

# Exploring Correlation Between Perceived Parenting Styles, Early Maladaptive Schemas, and Depression Among Women With Depressive Symptoms in Iran and India- Role of Early Maladaptive Schemas as Mediators and Moderators

Maryam Khajouei Nia<sup>1,\*</sup>; Anuradha Sovani<sup>2</sup>; Gholam Reza Sarami Forooshani<sup>3</sup>

<sup>1</sup>Department of Psychology, Payam Noor University of Jiroft, Kerman, IR Iran

<sup>2</sup>Department of Applied Psychology, University of Mumbai, Mumbai, India

<sup>3</sup>Department of Psychology, University of Kharazmi, Tehran, IR Iran

\*Corresponding Author: Maryam Khajouei Nia, Department of Psychology, Payam Noor University of Jiroft, Kerman, IR Iran. Tel: +98-9134489200, E-mail: maryam.khajouei@gmail.com

Received: January 19, 2014; Revised: April 15, 2014; Accepted: May 11, 2014

**Background:** Many studies have reported that inadequate parental styles can contribute to depressive symptoms through dysfunctional cognitive styles.

**Objectives:** This study aimed to investigate the association of dysfunctional schemas and parenting style with depression, as well as the role of maladaptive schemas such as moderators and mediators in Iran and India.

**Patients and Methods:** The study sample was selected randomly and consisted of 200 (age group 16-60 y) depressed females (mild to moderate); 100 from Tehran (Iran) and another 100 from Pune (India). The type of the research was causal-comparative. The data collection took place in hospitals and clinics in the targeted cities. Descriptive statistic tests and hierarchical multiple regression were executed (for the purpose of analyzing data) by SPSS 17.

**Results:** It was demonstrated that the association between parenting and depression was not moderated by early maladaptive schemas. On the contrary, the results supported mediational models in which parenting styles are associated with the cognitive schemas, and these in turn are related to depressive symptoms. It was also found that abandonment mediates the impacts of maternal style on depression in Iran. On the other hand, abandonment and punitiveness schemas mediated the relation between paternal style and depression in India.

**Conclusions:** These findings suggest that the correlation between childhood experiences and depression in adulthood are mediated by dysfunctional schemas.

**Keywords:** Schemas; Depression; Women; Parenting; Iran; India

## 1. Background

Numerous studies have underscored the significance of the early parenting experiences in the development of depression in adulthood. Negative experiences in childhood may make children more susceptible with respect to psychopathological development during their lifespan (1-3). Mood disorders in children can be attributed to genetic vulnerability or unhealthy parenting styles (4). Beck's model suggested that the effect of parenting on depression might be at the schematic level of cognition. Pathological cognition is characterized by the development of maladaptive core beliefs (1). They are important beliefs and feelings about oneself and the environment, which the individual admit without any question. Dysfunctional schemas are generally believed to develop early in life and, once activated, negatively distort the categorization and interpretation of information, bringing about depression. Such beliefs are usually outcomes of poor parenting or other traumatic experiences (1, 5).

Therefore, poor parenting may contribute to depression in offspring through its effects on children's beliefs about themselves, their future, or ways of interpreting life experiences. Particularly, children reared in a controlling environment, and especially those with no warmth and care may develop ways of thinking that increase their vulnerability to depression in the short term, as well as over the course of development into adulthood. Consequently, it can be hypothesized that unhealthy core beliefs develop the necessary cognitive level to understand the links between poor perceived parental styles in childhood and subsequent depression. In this respect, the present study made an attempt to examine the association between recalled parenting styles and the emergence of depression in adulthood and the role of dysfunctional schemas as mediators or moderators.

In this regard, there are four types of early life experiences that result in early maladaptive schemas. The first

is frustration of needs, which occurs when the child experiences inadequacy of a good thing. This experience brings about schemas such as emotional deprivation or abandonment in the early environment. The second type is victimization, in which the child is persecuted. The schemas, which appeared with this experience, are mistrust or abuse; defectiveness or shame; and vulnerability to harm. In the third type, the child experiences too much of a good thing. The parents indulge to cater everything for the child. The schemas emerged from these experience are dependence or incompetence; and entitlement or grandiosity. The fourth type is selective internalization or identification (6). The child selectively identifies with and internalizes the parent's thoughts, feelings, experiences, and behaviors.

An investigation considered the potential role of core beliefs in the relationship between recalled parenting in childhood and major depression in adulthood. In this regard, it compared a group of depressed outpatients with a healthy community sample. The depressed group was varied by poorer perceived parenting and 3 unhealthy core beliefs (defectiveness or shame, self-sacrifice; and insufficient self-control) (7). It is also hypothesized that the relationship between parental representation and depression can be mediated by cognitive vulnerability factors (8). To indicate the significant role of toxic early experiences, a study displayed that perceptions of childhood emotional abuse and emotional neglect were associated with later symptoms of anxiety and depression and mediated by schemas of vulnerability to harm, shame, and self-sacrifice (9). Recently, it was also shown that dysfunctional attitudes and automatic thoughts mediate the effects of the perceived rearing on depression (10).

