Mediation Analysis Family flexibility in the relation of Emotion Regulation and Psychological Cohesion to Adolescent Resilience

Abstract

This study aimed to determine the mediating role of family flexibility in the relation of emotion regulation and psychological cohesion to the psychological resilience of adolescents. The research method was descriptive correlation and path analysis. The statistical population was all adolescents aged 15-18 years in Isfahan. The research sample was 299 people. The data were collected through Garnfsky et al.'s (2011) Cognitive Emotion Regulation Questionnaire, Antonowski's (1987) Cohesion Sense Questionnaire, Shakeri Family Flexibility Scale (2003), and Connor-Davidson Resilience Questionnaire (2003). Data analysis was performed with descriptive and path analysis using SPSS-25 and Amos-24 software. The results showed that the proposed model has a goodness of fit. Emotion regulation, psychological cohesion, and family Resilience have a positive and significant relationship with psychological resilience ($p<0.01$). The direct paths of cognitive emotion regulation, psychological cohesion, and family flexibility to psychological resilience were significant ($p<0.01$). The indirect paths of cognitive Emotion Regulation and Psychological Cohesion to psychological resilience were significant with the mediation of family flexibility ($p<0.01$). Based on the results of the present study, we must pay attention to the mediating role of family flexibility in the relation of emotion regulation and psychological cohesion to psychological resilience as a suggestion and that therapists should include this component in their therapeutic application.

Keywords: *Emotion Regulation, Psychological Cohesion, Psychological Resilience, Family flexibility*

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Introduction

Adolescence brings rapid physical changes with social and psychological challenges. Adolescents face many stresses and challenges. It is a period of conflict and can lead to mental health problems (Anyan & Hjemdal, 2016). An important deterrent factor against these stresses is resilience (Vinayak & Judge, 2018). Psychological Resilience as a basis for positive growth in adolescent mental health and psychological well-being has a special place in the fields of family psychology and mental health (Tian, Liu, and Shan, 2018). The concept of resilience is defined in different ways This emerging concept means successful resistance to challenge situations and plays an important role in individual adaptation and is an important factor in solving problems and overcoming them (Hormozi, Asali, and Moradi, 2014). Psychological Resilience, as a process, is the ability to successfully adapt to threatening conditions and to adapt positively in response to adverse conditions (Blöte and Westenberg, 2019). Psychological Resilience can be defined as a dynamic mechanism that acts to reduce the impact of an adverse event. This involves the interaction between internal and external protection and risk processes (Ran et al., 2020). Studies have shown that psychological resilience is a mediator between stress and mental health status and reduces the adverse effects of stress (Hao et al., 2015; Howell et al., 2017). Resilience has mediated the effect of personality traits and family functioning on depressive symptoms and sleep quality. It reduces the risk of depression in individuals (Chang et al., 2020; Gong et al., 2020). Therefore, resilience is an essential protector against stress or a traumatic event and can defend against psychological distress. Thus, assessing an individual's Psychological Resilience can help predict mental health status (Liu et al., 2020).

One of the variables that can be effective in adolescent Psychological Resilience is Psychological Cohesion. Difficult situations happen in everyone's life, especially teenagers. The ability to cope with them is a vital skill that must be developed. Sense of Coherence is defined as a person's ability to manage psychological stressors and includes three components of controllability, perceptibility, and significance People with a strong sense of psychological cohesion are very resilient to stress (Mc Gee et al., 2018). Having a sense of psychological cohesion enables a person to face life challenges and relieve stress using coping strategies and health-oriented behaviors (Benze et al., 2014). In fact, despite a strong sense of cohesion, a person can cope with high levels of stress and stay healthy (Moksnes & Lazarewicz, 2016). Nahlen & Saboonchi (2020) showed that the sense of cohesion was lower the tendency to apply Emotion Regulation strategies was greater such as self-discharge or blame. The results of Krok (2016) showed that Psychological Cohesion is the strongest predictor of Emotion Regulation styles.

