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# The Mediating Role of Emotion Regulation in the Relationship between Maternal Mentalization and Child Resilience

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## Abstract

**Introduction:** Resilience, which is negatively associated with psychological disorders, is mainly shaped during childhood and is greatly affected by parents. Previous studies have shown that maternal mentalization is linked to child emotion regulation, and emotion regulation is confirmed to be correlated with resilience in children. In addition, some studies have shown that mothers' mentalization is negatively correlated with internalizing and externalizing symptoms in children. However, no study has examined the influence of maternal mentalization on children's resilience. We hypothesized that mothers' higher mentalization increases their children's resilience, both directly and via the mediating role of emotion regulation.

**Method:** We used convenient sampling to test our hypothesis and gathered data from 362 mothers with 2 to 12 years old children. The data were analyzed by a zero-order correlation and Structural Equation Model (SEM).

**Results:** According to the findings of the present study, the results confirmed our hypothesis.

**Conclusion:** We can use these findings to design mentalization-based interventions to establish resilience in children, preventing them from developing mental health conditions.

**Keywords:** Resilience, Mentalization, Reflective Functioning, Emotion Regulation, Parenting

## Introduction

Resilience refers both to navigating psychological, social, cultural, and physical resources that sustain one's well-being and to negotiating culturally meaningful ways to access these resources during times of significant adversity [1]. Social and individual factors (e.g., coping skills, interpretation of experiences, self-esteem, community resources, and friendships) significantly contribute to the promotion of resilience in children, but the most consistent predictor of resilience is family relationships [2-5]. The development of resilience is most crucial during childhood, and parents' role is critical, so it is important to take into account the parent-child relationship when considering resilience during childhood [6, 7].

Multiple studies assert the association between resilience and mental health (e.g., [8, 9]). Low resilience can predict mental disorders [10, 11]. For example, Arredondo and Caparrós [11] demonstrated that resilience is negatively associated with Generalized Anxiety Disorder (GAD), Post-Traumatic Stress Disorder (PTSD), Major Depressive Disorder (MDD), and Somatic Symptom Disorder (SSD). Moreover, high resilience predicts high psychological well-being [12].

Mentalization is the ability to perceive and understand our own behaviors and other people's behaviors as intentional mental states (including needs, feelings, desires, and

beliefs as well as goals, purposes, and reasons [13]. Numerous intra-psychic processes are a part of mentalization, including self-monitoring (cognitive self-awareness), mindfulness (emotional self-awareness), empathy (knowledge of others' emotional states), and theory of mind [14]. Mentalization is critical to interpersonal interaction because it assists us in contemplating, understanding, and predicting behavior patterns [15]. Some researchers believe that one essential component that emerges from a mature mentalization capability is emotion regulation [16, 17].

Emotion Regulation (ER) is defined as "attempting to influence emotions in ourselves or others" [18]. Emotion regulation strategies that a person applies can predict their response to perceived emotion [19]. Emotions serve as a key signal for understanding external circumstances and internal states, so ER may make it easier to cope with environmental demands [20].

Fonagy and Target [21] proposed the hypothesis of Maternal Mentalization (MM) for ER development in children. The influence of parents' mentalization on their children's ER is confirmed in a review by Camoirano [22]. Moreover, many studies suggest that ER is a predictor of resilience in children [23-26].

Mentalization and self-regulation are formed closely and concurrently in an attachment-secure environment [27]. The theory behind mentalization is that it allows people to understand themselves and others better, reappraises them, and prevents impulsive actions, thus making them more resilient [27, 28]. Alıcı et al. describe resilience as a process in which mentalization and coping styles are used when encountering adversity. Likewise, the mediating role of mentalization in the relationship between traumatic experiences and aggressive behaviors in adolescents, the relationship between psychological symptom severity and disabilities in activities in psychotherapy patients, and the relationship between stress and coping in adults refer to the fact that mentalization can be a factor of resilience [29-31].

