a better quality of life. Recognizing the antecedents of cognitive emotion regulation seems essential. Research generally indicates that these patterns are largely learned and influenced by familial, social, and personality factors. According to researchers, cognitive emotion regulation strategies are significantly influenced by parental behaviors (Aghaziarati et al., 2023; Aghaziarati & Nejatifar, 2023; Azizi et al., 2023; Cavicchioli et al., 2023; Cui, 2023; Ruan et al., 2023).

Numerous studies have examined the role of familyrelated factors as contributors to individual vulnerability. The initial parent-child relationship plays a crucial role in the normal development of the child, and deviations from the development of dependency behaviors and lack of parental support and care predispose children to major problems in properly controlling emotions in adulthood (Harris & Curtin, 2002).

One of the issues related to the initial parent-child relationship is early maladaptive schemas. Young (1999) proposed a schema-based model to explain the parent-child relationship and psychological and emotional pathology. In recent years, Young's model has been extensively used to address issues related to emotion and its regulation. He described schemas as pervasive and damaging emotional patterns that form early in development and recur throughout life (Young & Questionnaire, 2001; Young, 1999). These schemas are broad and pervasive themes composed of memories, emotions, cognitions, and bodily sensations about oneself and one's relationships with others (Thimm, 2010).

Early maladaptive schemas form the basis of an individual's cognitions and interact with negative life events and psychological stressors. When the deepest cognitive structures, schemas, are activated, they generate levels of emotion that directly or indirectly lead to various forms of psychological and emotional disturbances, such as depression, anxiety, and interpersonal conflict (van der Linde et al., 2023). These schemas typically stem from unmet basic needs, especially emotional needs, during early life. When maladaptive schemas are activated, individuals often experience high levels of emotions, including intense anger, anxiety, depression, or guilt (Ammari et al., 2023; Hadiyan et al., 2023). Additionally, these schemas draw individuals toward events that align with their schemas, making changing these schemas difficult. Inevitably and paradoxically, schemas lead adults back to the adverse conditions of childhood, which are often harmful. Maladaptive schemas create biases in interpreting events. These biases manifest in interpersonal psychopathology as misunderstandings, distorted attitudes, incorrect assumptions, and unrealistic expectations in relationships. Since schemas persist throughout life, they affect how individuals relate to themselves and others (Ayranci, 2015; Stiles, 2004).

Considering the aforementioned points, early maladaptive schemas can directly and profoundly affect cognitive emotion regulation. They may also have an important indirect role by influencing parenting styles. Psychologists have long asserted that parental behavior significantly impacts the formation of a child's thoughts, behaviors, and emotions (Harris & Curtin, 2002). Among the family variables that have received considerable attention from researchers and experts are parenting styles and



parenting methods. The set of attitudes, actions, and verbal and non-verbal expressions of parents that define the nature of parent-child interactions in various situations are known as parenting styles. Skinner et al. (2005) classified parenting styles into six types: warmth, rejection, structure, chaos, autonomy support, and coercion (Skinner et al., 2005).

There is a positive relationship between parental warmth and sensitivity towards children with emotion regulation and attentional control (Dennis, 2006), self-esteem (Hague, 1988; Baumeister, 2000), having intrinsic values for oneself (Baumrind, 1991), inner happiness (Chang & Shaw, 2016), and a positive relationship between coercion and violent behaviors in adulthood, especially with partners (Chang & Shaw, 2016; Laurin et al., 2015).

Considering the importance of cognitive emotion regulation in psychology and the significant role of family and parenting styles in creating emotional and behavioral disorders, and based on the prior research (Otterpohl & Wild, 2015; Turpyn et al., 2015), this study aims to explore the causal model of how mothers' early maladaptive schemas and their parenting styles affect their children's cognitive emotion regulation strategies.

2. Methods and Materials

2.1. Study Design and Participants

This descriptive correlational study employs structural equation modeling (SEM). SEM is a multivariate analysis technique that allows researchers to simultaneously test a set of regression equations and confirmatory factor analysis. In this study, early maladaptive schemas are considered exogenous latent variables, cognitive emotion regulation as endogenous latent variables, and parenting styles as mediating latent variables.

The statistical population includes all high school students enrolled in the academic year 2023-2024. The research sample consists of 480 male and female students from the first to third grades of high school in Tabriz, selected through multistage cluster sampling from eight schools. After several follow-ups, 412 completed questionnaires were returned from parents and children, and 406 questionnaires (200 girls and 206 boys) were ready for statistical analysis.

After obtaining permission from school authorities, classrooms were randomly selected across grades and disciplines. In each class, the researcher explained the purpose of the study and assured students of the confidentiality of their responses. Approximately two-thirds of the students in each class were randomly selected to complete the questionnaires. Students were informed that they could contact the researcher via email in August 2024 to learn about the study results.