Parenting style could be a reflection of the culture (11). It is important to distinguish differences between various communities. Most parents use a variety of styles depending on their culture and social demands, but it is also necessary to look at the role that a culture plays in parenting style. As the schema approach emphasizes, early childhood experiences, innate temperament of the child, and cultural origins influence the development of early maladaptive schemas. One of the goals of the present study is to compare the parenting styles of respondents in India and Iran and distinguish the differences of the targeted communities.

Regarding cultural influence on parenting style, the relationship between parental bonding and mood disorder in six European countries was investigated. Their study indicated no apparent culture-dependent association between parental child-rearing styles and the occurrence of mood disorders (12).

According to the family systems' perspective, mothers' and fathers' parenting styles are interrelated in a mutually dependent manner, so that, the relationship between mothers' and fathers' parenting makes an important contribution to children's functioning, perhaps more important than the contributions of each one of them

alone (13, 14).

## 2. Objectives

The present study attempted to investigate contributions of maternal and paternal styles to the adulthood depression and the role of early maladaptive schemas as mediators or moderators in this association.

## 3. Patients and Methods

### 3.1. Sampling

The research method of the present study was causal-comparative. The sample was selected randomly and consisted of 200 females diagnosed with (mild to moderate) depression. A sample of 100 participants was selected from one Indian and one Iranian metropolitan cities each; Pune and Tehran, respectively. This number was selected, according to the statistical methods and the required larger sample size (samples above 40 people are listed among large samples) (15). The age range of the participants was 16-60 years (India  $30.26 \pm 11.46$  years) and (Iran  $31.92 \pm 10.08$  years). Because, the homogeneity in the degree of depression experienced by the participants was needed Beck Depression Inventory was used for identifying the participants with mild or moderate depression. Participants experiencing mild or moderate degree of depression were included in the present study.

Written permission was obtained from the head of the department to carry out the research in different places (hospitals and clinics). After diagnosis of psychiatrists, the patients were referred to the researcher who established the rapport and explained the details of the research. Meanwhile, informed consent was taken, the participant's cooperation was solicited and confidentiality was assured that their responses were to be used only for the research purpose. The collection of data lasted from January 2009 until the end of 2010.

### 3.2. Tools

#### 3.2.1. Beck Depression Inventory

Beck Depression Inventory (BDI) test was designed by Dr Aaron T. Beck in 1961. It consists of 21 questions regarding how the subject has been feeling in the last week and each answer was scored on a scale of 0 to 3. The cutoff was used as follows: 0-14, minimal depression; 15-20, mild depression; 21-30, moderate depression; and 31-63, severe depression. BDI-II had good internal consistency ( $\alpha = .90$ ) and its total score was not significantly correlated with gender, age, or ethnicity (16). Also, BDI-II appears to have strong psychometric support as a screening measure for depression among older adults in the general population (17). The Persian version of BDI-II has high internal consistency (Cronbach  $\alpha = 0.87$ ) and acceptable test-retest reliability ( $r = 0.74$ ) in Iran (18). The test-retest reliability ( $r =$

0.82) and very good internal consistency ( $\alpha = 0.96$ ) of BDI were reported in India too (19).

### 3.2.2. Young Schema Questionnaire

Young Schema Questionnaire (YSQ-SF) was developed in 1998 by Jeffery Young. It is composed of statements that respondents might use to describe themselves. Some of the items ask about relationships with parents or romantic partners. Participants are asked to choose the highest score from 1 to 6 on the rating scale (Likert Scale) that explain them. For the purpose of achieving the goals of the present study, all scores (1 to 6) were calculated as the total of participants' scores.

This questionnaire contains 90 items to measure early maladaptive schemas (EMSS) in 18 subscales, including 5 domains as follows: domain I; emotional deprivation (ED), abandonment (Ab), mistrust/abuse (MA), social isolation (SI), and defectiveness/shame (DS) (1); domain II; failure (Fa), dependence/incompetence (DI), vulnerability to harm (VH), and enmeshment (Em); domain III; entitlement (Et), and insufficient self-control (IS); domain IV; subjugation (Sb), self-sacrifice (SS), and approval seeking (AS); domain V; emotional inhibition (EI), unrelenting standard (US), negativity/pessimism (NP), and punitiveness (Pn).

The questionnaire possesses very good internal consistency (20, 21). A study indicated the Cronbach coefficient  $\alpha$  of 0.94 in Iran (22). In the present study, the Cronbach coefficient  $\alpha$  was 0.80 in Iran and 0.84 in India.