Parents' mentalization is important as it is the source of curiosity and sensitivity toward their children's emotions and regulatory responses to their needs [32]. The moderating role of mentalization in the relationship between parental distress and parenting practices illustrates that higher parental mentalization helps them maintain their function in times of stress [33]. In addition, researchers have found a correlation between parents' mentalization and their children's mentalization in childhood, pre-adolescence, and adolescence years [34-36]. Furthermore, MM is also negatively associated with internalizing and externalizing symptoms in both abused and non-abused children, indicating that mothers with higher mentalization capacity have more resilient children [37-41].

While previous studies have suggested the role of mothers' mentalization in children's resilience, none have directly explored this relationship. Regarding the association between mothers' mentalization and children's ER and also the relationship between children's ER and their resilience is well established, we hypothesize that mothers' higher mentalization increases their 2–12-year-old children's resilience both directly and via the mediating role of emotion regulation.

## Method

The study sample consisted of 362 mothers (Mean age= 38.43, SD= 5.27) and their children aged 2-12 years old (Mean age= 7.25, SD= 2.96, 48.9% girls). Concerning mothers' education, 17.4% had a high school diploma, 11.6% had an advanced high school diploma, and 44.5% had completed university studies with a bachelor's degree, 23.2% with a master's degree, and 3.3% with a PhD. In terms of mothers' occupations, 36.7% of them were employed, while the majority of them were stay-at-home mothers (63.3%). Also, mothers' marital status was that 3.6% were divorced, and the rest were married.

The data collection took place from June 2021 to July 2021. Participants were invited to participate in the study through advertisements on the Internet using convenience sampling. Online versions of the questionnaires along with a brief explanation of the goal of the study were posted on some parenting-related groups and websites. Participation in this study was voluntary, and confidentiality was ensured by keeping all the information anonymous. Before completing the questionnaires, they gave their permission for participating in the study by selecting the agreement option and going to the next page. All participants could withdraw from participating at any point.

The tools used in this study were as follows:

**Mentalization Scale (MentS):** We used the Mentalization Scale (MentS) to measure Mentalization in mothers. This scale is a 28-item self-report tool that assesses mentalization capacity in adults on a 5-point Likert scale, from 1 ("Completely incorrect") to 5 ("Completely correct"). The MentS consists of three factors: Self-Related Mentalization (MentS-S; e.g., "When I get upset, I am not sure whether I am sad, afraid, or angry"), Other-related Mentalization (MentS-O; e.g., "I can recognize other people's feelings."), and Motivation to Mentalize (MentS-M; e.g., "I find it important to understand reasons for my behavior"). In the original study [42], MentS whole-scale and its three subscales indicated good and acceptable internal consistencies ($\alpha_{\text{MentS-total}} = .84$; $\alpha_{\text{MentS-M}} = .76$ and $\alpha_{\text{MentS-S \& MentS-O}} = .77$), and a meaningful pattern of correlations with the basic personality traits and attachment was found. The Persian version of the MentS has been examined and the scale indicated good internal consistency [43]. The present study found the following Cronbach's alphas: $\alpha = .78$ for MentS-S, $\alpha = .75$ for MentS-O, and $\alpha = .63$ for MentS-M.

**Emotion Regulation Checklist (ERC):** This instrument is an other-report measure that can be completed by an informant person such as a caregiver or teacher which reports children's ER [44]. The ERC consists of 24 items, measuring two dimensions of emotion regulation on a 4-point Likert scale (from 1 represents "Never" to 4 represents "Almost always"): Emotion Regulation (ER), which contains eight items to assess the child's emotional self-awareness, empathy, and adaptive

regulation (e.g., "Can say when s/he is feeling sad, angry or mad, fearful or afraid") and Lability/Negativity (L/N), that includes 16 items measuring emotional dysregulation such as lack of flexibility, reactivity, and mood lability (e.g., "Displays exuberance that others find intrusive or disruptive"). Shields and Cicchetti [44] reported good internal consistency for both subscales ($\alpha_{L/N}$ = .96; $\alpha_{ER}$= .83), and the two subscales were shown to be significantly correlated (r = -.50, P< .001). In this study, we used the Persian version of the ERC [45] with an acceptable internal consistency ($\alpha_{ER}$ = .68 and $\alpha_{L/N}$ = .81), and test-retest reliability ($r_{ER}$= .84, $r_{L/N}$ = .68). In the current study, Cronbach's alphas for ER and L/N subscales were 0.75 and 0.84, respectively.