2.2. Measures

2.2.1. Early Maladaptive Schemas

Young's Schema Questionnaire-Short Form (YSQ-SF), developed by Young and Brown (1999), consists of 75 items measuring 15 early maladaptive schemas (emotional deprivation, abandonment/instability, mistrust/abuse, social isolation/alienation, defectiveness/shame, failure, dependence/incompetence, vulnerability, enmeshment/undeveloped self, subjugation, self-sacrifice, unrelenting standards, entitlement/grandiosity, and insufficient self-control/self-discipline). Each item is scored on a 4-point Likert scale (completely true, mostly true, mostly false, completely false). The score for each schema is obtained by summing the scores of the five related items, ranging from 5 to 30. The first comprehensive study of the psychometric properties of this questionnaire was conducted by Schmidt et al. (1995), showing alpha coefficients ranging from 0.83 (for enmeshment/undeveloped self) to 0.96 (for defectiveness/shame) and test-retest reliability coefficients in a non-clinical population between 0.50 and 0.82. This questionnaire has demonstrated good convergent and discriminant validity with psychological distress, self-worth, cognitive vulnerability to depression, and personality disorder symptoms. The Persian version was translated and validated by Ahi in 2006, with Cronbach's alpha coefficients of 0.97 for females and 0.98 for males (Hadiyan et al., 2023).

2.2.2. Cognitive Emotion Regulation

Developed by Garnefski in the Netherlands, this multidimensional tool identifies cognitive coping strategies after experiencing negative events or situations. It assesses individuals' thoughts following negative experiences and is applicable for individuals aged 12 and above (both normal and clinical populations). This questionnaire consists of nine subscales: self-blame, acceptance, rumination, positive refocusing, refocusing on planning, positive reappraisal, putting into perspective, catastrophizing, and blaming others. Scores range from 1 (never) to 5 (almost always) on a 5-point scale. Yusefi (2006) assessed the validity and reliability of this scale in Iran, finding Cronbach's alpha coefficients of 0.87 for negative emotion regulation



strategies, 0.83 for positive emotion regulation strategies, and 0.81 for the total scale. In this study, Cronbach's alpha was 0.76 (Khatibi et al., 2023).

2.2.3. Parenting Styles

To assess parenting styles, this scale by Family as a Social Context Scale Skinner, Johnson, and Schneider (2005) contains 48 items and six subscales representing six main dimensions of parenting: warmth, rejection, structure, chaos, autonomy support, and coercion. This multidimensional tool has two forms: one completed by parents, reflecting their assessment of their parenting styles, and the other by children, reflecting their perspective on their parents' styles (Skinner et al., 2005). This study used the child-completed

Table 1

Descriptive Statistics of Cognitive Emotion Regulation Dimensions

form, with Cronbach's alpha coefficients for each dimension as follows: warmth (0.85), rejection (0.82), structure (0.79), chaos (0.78), autonomy support (0.82), and coercion (0.82). The overall alpha coefficient was 0.83, indicating good reliability. Content validity was achieved through translation and back-translation by experts.

2.3. Data analysis

The collected data were analyzed using correlational statistics and structural equation modeling.

3. Findings and Results

The descriptive statistics results are presented in Table 1.

Dimension	Mean	Standard Deviation	
Self-blame	13.328	3.700	
Acceptance	14.109	3.462	
Rumination	14.682	3.215	
Positive refocusing	15.437	2.996	
Refocus on planning	16.386	2.727	
Positive reappraisal	15.886	3.123	
Perspective-taking	14.753	3.002	
Catastrophizing	13.494	3.139	
Blaming others	12.328	3.926	
Warmth	34.770	18.368	
Rejection	23.588	22.652	
Structure	29.751	5.448	
Chaos	21.611	5.922	
Autonomy support	29.650	5.494	
Coercion	24.601	6.134	
Disconnection and rejection	22.209	4.330	
Impaired autonomy and performance	31.227	5.644	
Impaired limits	26.190	4.267	
Other-directedness	22.017	5.071	
Over-vigilance and inhibition	25.343	3.459	

To examine the assumption of normality of score distributions, skewness and kurtosis indices can be used. When the values of these two statistics are between -1 and +1, the distribution is normal. According to the results, the

research variables are normal; therefore, using structural equations is permissible.

Table 2 shows the Pearson correlation coefficients among the main variables of the study.

Table 2

Correlation Matrix Among the Main Subscales of the Study

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	1																		
2	.231**	1																	
3	.397**	.421**	1																
4	.041	022	.000	1															
5	.096	.082	.216**	.649**	1														
6	.061	014	.037	.643**	.620**	1													





7	.082	.092	.154**	.428**	.471**	.493**	1												
8	.418**	.357**	.551**	016	.081	.015	°.132	1											
9	.072	.100	.213**	038	018	031	018	.387**	1										
10	034	074	071	.018	008	027	.000	.011	.031	1									
11	.082	.047	.052	003	060	019	081	.070	.027	.262**	1								
12	.048	*.110	047	.292**	.276**	.258**	.189	.036	.018	.181**	100	1							
13	.214**	*.116	.266**	117*	172**	156**	082	.246**	.208**	.208**	.258**	355**	1						
14	001	.035	102	.272**	.259**	.234**	.263	086	051	.298**	134**	.706**	$.409^{**}$	1					
15	.191**	.155	.245**	041	.000	084	094	.294**	.188**	047	.263**	044	.626**	298**	1				
16	.190**	.196	.323**	207**	149**	190**	147	.278**	*.142	092	.210**	345**	.524**	408**	.403**	1			
17	.259**	.190	.288**	187**	.162**	166**	090	.285**	°.134	.003	.149**	085	.384**	261**	.434**	.688**	1		
18	.239**	.175	.323**	122**	049	123**	036	.278**	*.155	090	°.115	*.125	.332**	194**	.298**	.451**	.419**	1	
19	.198**	.210	.239**	070	044	052	029	.224**	.148**	.026	.239**	116**	.361**	182**	.379**	.606**	.576**	.304**	1
20	.024	*.115	.057	036	.066	036	055	.094	025	.027	.011	.156**	.047	*.120	.066	*.137	*.124	.167**	*.124