Adolescence is a dynamic period for the development of Emotion Regulation that aids the process of Psychological Resilience in adolescence. For many people, Emotion Regulation skills improve dramatically during adolescence.

For some young people, adolescence is a sign of the onset or worsening of psychological pathology. This period is characterized by problems with Emotion Regulation. Emotion Regulation describes strategies and processes that change the occurrence, intensity, duration, and expression of an emotion (Wartberg, Thomasius & Paschke, 2021). Emotion Regulation is the process by which individuals try to influence their emotional state in order to achieve personal goals (baker et al, 2021). Positive emotions provide short-term and long-term psychological benefits and improve physical and mental health (Gruber et al., 2013), which promotes resilience and mental well-being (Gross, 2013). Accordingly, people spend most of their time trying to reduce negative emotions and positively regulate positive emotions. Eldeleklioglu & Yildiz (2020) reported a significant relationship between emotional effects and resilience in research. The findings of Tlapek et al. (2017) showed that there is a significant inverse relationship between resilience and negative emotions.

Adolescence is also one of the periods in which adolescents try to redefine family boundaries (Shariatmadar, Amini, and Emadi, 2016). One of the most important family factors in the occurrence of this phenomenon is family flexibility. Family flexibility refers to the family being able to withstand crises that disrupt the normal course of life (Prim et al., 2020). Olson (2011) states that flexibility refers to the ability of leadership and managing change, stress, the relationship of roles, and the rules of family interaction. In fact, Family flexibility refers to how families maintain their stability while changing. Ju Youn et al. (2013) concluded that adolescents in families with high resilience show fewer behavioral problems.

According to the abovementioned, Emotion Regulation and Psychological Cohesion are individual variables that cause an adolescent's cognitive resilience. The need for a mediating variable that is the role of family, upbringing, and family flexibility can be very effective in this process. We chose the Family flexibility variable as a mediator because it plays a mediating role in the relationship between Emotion Regulation and Psychological Cohesion with adolescents' cognitive resilience. We can say that the role of the family is very important. If the family is flexible, it can increase the relationship between Emotion Regulation and psychological cohesion with adolescents' cognitive resilience. Although research evidence suggests a relationship between Emotion Regulation, Psychological Cohesion, Family flexibility, and Psychological Resilience, no research has examined the role of these variables in structural equation modeling. In this study, the direct and indirect roles of Emotion Regulation, Psychological Cohesion, and Family flexibility in adolescent resilience were evaluated in the form of a conceptual model (Figure 1). Accordingly, the research examines the mediating role of Family flexibility in the relationship between Emotion Regulation and Psychological Cohesion with Adolescent Psychological Resilience.

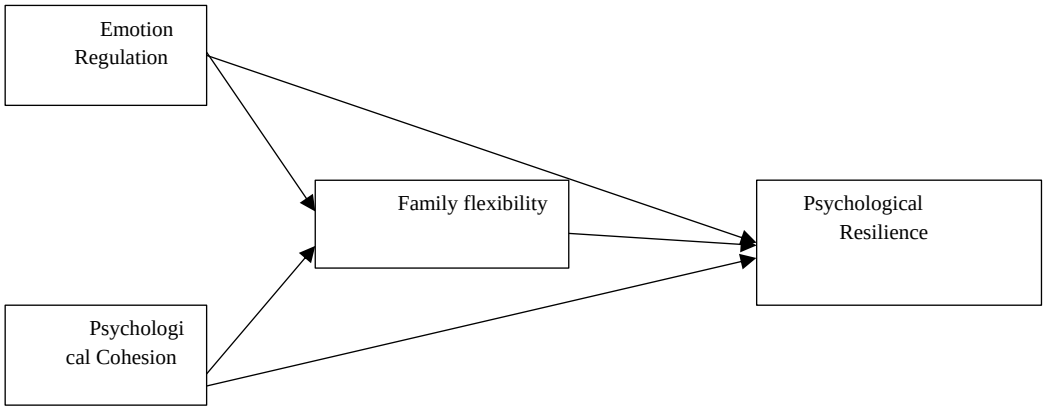

Figure 1. Conceptual model of the Role of Emotion Regulation and Psychological Cohesion mediated by Family flexibility in Adolescent Psychological Resilience