**Child and Youth Resilience Measure (CYRM-R):** In this study, we used the Persons Most Knowledgeable (PMK) version of the Child and Youth Resilience Measure (CYRM-R) named PMK-CYRM-R. This instrument is a self-report measure of social-ecological resilience developed by Jefferies, McGarrigle [46] that provides information from a person who knows the child well through a 5-point Likert scale (from 1 "Not at all" to 5 "A lot"). The PMK-CYRM-R comprises 17 items distributed across two subscales: Personal Resilience (PR), which consists of statements about interpersonal resilience (e.g., "They cooperate/share with people around them"), and Caregiver Resilience (CR), which assesses resilience in the context of family and relationship with the caregiver(s) (e.g., "They talk to their family/caregiver(s) about how they feel"). The internal consistencies [46] are as followed: α = .82 (PR), .82 (CR), and .87 (overall). Examination of the psychometric properties of the Persian version of the PMK-CYRM-R has shown good internal reliability [47]. The following Cronbach's alphas were found in the present study: 0.80 for PR and 0.76 for CR.

First, descriptive statistics were intended to define the participants' demographic characteristics. Next, we conducted zero-order correlations to explore the relationships among all the main variables of the study using IBM SPSS Statistics-25. Then, to investigate the mediation role of emotion regulation between mothers' mentalization and children's resilience, a SEM was used using AMOS-24. To evaluate the fitness of the model, the following model indices were used: The ratio of $\chi 2$ to degrees of freedom (df), Root Mean Square Error of Approximation (RMSEA), Comparative Fix Index (CFI), Tucker–Lewis Index (TLI), Goodness of Fit Index (GFI), and Standard Root Mean Square Residual (SRMR). It is recommended for $\chi 2$/df to have value >3 to provide a good fit to the data (Kline, 2005). The RMSEA should be ≤ .06 for a good fit and a value between 0.06 and 0.08 indicates an acceptable fit, and also for SRMR, value < .08 shows a good fit [48, 49]. For CFI, TLI, and GFI, values greater than 0.95 indicate a good model fit [49]. Moreover, the indirect effects were tested through bootstrapping method with bias-corrected 95% confidence intervals.

## Results

The descriptive statistics of the variables and zero-order correlations are presented in Table 1. None of the mother and child demographic characteristics were significantly related to the child's ER and resilience. As Table 1 indicates, significant and positive correlations were found between all three subscales of the MentS and ER and both personal and caregiver resilience subscales of the PMK-CYRM-R (P< 0.01). Furthermore, ER appeared to have significant and positive relationships with both personal and caregiver resilience (P< 0.01). The L/N was negatively and significantly related to personal and caregiver resilience (P< 0.01).

The examination of the mediation role of ER in the relationship between maternal mentalization and child resilience did not provide a good fit to the data in the first step ($\chi 2$ = 84.67, df = 11; $\chi 2$/df = 7.70, P < .001; RMSEA = .14; 90% CI = [.11-.16]; SRMR = .07; CFI = .90; TLI = .81; GFI = .93). To improve the fitness of the proposed model, based on modification indices suggested by the AMOS, a covariance between errors of emotion regulation and L/N was added, most probably due to the similarity that reversed items may cause. Then, the model was conducted again, and the final model resulted in a good fit (Figure 1): $\chi 2$ = 29.79, df = 10; $\chi 2$/df = 2.98, P < .001; RMSEA = .07; 90% CI = [.04-.10]; SRMR = .04; CFI = .97; TLI = .94; GFI = .98. As standardized regression coefficients are shown in Figure 1, all of the paths were statistically significant (p < .001). Moreover, as the results of indirect effects indicate (Table 2), there were standardized significant indirect effects of maternal mentalization on child resilience when mediated by ER and L/N.