1. Self-blame; 2. Acceptance; 3. Rumination; 4. Positive refocusing; 5. Refocus on planning; 6. Positive reappraisal; 7. Perspective-taking; 8. Catastrophizing; 9. Blaming others; 10. Warmth; 11. Rejection; 12. Structure; 13. Chaos; 14. Autonomy support; 15. Coercion; 16. Disconnection/rejection; 17. Impaired autonomy and performance; 18. Impaired limits; 19. Other-directedness; 20. Over-vigilance

*p<0.05; **p<0.01

The results indicate a positive and significant relationship between the structure style and dimensions of cognitive emotion regulation, such as acceptance (r = 0.110, p = 0.03), positive refocusing (r = 0.292, p = 0.000), refocus on planning (r = 0.276, p = 0.000), positive reappraisal (r = 0.258, p = 0.000), and perspective-taking (r = 0.189, p = 0.000).

There is a positive and significant relationship between the chaos dimension and the strategies of self-blame (r = 0.214, p = 0.000), rumination (r = 0.214, p = 0.000), catastrophizing (r = 0.246, p = 0.000), and blaming others (r = 0.208, p = 0.000). Additionally, there is a negative and significant relationship between chaos and the strategies of acceptance (r = -0.116, p = 0.027), positive refocusing (r = -0.117, p = 0.024), refocus on planning (r = -0.127, p = 0.015), and positive reappraisal (r = -0.156, p = 0.003).

There is also a positive and significant relationship between autonomy support and the strategies of positive refocusing (r = 0.272, p = 0.000), refocus on planning (r = 0.259, p = 0.000), and positive reappraisal (r = 0.234, p = 0.000), and a negative and significant relationship with perspective-taking (r = -0.263, p = 0.000).

The coercion dimension has a positive and significant relationship with the strategies of self-blame (r = 0.214, p = 0.000), acceptance (r = 0.155, p = 0.003), rumination (r = 0.214, p = 0.000), catastrophizing (r = 0.246, p = 0.000), and blaming others (r = 0.208, p = 0.000). It does not have a significant relationship with the strategies of positive refocusing (r = -0.041, p = 0.436), refocus on planning (r = 0.000, p = 0.999), positive reappraisal (r = -0.084, p = 0.115), and perspective-taking (r = -0.094, p = 0.080).

There is a positive and significant relationship between the domain of impaired autonomy and performance and the strategies of self-blame (r = 0.259, p = 0.000), acceptance (r = 0.190, p = 0.001), rumination (r = 0.288, p = 0.000), catastrophizing (r = 0.285, p = 0.000), and blaming others (r = 0.134, p = 0.018), and a negative and significant relationship with the strategies of positive refocusing (r = -0.187, p = 0.001), refocus on planning (r = -0.162, p = 0.004), and positive reappraisal (r = -0.166, p = 0.003).

There is a positive and significant relationship between the domain of impaired limits and the strategies of selfblame (r = 0.239, p = 0.000), acceptance (r = 0.175, p = 0.001), rumination (r = 0.323, p = 0.000), catastrophizing (r = 0.278, p = 0.000), and blaming others (r = 0.155, p = 0.004). Additionally, there is a negative and significant relationship between the domain of impaired limits and the strategies of positive refocusing (r = -0.122, p = 0.021), and positive reappraisal (r = -0.123, p = 0.023).

There is a positive and significant relationship between the domain of other-directedness and the strategies of selfblame (r = 0.198, p = 0.000), acceptance (r = 0.210, p = 0.000), rumination (r = 0.239, p = 0.000), catastrophizing (r = 0.224, p = 0.000), and blaming others (r = 0.148, p = 0.007). There is no significant relationship between the domain of other-directedness and the strategies of positive refocusing (r = -0.070, p = 0.198), refocus on planning (r = -0.044, p = 0.411), positive reappraisal (r = -0.052, p = 0.338), and perspective-taking (r = -0.029, p = 0.605).

There is a positive and significant relationship between the domain of over-vigilance and inhibition and the strategy of acceptance (r = 0.115, p = 0.032). There is a positive and significant relationship between the domain of disconnection and rejection and the dimensions of parenting styles such as rejection (r = 0.210, p = 0.000), chaos (r =0.524, p = 0.000), and coercion (r = 0.430, p = 0.000). There is also a negative and significant relationship between the domain of disconnection and rejection and the dimensions of structure (r = -0.345, p = 0.000) and autonomy support (r =-0.408, p = 0.000).