Research method:

The present study is descriptive research (correlation) and structural equation modeling. The relationships between the variables of Emotion Regulation, Psychological Cohesion, Family flexibility, and Psychological Resilience of adolescents have been modeled through Amos software. The statistical population of the present research was 18-15-year-old boys and girls in Isfahan in 1400. The samples were selected by the available sampling method. In social science research, to have a valid equation, about 15 to 20 subjects are needed for each variable (Stevens, 2012). Due to the prevailing conditions in the community due to the epidemic of coronary heart disease, questionnaire questions were distributed online among the samples. It was emphasized not to leave a questionnaire unanswered. 325 people announced their readiness to

participate in the research and completed the questionnaires Finally, after removing the people who had completed the questionnaires incompletely, only the questionnaires of 299 people could be analyzed. Data analysis was performed by descriptive statistical methods. As for path analysis, we used spss25 and amos24 software.

Measurement tool:

Cognitive Emotion Regulation Questionnaire: The questionnaire was designed by Garnowski and Kraj-Vaspinhaun in 2001. Unlike other coping questionnaires, this questionnaire assesses a person's thoughts after encountering a negative experience or traumatic event. The Cognitive Emotion Regulation Questionnaire consists of 8 subscales (self-blame, acceptance, mental rumination, positive reconsideration, reconsideration of planning, positive re-evaluation of perception, catastrophic perception, blaming others) and 12 items. Each question is scored from one (never) to five (always). The score of each strategy is obtained by adding the scores given to each of the expressions that make up that strategy and can be in the range of 4 to 20 the sum of the total scores is in the range of 36 to 180. The Persian version of the Cognitive Emotion Regulation Questionnaire in Iran has been validated by Hassani (2010). In the study by dry body et al. (2013), Cronbach's alpha of the Cognitive Emotion Regulation Questionnaire was obtained between 0.76 and 0.92. In the present study, Cronbach's alpha coefficient was 0.89.

Data collection tools were the following questionnaires:

Psychological Cohesion Questionnaire: This questionnaire was designed by Antonovsky in 1987. This questionnaire assesses the individual's control over stress, which contains 29 7-point Likert questions, rated from 7 (reluctance to intense desire). This scale measures the three dimensions of perceptibility, controllability, and significance. In this questionnaire, the minimum and maximum score for the participant is between 203-29 A score between 29 and 58 indicates a low sense of cohesion, and a score above 116 indicates a stronger sense of cohesion. The reliability of this questionnaire is 0.95 and its reliability is 0.78 (Zarrabi rt al, 2021). The reliability of this questionnaire in the present study was obtained using Cronbach's alpha coefficient of 0.83.

Family flexibility scale: This test was inspired by Shakespeare (2003), inspired by the combined model of Elson (1999) about the family. This 16-item scale includes a Likert scale with five options from I strongly disagree (score one) to I strongly agree (score five). A score of 1 to 5 is considered for each question. In this questionnaire, the scoring of questions 1, 2, 9, 5, 4, 3, 11, 12, and 16 is inverse. The maximum score that can be achieved in this test is 80 and the minimum is 16. During Shakeri's study (2003) on 48 subjects, it was confirmed that Cronbach's alpha was equal to 0.89 and validity was 0.85. The reliability of this questionnaire in the present research was obtained by using Cronbach's alpha coefficient of 0.81.