**Table 1.** Descriptive Statistics and Pearson Correlations for the MentS, ERC, and PMKCYRM-R

| Variables | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| 1. MentS-S | 29.14 | 6.16 | - | | | | | | |
| 2. MentS-O | 39.47 | 4.42 | .46** | - | | | | | |
| 3. MentS-M | 38.46 | 4.76 | .31** | .43** | - | | | | |
| 4. ER | 29.20 | 4.10 | .35** | .31** | .20** | - | | | |
| 5. L/N | 26.10 | 6.07 | -.30** | -.21** | -.16** | -.50** | - | | |
| 6. PR | 38.65 | 5.54 | .28** | .38 | .17** | .58** | -.47** | - | |
| 7. CR | 31.56 | 3.04 | .30** | .40** | .27** | .53** | -.37** | .62** | - |

** *P*< 0.01; MentS-S: Self-Related Mentalization; MentS-O: Other-related Mentalization; MentS-M: Motivation to Mentalize; ER: Emotion Regulation; L/N: Lability/Negativity; PR: Personal Resilience; CR: Caregiver Resilience.

**Table 2.** Bootstrap Results for Indirect Effects

| Indirect paths | Effect | SE | Lower Bounds 95% CI | Upper Bounds 95% CI |
|---|---|---|---|---|
| MentS → ER → Resilience | .36*** | .08 | .23 | .55 |
| MentS → LN → Resilience | .12** | .04 | .05 | .23 |

Note: ** *P*< 0.01, *** *P*< 0.001; MentS: Mentalization scale; ER: Emotion Regulation; L/N: Lability/Negativity.

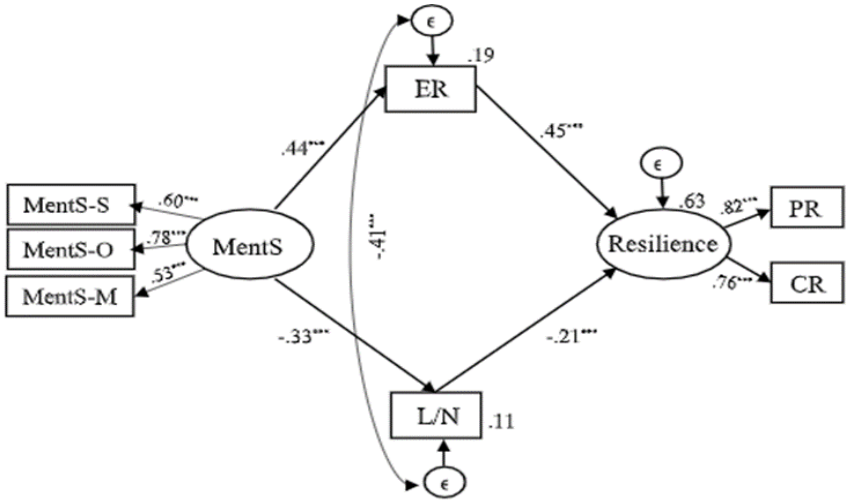


**Figure 1.** Final mediation model. *** P< 0.001; MentS: Mentalization Scale; MentS-S: Self-Related Mentalization; MentS-O: Other-related Mentalization; MentS-M: Motivation to Mentalize; ER: Emotion Regulation; L/N: Lability/Negativity; PR: Personal Resilience; CR: Caregiver Resilience.

## Discussion

The present study investigated the relationship between maternal mentalization and child resilience and the mediating role of child emotion regulation. Our data confirm the suggested model.

Findings confirmed the association between MM and child resilience. Although some studies have found a negative association between MM and internalizing and externalizing symptoms in their children [37- 41], no studies are available examining the relationship between MM and child resilience. The direct relationship between MM and child resilience may be due to the fact that parental mentalization leads to a greater understanding and sensitivity to a child's emotions and regulatory responses to their needs [32], which in turn can lead to higher resilience in the face of adversity.

The present study found a significant relationship between MM and child ER, which is consistent with previous research [22, 50-52]. All subscales of the Mentalization Scale (MentS-S, MentS-O, and MentS-M) are significantly correlated with child emotion regulation. The study suggests that a mother's mentalizing capacity, which allows her to understand her child's emotional states, can help the child develop the ability to regulate their own emotions. This may be because a mother with high mentalizing abilities is more responsive to her child's needs during distressing experiences, leading to better child emotion regulation strategies. While MM is not the only factor influencing child ER, its absence may lead to emotion dysregulation [50].