For the analysis of the relationships in the conceptual model, the structural equation modeling (SEM) method was used. SEM is a method that examines and tests the interdependent and simultaneous relationships of multiple variables. In this study, the measurement model and the structural function model were used. The measurement model applies confirmatory factor analysis to determine the contribution of each item in measuring the latent construct, and the structural model relates to the relationships between latent factors. Overall, SEM provides more accurate estimates of causal relationships by incorporating measurement errors in the model. According to this model, early maladaptive schemas are the independent variable measured using five observed variables: disconnection and rejection, impaired autonomy and performance, impaired limits, other-directedness, and over-vigilance and inhibition. These schemas directly affect parenting styles and directly and indirectly influence cognitive emotion regulation. Parenting styles, the mediating variable, are measured using

Table 3

Regression Weights of Independent and Dependent Variables

observed variables: warmth, rejection, structure, chaos, autonomy support, and coercion, and they directly impact cognitive emotion regulation. Therefore, the study's model includes three main latent variables measured by 18 observed variables.

The fit indices of the developed model are presented. In examining the fit of the main model, in addition to previous fit indices, Parsimony-Adjusted Normed Fit Index (PNFI), Parsimony-Adjusted Comparative Fit Index (PCFI), and Goodness-of-Fit Index (GFI) were used. As shown, the indices CMIN/DF, PNFI, PCFI, GFI, NFI, RFI, IFI, TLI, CFI, and RMSEA with values of 2.271, 0.707, 0.748, 0.924, 0.902, 0.903, 0.924, 0.905, 0.923, and 0.037, respectively, all confirm the model's goodness of fit. After reviewing the fit indices, the relationships between variables and their significance were examined. **Error! Reference source not found.** shows the regression weights of observed and latent variables.

Relationship	Regression Weight	Standardized Regression Weight	Standard Error	Critical Ratio (C.R)	Significance Level
Early Maladaptive Schemas -> Parenting Styles	-8.861	-0.496	4.069	-2.183	0.029
Early Maladaptive Schemas -> Cognitive Emotion Regulation	1.815	0.545	0.866	2.095	0.036
Parenting Styles -> Cognitive Emotion Regulation	0.132	0.171	0.017	1.888	0.041

Based on the results presented in **Error! Reference source not found.**, early maladaptive schemas of mothers have a negative impact on parenting styles at the 95% confidence level. Early maladaptive schemas of mothers positively influence cognitive emotion regulation at the 95% confidence level. Finally, parenting styles positively influence students' cognitive emotion regulation at the 95% confidence level.

4. Discussion and Conclusion

The present study aimed to propose a model of academic engagement considering classroom perception and the mediating role of motivational beliefs. The results of the measurement model indicated that the observed variables adequately represent the latent variable, and the model has a good fit. Regarding the structural model and the overall model, the results showed that the model had a good fit. Moreover, early maladaptive schemas have a direct and indirect relationship with cognitive emotion regulation. Based on the fitted model, the standardized parameters of the tested model received acceptable values, with the path coefficient between early maladaptive schemas and cognitive emotion regulation being 0.54, between early maladaptive schemas and parenting styles being 0.49, and between parenting styles and cognitive emotion regulation being 0.17. The factor loadings received acceptable values, indicating that parenting styles mediate the relationship between early maladaptive schemas and cognitive emotion regulation. Additionally, the fit indices showed satisfactory values. The RMSEA index was 0.037, which is less than 0.05, and other goodness-of-fit indices, including NFI, AGFI, and GFI, were greater than 0.90, indicating the model's good fit.

The findings from this model showed that among the seven subscales forming the latent variable of cognitive emotion regulation—self-blame, acceptance, rumination,



planning, perspective-taking, catastrophizing, and blaming others-rumination had the highest weight in determining the latent variable of cognitive emotion regulation. Following this, catastrophizing, self-blame, acceptance, blaming others, planning, and perspective-taking, respectively, had the highest to the lowest weights in determining the cognitive emotion regulation variable. The results obtained using structural equation modeling showed that the exogenous variables of early maladaptive schemas and parenting styles have a significant direct effect on cognitive emotion regulation. Additionally, the results showed that the relationship between early maladaptive schemas and cognitive emotion regulation is mediated by parenting styles. In this model, all regression weights are statistically significant. Concerning the direct relationship between early maladaptive schemas and cognitive emotion regulation, the findings are consistent with previous studies (Dadomo et al., 2016; Dadomo et al., 2018; Fassbinder et al., 2016; Schaich et al., 2020; Sepehri & Kiani, 2020; Simons et al., 2018; Talee-Baktash et al., 2013; Yousefi, 2015).

The overall research model also showed that mothers' early maladaptive schemas negatively impact parenting styles. The relationship between mothers' early maladaptive schemas and parenting styles has been confirmed in many previous studies (Ayrancı, 2015; Rezaeian Bilondi et al., 2016; Shahamat et al., 2010; Thimm, 2010; Zabeti & Jafari, 2018). The impact of mothers' early maladaptive schemas on parenting styles is direct. Moreover, the effect of mothers' early maladaptive schemas on subscales of parenting styles varies, as these schemas positively impact parenting styles of rejection, chaos, and coercion, while negatively impacting parenting styles of autonomy, regulation, and warmth.