### 3.2.3. Young Parenting Inventory

This is one of the primary means of identifying the childhood origins of schemas. The Young Parenting Inventory (YPI) is a 75-item questionnaire in which respondents rate their mothers and fathers separately on a variety of behaviors that could have contributed to the development of the schemas. It reflects such childhood environments that are likely to shape the development

of specific schemas. YPI is scored similar to YSQ. The only exceptions are items 1 through 5, which assess the origins of emotional deprivation and are scored in reverse. Social isolation/alienation is not measured by the YPI. Social isolation usually originates from the peer group rather than parenting style. A research sought to validate the inventory, indicated its Cronbach  $\alpha$  scores  $> 0.70$  with good internal consistency (23). A study in Iran reported consistency coefficient of 0.69 for the YPI-Mother form and 0.80 for the YPI-Father form (24). In the present research, the Cronbach  $\alpha$  was attained for subscales of mother and father in Iran (0.92) and India (0.93).

## 4. Results

The analysis of data was done by SPSS V 17. Descriptive statistics tests and hierarchical multiple regression were executed for the purpose of analyzing data. Firstly, for the aim of making normality of the data, Kolmogorov-Smirnov test was performed. Linearity test was also utilized for the assessment of the linear correlation. The results of both tests revealed normality and linear correlation. Table 1 shows the mean and standard deviation of age and education of the targeted populations and the percentage of participant's occupations as well.

The correlation, mean scores, and standard deviations of variables are presented in Tables 2 and 3 in Iran and India, respectively. Of 21 correlations, all were significant at  $P < 0.01$  and  $P < 0.05$  level.

**Table 1.** Mean Scores and Standards Deviation of Age, Education and Percentage of Occupation Status of Participants<sup>a</sup>

Variable	Iran	India
Age, y	31.92 ± 10.08	30.26 ± 11.46
Education	13.63 ± 2.76	15.1 ± 2.68
<b>Job</b>		
Self-employment	72.3	75.2
Government	26.7	23.8

<sup>a</sup> Data are presented as Mean ± SD and Percent.

**Table 2.** Correlation Between Young Parenting Inventory (YPI)-Mother and Father, BDI, Early Maladaptive Schemas and Mean/SD of Each One in Iranian Sample<sup>a, b</sup>

	BDI	YPI-father	YPI-mother	(Ab)	(MA)	(ED)	(DS)	(DI)	(VH)	(Em)	(Fa)	(Et)	(IS)	(Sb)	(SS)	(AS)	(NP)	(EI)	(US)	(Pn)
BDI	1	0.232 <sup>a</sup>	.243 <sup>a</sup>	0.313 <sup>b</sup>	0.438 <sup>b</sup>	0.313 <sup>b</sup>	0.426 <sup>b</sup>	0.299 <sup>b</sup>	0.265 <sup>a</sup>	0.229 <sup>a</sup>	0.330 <sup>b</sup>	0.356 <sup>b</sup>	0.311 <sup>b</sup>	0.398 <sup>b</sup>	0.219 <sup>a</sup>	0.288 <sup>b</sup>	0.334 <sup>b</sup>	0.331 <sup>b</sup>	0.325 <sup>b</sup>	0.324 <sup>b</sup>
YPI-father		1	0.542 <sup>b</sup>	0.164	0.270 <sup>a</sup>	0.172	0.219 <sup>a</sup>	0.319 <sup>b</sup>	0.240 <sup>a</sup>	0.230 <sup>a</sup>	0.260 <sup>a</sup>	0.297 <sup>b</sup>	0.236 <sup>a</sup>	0.264 <sup>a</sup>	0.236 <sup>a</sup>	0.199	0.290 <sup>b</sup>	0.306 <sup>b</sup>	0.239 <sup>a</sup>	0.267 <sup>a</sup>
YPI-mother			1	0.229 <sup>a</sup>	0.404 <sup>b</sup>	0.412 <sup>b</sup>	0.270 <sup>b</sup>	0.262 <sup>a</sup>	0.319 <sup>b</sup>	0.289 <sup>b</sup>	0.220 <sup>a</sup>	0.434 <sup>b</sup>	0.271 <sup>b</sup>	0.366 <sup>b</sup>	0.318 <sup>b</sup>	0.227 <sup>a</sup>	0.252 <sup>a</sup>	0.236 <sup>a</sup>	0.238 <sup>a</sup>	0.266 <sup>b</sup>
Mean	23.53	193.17	213.52	17.41	13.92	14.06	11.61	11.46	13.47	13.04	13.34	17.62	18.39	16.01	18.55	19.83	17.71	14.49	20.44	16.16
SD	4.8543	41.444	44.700	5.900	5.607	5.536	5.231	4.541	5.593	5.317	5.495	4.561	5.164	5.995	5.533	5.434	5.600	5.146	4.8297	4.875

<sup>a</sup>  $P < 0.01$ .