The relationship between child ER and child resilience is verified by our findings, which is consistent with previous research [24, 53, 54]. Expectedly, the ER subscale had a significant positive correlation with both resilience subscales (i.e., Personal Resilience and Caregiver Resilience) and the L/N subscale had a significant negative correlation with them. This suggests that appropriate emotion regulation strategies can help individuals regulate their emotions in stressful situations [19], leading to better coping with adversity and increased adaptability and flexibility in the face of internal and external stressors [20]. This can ultimately improve resilience [55].

Furthermore, the mediating role of child ER in the relationship between MM and child resilience is confirmed by our findings. People experience different levels of emotional distress in response to adversity, which leads to various responses to the situation. Since children are not very adept at expressing their emotions and experiences, they depend on their parents for meaning-making. This dependency is the reason why parents' mentalization capacity and consideration of their child's point of view when responding to his mental states hold importance [38]. When parents consider their child's experiences and emotions and respond to their psychological needs, it can reduce the child's psychological distress in stressful situations and promote a sense of security. Recurrently experiencing this helps the child with ER and in turn, leads to presenting more adaptive responses to the situation by the child.

To the best of our knowledge, this study stands to be the first to test a model with child ER as a mediator in the relationship between MM and child resilience.

We used the Mentalization Scale (MentS) for assessing MM, unlike similar studies that usually use the Parental Reflective Functioning Questionnaire (PRFQ). Even though the two questionnaires are expected to be correlated, they

measure different constructs. The MentS is a self-report measure based on the mentalization theory, which measures mentalization in three aspects (i.e., self, others, and motivation). The fact that the questionnaire we utilized is not specifically focused on mentalization in parent-child relationships and generally measures mentalization in the individual, is considered to be a strength of our study.

The study used convenience sampling through advertisements in parenting groups and websites, which may limit the generalizability of the findings due to potential differences between parents who use online parenting sources and those who do not. While there is no data available specifically on Iranian parents, studies on other nationalities suggest that such differences exist. For instance, a study on Australian parents of 2–12-year-old children showed that higher-risk parents are more likely to use online parenting sources in comparison with lower-risk parents (with risk factors being issues such as having had financial hardship in the last year, having immigrated in the last two years, having a large family and reporting elevated levels of child behavioral problems). This suggests that the sample in this study may not be representative of the broader population of Iranian parents, and the results should be interpreted with this limitation in mind.

We found that Cronbach's alpha of the MentS-M subscale was 0.63, a relatively low coefficient, which can be considered a limitation for this scale, which can limit the generalizability of the findings.

The scales we applied for measuring child emotion regulation and child resilience (Emotion Regulation Checklist (ERC) and Child and Youth Resilience Measure (CYRM-R), respectively) were both other-report measures that hindered direct observation of the child. To overcome this limitation, future studies can use measures other than other-report questionnaires. For example, Heart Rate Variability (HRV) and Late Positive Potential (LPP) have been proposed as appropriate physiological-biological markers for child resilience and ER, respectively [56, 57].

Another limitation of the present study was not taking age differences into account. Some researchers have found that the child's age can act as a moderator in the relationship between MM and child ER [50], which is overlooked in this study.

In addition, some other variables may be involved in the relationships we discussed that we did not take into consideration. One possibility, for instance, is that MM affects child ER through child mentalization. Some studies [34, 35] confirm the relationship between MM and child mentalization and others [58] confirm that mentalization and ER are correlated in children.

In addition to overcoming the limitations of our study, future researchers can try to figure out which ER strategies, in particular, mediate the relationship between MM and child resilience in this model; cognitive reconstruction, passive dealing, self-comforting, and alternative action which have been specifically related to resilience in a study by Zhang, Wu [26] can be good candidates.

## Conclusion

The findings of the present study confirmed that maternal mentalization leads to child resilience, both directly and through child emotion regulation. The model we presented can be enriched by further research which uses more definitive methods and tests and other potential influencing factors.

## Conflict of Interest

The authors declare that they have no competing interests.

## Ethical Approval

The study was approved by the relevant committee of the Department of Psychology of the Shahid Beheshti University, Tehran, Iran.

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