Mothers' early maladaptive schemas positively influence cognitive emotion regulation. The relationship between mothers' early maladaptive schemas and cognitive emotion regulation has been confirmed in many previous studies (Akbari et al., 2020; Dadomo et al., 2016; Sepehri & Kiani, 2020; Simons et al., 2018; Talee-Baktash et al., 2013; Vaseghi et al., 2022; Yakın et al., 2019; Yousefi, 2015; Zabihollahzadeh et al., 2019). Mothers' early maladaptive schemas directly and indirectly affect students' cognitive emotion regulation. Generally, mothers' early maladaptive schemas have a direct positive impact and an indirect negative impact on students' cognitive emotion regulation. Since the direct effect is significantly greater than the indirect effect, the overall impact is positive. The impact of mothers' early maladaptive schemas on subscales of cognitive emotion regulation is also notable, with all impacts

being positive. Mothers' early maladaptive schemas have the greatest to the least impact on rumination, catastrophizing, self-blame, acceptance, blaming others, planning, and perspective-taking, respectively.

Ultimately, parenting styles have a positive impact on students' cognitive emotion regulation. The relationship between parenting styles and cognitive emotion regulation has been confirmed in many previous studies (Cui, 2023; Hosseini & Davari, 2021; Karaer & Akdemir, 2019; Keleynikov et al., 2023; Mahdiyar et al., 2016; Morris et al., 2007; Nathania et al., 2022; Qiu & Shum, 2022; Speidel et al., 2020; Van Lissa et al., 2019). Parenting styles directly affect students' cognitive emotion regulation. Examining the impact of parenting styles on subscales of cognitive emotion regulation indirectly showed that all impacts were positive, with the most significant to the least impact on rumination, catastrophizing, self-blame, acceptance, blaming others, planning, and perspective-taking, respectively.

5. Limitations & Suggestions

The findings of this research provide a deeper understanding of students' experiences in educational environments. These findings offer valuable information for individuals, families, educators, and counseling centers. For instance, based on these findings, parents and educators can arrange educational environments so that individuals feel free to choose goals, perform behaviors, and comply with educational norms and standards. This sense of independence can help provide opportunities for success and timely feedback, facilitating cognitive emotion regulation, positively impacting mental health. Therefore, parents are expected to emphasize participatory, caring, and supportive behaviors, such as giving choices, providing opportunities for success, offering informational feedback, reducing psychological pressures, not forcing children to accept their demands, encouraging independent thinking, affirming competency, and allowing participation in decision-making. Based on the findings, it is recommended that courses be held to inform counselors about family factors influencing cognitive emotion regulation. These courses can enhance their psychological treatment of various problems. Additionally, structured parenting workshops and autonomy support can be taught to parents. For example, parents can foster positive family communication, such as dialogue, free thinking, freedom of expression, encouraging independent thinking, affirming competency, and allowing participation



in decision-making, to create favorable outcomes, including cognitive emotion regulation, for their children.

Regarding the limitations of this study, the sample was limited to female students with conduct disorder in Kermanshah, reducing the generalizability of the findings. Additionally, data collection was conducted using questionnaires, which may be subject to social desirability bias.

Therefore, future studies should consider including students from other grades and cities and also include male students. Moreover, controlling for factors such as parental mental health and genetic predispositions to conduct disorder, which could influence the study results, is recommended for future research.

Acknowledgments

We would like to express our appreciation and gratitude to all those who cooperated in carrying out this study.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

Authors' Contributions

All authors contributed equally.