Connor & Davidson Resilience Questionnaire: Connor and Davidson (2003) developed a resilience scale. This questionnaire consists of 25 items that were scored on a Likert scale between zero (completely incorrect) to five (always correct). The total score in it fluctuates between zero and 100. The expressions for each subscale are Perception of individual competence, Trust in individual instincts, Tolerating negative emotions, Positive acceptance of change and secure relationships, and Spiritual control and influence. Connor and Davidson reported the Cronbach's alpha coefficient of the resilience scale as 0.89 and its concurrent validity as 0.88 (Connor-Davidson, 2003). In Kayhan et al.'s (2014) research conducted among students, its reliability was 0.81 and its simultaneous validity was 0.93. The reliability of this questionnaire in the present study was obtained using Cronbach's alpha coefficient of 0.89.

Findings:

The mean and standard deviation of the age of the subjects in this study were 16.43 and 1.04, in the age range of 15 to 18 years. 89 (29.8%) were boys and 210 (70.2%) were girls. 155 people (51.8%) were in the tenth grade, 81 (27.1%) were in the eleventh grade and 63 (21.1%) were in the twelfth grade.

Mean and standard deviation and correlation coefficients of Adolescents' Emotion Regulation, Psychological Cohesion, Family flexibility, and adolescent Psychological Resilience are presented in Table 1.

Table 1: Correlation matrix of research variables

variables	**Family flexibility**	**Psychological esilience**	**Psychological Cohesion**	**Emotion Regulation**
Emotion Regulation				1
Psychological Cohesion			1	0.2**
Psychological Resilience		1	0.24**	0.206**
Family flexibility	1	0.36**	0.412**	0.081*
Mean	55.17	90.95	124.47	57.23
standard deviation	6.17	16.11	19.81	10.53

*p<0/05, **p<0/01,

According to the results of Table 1, there was a significant correlation between the variables Emotion Regulation, Psychological Cohesion, Family flexibility, and Psychological Resilience at a level less than 0.01.

Table 2: Parameters related to direct paths of the model

Path	P	Critical ratio	standard error	Standard coefficients
Emotion Regulation to cognitive resilience	0.001	3.976	0.027	**0.16**
Psychological Cohesion to Cognitive Resilience	0.001	4.531	0.048	**0.23**
Emotion Regulation to Family flexibility	0.001	6.053	0.097	**0.05**
Psychological Cohesion to Family flexibility	0.001	2.033	0.029	**0.09**
Family flexibility to cognitive resilience	0.001	3.976	0.049	**0.68**

As the results of Table 2 show, the path coefficients of Emotion Regulation to cognitive resilience (β = 0.16), Psychological Cohesion to cognitive resilience (β = 0.23), Emotion Regulation to Family flexibility (β = 0.05), Psychological Cohesion to Family flexibility (β = 0.09) and Family flexibility to Cognitive resilience (β = 0.68) are significant at the level of (P = 0.01).

The bootstrap command in AMOS software was used to estimate and determine the significance of the indirect path. Table 3 reports the bootstrap results related to the significant indirect relationship between Emotion Regulation Psychological Cohesion and Psychological Resilience.

Table 3. Estimation of the indirect path of the model by using bootstrap

indirect path	P	Critical ratio	standard error	Standard coefficients
Emotion Regulation to cognitive resilience	0.001	6.144	1.896	0.034
Psychological Cohesion to cognitive resilience	0.001	4.175	0.988	0.063

The results of Table 3 show that the indirect path of Emotion Regulation to cognitive resilience is significant with the mediation of Family flexibility (β = 0.034) (P = 0.01. The indirect path of Psychological Cohesion to cognitive resilience compromise is significant with the mediation of Family flexibility (β = 0.063) (P = 0.01.

To determine the adequacy of the proposed model with combined data, we used fitness indicators such as Chi-square fit goodness test, Chi-square on degrees of freedom, Goodness of Fit Index, Adjusted Goodness of Fit Index, normalized fit index, Adaptive Fit Index, Incremental fit index, Tucker-Lewis index and the square root of the mean squared approximation error. The values of each of these indicators are between 0 and 1, and values close to or greater than 0.90 indicate that the model is desirable. Table 4 shows the model fit indices.