References

- Aghaziarati, A., Ashori, M., Norouzi, G., & Hallahan, D. P. (2023). The effectiveness of mindful parenting on cognitive and behavioral emotion regulation in mothers of children with hearing loss. *KAUMS Journal (FEYZ)*, 27(1), 825-833. http://dx.doi.org/10.48307/FMSJ.2023.27.1.76
- Aghaziarati, A., & Nejatifar, S. (2023). Emotional Development and Regulation in Children: A Review of Recent Advances. *KMAN Counseling & Psychology Nexus*, 1(1), 118-125. https://doi.org/10.61838/kman.psychnexus.1.1.13
- Akbari, E., Azimi, Z., Talebi, S., & Fahimi, S. (2020). Prediction of Couples' Emotional Divorce Based on Early Maladaptive Schemas and Emotion Regulation's Components. *Clinical Psychology and Personality*, 14(2), 79-92. https://doi.org/10.22070/14.2.79
- Ammari, S., Deyreh, E., Keykhosrovani, M., & Ganji, K. (2023). The Effectiveness of Couple Therapy on Depressive Symptoms and Sexual Function in Women Affected by Infidelity. *Razi Journal of Medical Sciences*, 29(7), 54-63. https://www.magiran.com/paper/2520730
- Ayrancı, E. (2015). The predictive roles of perceived social support, early maladaptive schemas, parenting styles, and schema coping processes in well-being and burnout levels of primary caregivers of dementia patients Middle East Technical University]. https://open.metu.edu.tr/handle/11511/24415
- Azizi, M., FarokhSiri, Y., Kazemi Bahman abad, F., & Zamani, Z. (2023). The effectiveness of mindfulness-based group therapy on controlling rumination and difficulty in regulating emotions in adolescents with obsessive-compulsive disorder [Research]. *Rooyesh-e-Ravanshenasi Journal(RRJ)*, 12(2), 219-228. http://frooyesh.ir/article-1-4382-en.html
- Baumrind, D. (1991). The Influence of Parenting Style on Adolescent Competence and Substance Use. *The Journal of Early Adolescence*, *11*(1), 56-95. https://doi.org/10.1177/0272431691111004
- Cavicchioli, M., Tobia, V., & Ogliari, A. (2023). Emotion Regulation Strategies as Risk Factors for Developmental Psychopathology: a Meta-analytic Review of Longitudinal Studies based on Cross-lagged Correlations and Panel Models. *Research on Child and Adolescent Psychopathology*, 51(3), 295-315. https://doi.org/10.1007/s10802-022-00980-8
- Chang, H., & Shaw, D. S. (2016). The Emergence of Parent–Child Coercive Processes in Toddlerhood. *Child Psychiatry & Human Development*, 47(2), 226-235. https://doi.org/10.1007/s10578-015-0559-6
- Crandall, A., Deater-Deckard, K., & Riley, A. W. (2015). Maternal emotion and cognitive control capacities and parenting: A conceptual framework. *Developmental Review*, *36*, 105-126. https://www.sciencedirect.com/science/article/pii/S02732297 15000064
- Cui, X. (2023). The Impact of Parenting on Later Development of the Narcissistic Trait. Journal of Education, Humanities and Social Sciences, 8, 181-186. https://doi.org/10.54097/ehss.v8i.4246
- Dadomo, H., Grecucci, A., Giardini, I., Ugolini, E., Carmelita, A., & Panzeri, M. (2016). Schema Therapy for Emotional Dysregulation: Theoretical Implication and Clinical Applications [Hypothesis and Theory]. *Frontiers in psychology*, 7. https://doi.org/10.3389/fpsyg.2016.01987
- Dadomo, H., Panzeri, M., Caponcello, D., Carmelita, A., & Grecucci, A. (2018). Schema therapy for emotional dysregulation in personality disorders: a review. *Current Opinion in Psychiatry*, 31(1). https://journals.lww.com/co-



psychiatry/fulltext/2018/01000/schema_therapy_for_emotion al_dysregulation_in.9.aspx

- Dennis, T. (2006). Emotional self-regulation in preschoolers: The interplay of child approach reactivity, parenting, and control capacities. *Developmental Psychology*, 42(1), 84-97. https://doi.org/10.1037/0012-1649.42.1.84
- Fassbinder, E., Schweiger, U., Martius, D., Brand-de Wilde, O., & Arntz, A. (2016). Emotion Regulation in Schema Therapy and Dialectical Behavior Therapy [Methods]. *Frontiers in psychology*, 7. https://doi.org/10.3389/fpsyg.2016.01373
- Garnefski, N., & Kraaij, V. (2006). Relationships between cognitive emotion regulation strategies and depressive symptoms: A comparative study of five specific samples. *Personality and individual differences*, 40(8), 1659-1669. https://www.sciencedirect.com/science/article/pii/S01918869 06000377
- Garnefski, N., Kraaij, V., & Spinhoven, P. (2001). Negative life events, cognitive emotion regulation and emotional problems. *Personality and individual differences*, 30(8), 1311-1327. https://www.sciencedirect.com/science/article/pii/S01918869 00001136
- Hadiyan, N., Mottaghi, S., & Rezapour Mirsaleh, Y. (2023). Investigating the mediating role of maladaptive schemas and emotional expression in the relationship between childhood trauma and sexual intimacy in women from low-income families. *Applied Family Therapy Journal (AFTJ)*, 4(5), 610-632. https://doi.org/10.61838/kman.aftj.4.5.35
- Harris, A. E., & Curtin, L. (2002). Parental Perceptions, Early Maladaptive Schemas, and Depressive Symptoms in Young Adults. *Cognitive therapy and research*, 26(3), 405-416. https://doi.org/10.1023/A:1016085112981
- Hosseini, L., & Davari, R. (2021). Investigating the Role of Parenting Styles in Predicting Alexithymia and Emotional Regulation Strategies in High School Students. *Journal of School Psychology*, 10(1), 46-57. https://doi.org/10.22098/jsp.2021.1140
- Karaer, Y., & Akdemir, D. (2019). Parenting styles, perceived social support and emotion regulation in adolescents with internet addiction. *Comprehensive Psychiatry*, 92, 22-27. https://doi.org/10.1016/j.comppsych.2019.03.003
- Keleynikov, M., Benatov, J., & Cohen, N. (2023). Emotion Regulation among Parents Raising a Child with Disability: A Systematic Review and Conceptual Model. *Journal of Child* and Family Studies, 32(3), 858-875. https://doi.org/10.1007/s10826-022-02530-8
- Khatibi, F., Khanmohammasi Otaghsar, A., & Heydari, S. (2023). Effectiveness of Group Cognitive Behavioral therapy on Resilience and Emotion Regulation in Obese Women of Amol City. *Journal of Applied Family Therapy*, *3*(5), 20-34. https://doi.org/10.22034/aftj.2022.329002.1393
- Laurin, J. C., Joussemet, M., Tremblay, R. E., & Boivin, M. (2015). Early Forms of Controlling Parenting and the Development of Childhood Anxiety. *Journal of Child and Family Studies*, 24(11), 3279-3292. https://doi.org/10.1007/s10826-015-0131-9
- Mahdiyar, M., Nejati, S. F., & Goodarzi, D. M. A. (2016). Predicting Resilience to Suicide based on Emotion Dysregulation and Parenting Styles. *Family Pathology, Counseling and Enrichment Journal*, 2(1), 15. https://www.magiran.com/paper/1622981
- Morris, A. S., Silk, J. S., Steinberg, L., Myers, S. S., & Robinson, L. R. (2007). The Role of the Family Context in the Development of Emotion Regulation. *Social Development*, *16*(2), 361-388. https://doi.org/10.1111/j.1467-9507.2007.00389.x

- Nathania, M., Satiadarma, M. P., & Wati, L. (2022, 2022-04-20T19:30:00.000Z). Adolescent Emotion Regulation Who were Raised with Authoritarian Parenting Style.
- Otterpohl, N., & Wild, E. (2015). Cross-Lagged Relations Among Parenting, Children's Emotion Regulation, and Psychosocial Adjustment in Early Adolescence. *Journal of Clinical Child* & Adolescent Psychology, 44(1), 93-108. https://doi.org/10.1080/15374416.2013.862802
- Qiu, C., & Shum, K. K.-m. (2022). Relations between caregivers' emotion regulation strategies, parenting styles, and preschoolers' emotional competence in Chinese parenting and grandparenting. *Early Childhood Research Quarterly*, 59, 121-133. https://doi.org/10.1016/j.ecresq.2021.11.012
- Rezaeian Bilondi, H., Monirpour, N., & Hasanabadi, H. R. (2016). Sexual variety seeking based on early maladaptive schemas, parenting styles and moods. *Thought and Behavior in Clinical Psychology*, 10(40), 7. https://www.magiran.com/paper/1621267
- Ruan, Q.-N., Chen, Y. H., & Yan, W.-J. (2023). A Network Analysis of Difficulties in Emotion Regulation, Anxiety, and Depression for Adolescents in Clinical Settings. *Child and adolescent psychiatry and mental health*. https://doi.org/10.1186/s13034-023-00574-2
- Schaich, A., Braakmann, D., Richter, A., Meine, C., Assmann, N., Köhne, S., Arntz, A., Schweiger, U., & Fassbinder, E. (2020). Experiences of Patients With Borderline Personality Disorder With Imagery Rescripting in the Context of Schema Therapy—A Qualitative Study [Original Research]. Frontiers in Psychiatry, 11. https://doi.org/10.3389/fpsyt.2020.550833
- Sepehri, M., & Kiani, Q. (2020). The Relationship between Cognitive Emotion Regulation and Addiction Tendency: The Mediating Roles of Social and Emotional Loneliness and Early Maladaptive Schemas [Research]. *Research on Addiction*, 14(56), 313-338. https://doi.org/10.29252/etiadpajohi.14.56.313
- Shahamat, F., Sabeti, A., & Rezvani, S. (2010). Investigating the relationship between parenting and early maladaptive schemas. *Educational and Psychological Studies*, 11, 239-254.

https://www.researchgate.net/publication/288555089_Investi gate_the_Relationships_Between_parenting_styles_and_earl y_maladaptive_schemas

- Silk, J. S., Steinberg, L., & Morris, A. S. (2003). Adolescents' Emotion Regulation in Daily Life: Links to Depressive Symptoms and Problem Behavior. *Child development*, 74(6), 1869-1880. https://doi.org/10.1046/j.1467-8624.2003.00643.x
- Simons, R. M., Sistad, R. E., Simons, J. S., & Hansen, J. (2018). The role of distress tolerance in the relationship between cognitive schemas and alcohol problems among college students. *Addictive behaviors*, 78, 1-8. https://doi.org/10.1016/j.addbeh.2017.10.020
- Skinner, E., Johnson, S., & Snyder, T. (2005). Six Dimensions of Parenting: A Motivational Model. *Parenting*, 5(2), 175-235. https://doi.org/10.1207/s15327922par0502_3
- Speidel, R., Wang, L., Cummings, E. M., & Valentino, K. (2020). Longitudinal pathways of family influence on child selfregulation: The roles of parenting, family expressiveness, and maternal sensitive guidance in the context of child maltreatment. *Developmental Psychology*, 56(3), 608-622. https://doi.org/10.1037/dev0000782
- Stiles, O. E. (2004). Early maladaptive schemas and intimacy in young adults' romantic relationships. Alliant International University, San Francisco Bay. https://search.proquest.com/openview/c547ea7a90f7974bab3 846f9da2a9f6d/1?pq-origsite=gscholar&cbl=18750&diss=y