Table (4) Fitness indices of the proposed research model

Fitness indicators	RMSEA	TLI	IFI	CFI	NFI	GFI	P	X^2 /df	χ 2
	0.03	0.95	0.94	93.0	0.95	98.0	0.000	434.21	**606.128**

The results of Table 4 show that the model has a good fit according to the fit indices. In the present research, the values of GFI, NFI, CFI, IFI, and TLI are 95.0.0.95, and 93.0.0.94.0.9, respectively. This indicates a good fit of the model in the present research. The RMSEA value for the model is 0.03. On the other hand, the acceptable range for it is less than 0.05. So we can say that the fitted model is suitable.

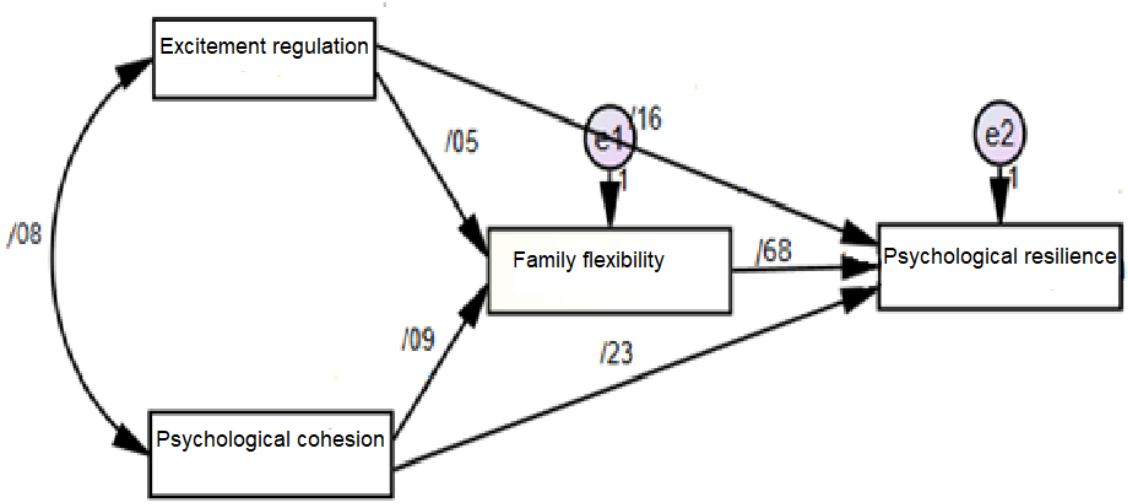

Figure 2. Standard path coefficients of research variables in the main model

Figure (2) shows the standard path coefficients for research variables. In this model, family flexibility plays a mediating role in the relationship between emotion regulation and psychological cohesion.

Discussio :

This study was conducted to determine the mediating role of Family flexibility in the relationship between Emotion Regulation and Psychological Cohesion with Adolescent Psychological Resilience. The results of the present research showed that the variables Emotion Regulation, Psychological Cohesion, and Family flexibility are directly related to Psychological Resilience. It has also been shown that both Emotion Regulation and Psychological Cohesion through Family flexibility can affect adolescent psychological resilience. Regarding the role of emotions on resilience, it was in line with the findings of Eldeleklioglu &Yildiz(2020) and Tlapek et al. (2017). The role of flexibility in Psychological Resilience was consistent with the research of Ju Youn et al. (2013). The relationship between the role of health and psychological cohesion with resilience was consistent with the study of Liu et al. (2020), Chang et al. (2020), and Gong et al. (2020).

Explaining these findings, we can say that emotional regulation is a process in which people consciously manage and change their emotions and has a close relationship with mental health. Cultivating positive emotions, in addition to promoting physical health, is related to mental health, for example, coping strategies related to the occurrence and maintenance of positive emotions (for example, positive reassessment, and problem-focused coping helps to induce and create depression). Resilient people not only cultivate positive emotions but also have the skill to evoke positive emotions in those close to them (for example, family and friends). "Resilient people can recover quickly and efficiently from stressful experiences." Accordingly, resilient individuals show faster cardiovascular recovery than negative emotional arousal compared to their lesser counterparts. This rapid recovery may provide the body with recovery time to make it resilient to prepare for additional stresses in the event of them occurring. The positive emotions experienced by resilient individuals may be useful as protective factors in FigFifgpromoting short-term health benefits as well as long-term benefits for coping in the future.

People have higher psychological cohesion throughout their lives. About 60 to 80% have higher resilience in their lives (Bonanno & Mancini, 2012). Adolescents with high levels of mental cohesion define stressful stimuli as a positive challenge. Having high mental cohesion increases the desire for better and more effective control of stress; the person chooses a healthier lifestyle and will feel higher personal well-being. People with good mental cohesion are more likely to experience emotional and cognitive reactions to problems. This leads to better mental health performance. According to Antonovsky, a person with a high sense of psychological cohesion is cognitively and emotionally able to manage and organize problems and tends to face them and in fact have higher resilience (Fazali, 2011). Resilience is associated with successful outcomes in human performance in adversity and can act as a protective factor under stressful conditions by reducing the potential risk associated with adjustment problems and increasing the positive psychological consequences (Florez et al., 0 202). Resilient adolescents are

more resilient to traumatic conditions and protect themselves against them.

As for explaining the mediating role of family resilience, we can say that individuals need a family system that has high family resilience in order to have psychological cohesion (Hadfield Wongar, 2018). Numerous findings have shown the vital importance of safe, stable, and resilient families in reducing abuse, isolation, loneliness, and increasing quality, skills, behaviors, and relationships (Dubus, 2018). Family flexibility is an important variable for understanding the dynamics and functioning within the family, which is associated with healthy and positive interactions between family members. When a family has flexible characteristics, it emphasizes the relationship characteristics of family inclusion as a unit or relational process that facilitates family survival and even growth in adverse conditions (Oh We Pang, 2014). Flexible families strongly believe that they can manage the problems or negative emotions they face well. And even have varying degrees of control over their reactions to adversity, these beliefs are not specific to one individual but are shared among family members (Saltzman et al., 2016). For example, flexible families tend to focus on what they can change (choosing positive choices) from what they cannot (event itself) and focus on what they can do instead. Thus, flexible families, both psychologically and practically, choose a more productive or healthier response. For example, they choose not to worry and do things instead of being affected by adversity.

Conclusion

In this study, the role of family mediation in the relationship between emotional regulation and psychological coherence with psychological bookkeeping of adolescents was evaluated. Our data show that family understanding can increase the effect of emotion regulation and psychological cohesion with psychological resilience of adolescents. People who live in a flexible environment also tend to support each other and help each other cope with stress and protect family members against psychological maladaptation. A family is flexible and works with a coherent structure for growth. The well-being of its members can dynamically interact with emerging environmental factors and adapt to them without being disturbed in the meantime and family members do not show any symptoms in this process. Flexible and flexible families are characterized by high self-esteem and high social competence. High levels of these factors are considered very important for adolescents' ability to cope with life stresses. People who have more socio-emotional support are more tolerant of life problems, which are often inevitable. Flexibility reflects the emotional connection of family members with other family members and indicates belonging and acceptance within the family. Low family cohesion is associated with aggression, depression, and poor social adjustment family flexibility is known as a shield against several problems. In fact, expressing positive emotion in the family provides a context that increases psychological resilience in adolescents.The limitation of the present study was that the samples in the study were selected by sampling at convenience, so the generalization of results should be done with caution. Therefore, to increase the generalizability of the results, we suggest random sampling methods.Our suggestion: since family flexibility acts as a mediator against adolescent emotion regulation and psychological cohesion and increases resilience, we hold group meetings for parents to teach proper practice and parenting practices by recognizing the impact of family communication patterns on adolescent psychological resilience.

Conflict of interest

The authors state no conflict of interest in the study.

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Informed Consent Statement:

Informed consent was obtained from all individual

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