- Talee-Baktash, S., Yaghoubi, H., & Yousefi, R. (2013). Comparing the early maladaptive schemas and cognitive emotion regulation strategies in obsessive-compulsive disorder patients and healthy people. *KAUMS*, 17(5), 471-481. http://feyz.kaums.ac.ir/article-1-2059-en.html
- Thimm, J. C. (2010). Mediation of early maladaptive schemas between perceptions of parental rearing style and personality disorder symptoms. *Journal of Behavior Therapy and Experimental Psychiatry*, 41(1), 52-59. https://www.sciencedirect.com/science/article/pii/S00057916 09000597
- Thompson, R. A. (1994). Emotion regulation: A theme in search of definition. Monographs of the Society for Research in Child Development, 25-52. https://www.jstor.org/stable/1166137
- Thompson, R. A., & Goodvin, R. (2007). Taming the tempest in the teapot. *Socioemotional development in the toddler years: Transitions and transformations*, 320-341. https://books.google.com/books?hl=en&lr=&id=xuHDx752I foC&oi=fnd&pg=PA320&dq=96.+Thompson+,R,+A.,+%26 +Goodvin,+R.+(2007).+Taming+the+Tempest+in+the+Teap ot.+Socioemotinal+develomement+in+the+toddler+years:+T ransitions+and+Transformatio,+320.&ots=9BcuuctWGE&si g=A0J51qBSIw6x3DvW8u_jTZ--4ms
- Turpyn, C. C., Chaplin, T. M., Cook, E. C., & Martelli, A. M. (2015). A person-centered approach to adolescent emotion regulation: Associations with psychopathology and parenting. *Journal of Experimental Child Psychology*, 136, 1-16. https://www.sciencedirect.com/science/article/pii/S00220965 15000363
- van der Linde, R. P. A., Huntjens, R. J. C., Bachrach, N., & Rijkeboer, M. M. (2023). Personality disorder traits, maladaptive schemas, modes and coping styles in participants with complex dissociative disorders, borderline personality disorder and avoidant personality disorder. *Clinical Psychology & Psychotherapy*, 30(6), 1234-1245. https://doi.org/10.1002/cpp.2892
- Van Lissa, C. J., Keizer, R., Van Lier, P. A. C., Meeus, W. H. J., & Branje, S. (2019). The role of fathers' versus mothers' parenting in emotion-regulation development from mid–late adolescence: Disentangling between-family differences from within-family effects. *Developmental Psychology*, 55(2), 377-389. https://doi.org/10.1037/dev0000612
- Vaseghi, Z., Ahadi, H., Bigdeli, H., & Khalatbari, J. (2022). Developing a Structural Model of the Relationship between Primary Maladaptive Schemas and Emotional Regulation with Marital Satisfaction with the Mediation of Resilience in Married Women Referring to Islamic Lifestyle Counseling Centers. *islife*, 6(1), 620-629. http://islamiclifej.com/article-1-1715-fa.html
- Yakın, D., Gençöz, T., Steenbergen, L., & Arntz, A. (2019). An integrative perspective on the interplay between early maladaptive schemas and mental health: The role of selfcompassion and emotion regulation. *Journal of Clinical Psychology*, 75(6), 1098-1113. https://doi.org/10.1002/jclp.22755
- Young, J., & Questionnaire, B. G. Y. S. (2001). Special Edition. *New York: Schema Therapy Institute*. https://www.atzera.cat/wp-content/uploads/2021/03/2021cataleg-Microcar-due_atzera-motors.pdf
- Young, J. E. (1999). Cognitive therapy for personality disorders: A schema-focused approach. Professional Resource Press/Professional Resource Exchange. https://psycnet.apa.org/record/1999-02395-000s
- Yousefi, R. (2015). The comparison of early maladaptive schemas and cognitive emotion regulation styles in patient with functional gastrointestinal disorders and normal group.

GOVARESH, *19*, 257-264. https://www.researchgate.net/publication/282219961_The_c omparison_of_early_maladaptive_schemas_and_cognitive_e motion_regulation_styles_in_patient_with_functional_gastro intestinal_disorders_and_normal_group

- Zabeti, A., & Jafari, S. (2018). Structural model of parenting styles, early maladaptive schemas and narcissistic personality traits in adolescents. *Applied Psychology*, *12*(2), 285-302. https://apsy.sbu.ac.ir/article_97082_4a279980877034d721c3 b049db13f261.pdf
- Zabihollahzadeh, F., Rashvand, P., & Nemattavousi, M. (2019). Comparing early maladaptive schemas, emotional regulation and coping strategies in patients with multiple sclerosis and healthy people [Analysis]. *Rooyesh-e-Ravanshenasi Journal(RRJ)*, 8(4), 93-100. http://frooyesh.ir/article-1-1204en.html

http://frooyesh.ir/article-1-1204-en.pdf