<sup>b</sup>  $P < 0.05$ .

**Table 3.** Correlation Between Young Parenting Inventory (YPI)-Mother and father, BDI, Early Maladaptive Schemas and Mean/SD of Each One in Indian Sample<sup>a, b</sup>

	BDI	YPI-father	YPI-mother	(Ab)	(MA)	(ED)	(DS)	(DI)	(VH)	(Em)	(Fa)	(Et)	(IS)	(Sb)	(SS)	(AS)	(NP)	(EI)	(US)	(Pn)
BDI	1	0.298 <sup>b</sup>	0.288 <sup>b</sup>	0.249 <sup>a</sup>	0.243 <sup>a</sup>	0.248 <sup>a</sup>	0.242 <sup>a</sup>	0.283 <sup>b</sup>	0.238 <sup>a</sup>	0.242 <sup>a</sup>	0.237 <sup>a</sup>	0.244 <sup>a</sup>	0.270 <sup>a</sup>	0.228 <sup>a</sup>	0.290 <sup>a</sup>	0.208	0.218 <sup>a</sup>	0.253 <sup>a</sup>	0.242 <sup>a</sup>	0.310 <sup>b</sup>

<b>YPI-father</b>	1	0.858 <sup>b</sup>	0.274 <sup>b</sup>	0.269 <sup>b</sup>	0.402 <sup>b</sup>	0.369 <sup>b</sup>	0.279 <sup>b</sup>	0.335 <sup>b</sup>	0.455 <sup>b</sup>	0.263 <sup>a</sup>	0.271 <sup>b</sup>	0.364 <sup>b</sup>	0.242 <sup>a</sup>	0.213	0.342 <sup>b</sup>	0.291 <sup>b</sup>	0.182	0.361 <sup>b</sup>	0.310 <sup>b</sup>	
<b>YPI-mother</b>		1	0.363 <sup>b</sup>	0.266 <sup>b</sup>	0.415 <sup>b</sup>	0.361 <sup>b</sup>	0.304 <sup>b</sup>	0.394 <sup>b</sup>	0.447 <sup>b</sup>	0.263 <sup>b</sup>	0.387 <sup>b</sup>	0.373 <sup>b</sup>	0.282 <sup>b</sup>	0.225 <sup>a</sup>	0.359 <sup>b</sup>	0.360 <sup>b</sup>	0.254 <sup>a</sup>	0.344 <sup>b</sup>	0.309 <sup>b</sup>	
<b>Mean</b>	22.65	191.028	192.448	15.94	13.81	13.98	11.44	13.177	12.69	13.694	14.15	16.07	16.69	15.83	19.46	15.97	16.29	15.68	17.810	16.402
<b>SD</b>	5.636	41.928	36.821	6.312	4.958	6.221	5.33	5.82	4.95	4.688	5.88	5.361	5.557	5.801	5.037	5.120	5.190	4.897	4.285	4.780

<sup>a</sup> P < 0.01.  
<sup>b</sup> P < 0.05.

The results demonstrated the highest correlation between subscales of dysfunctional schemas, parenting styles, and BDI scores as follows: father and mother parenting style (r = 0.542), BDI scores and mistrust /abuse (MA) (r = 0.438), maternal style and entitlement (Et) (0.434), BDI scores and defectiveness/shame (DS) (r = 0.426), maternal style and emotional deprivation (ED) (r = 0.412), maternal style and mistrust /abuse (MA) (r = 0.404) all at P < 0.01 level in Iran.

The results revealed the highest association between paternal and maternal style (r = 0.858), father schemas and enmeshment (Em) (0.455), mother schemas and enmeshment (Em) (r = 0.447), mother schemas and emotional deprivation (ED) (r = 0.415), father schemas and emotional deprivation (ED) (r = 0.402) in India all at P < 0.01.

Since there were significant relationships between perceived parenting styles, depression, and early maladaptive schemas, we examined mediation and moderation models of 18 early maladaptive schemas. The results exhibited that dysfunctional schemas failed to moderate the correlation between parenting style and depression. However, it indicated that only abandonment (Ab) and punitiveness (Pn) mediated the correlation between parenting styles and depression.

Table 4 demonstrates the relationships between parenting styles and depression that are mediated by abandonment. Four multiple-regression analyses were conducted. The first step involved examining the relationship between mother style (predictor variable) and BDI (dependent variable), Beta = 0.254, Sig. = 0.012, and F = 6.488. The first criterion for mediation as defined by Baron and Kenny was met (25). In the second step, the relationship between the predictor variable (mother style) and the mediator variable (abandonment) was tested. The results of this regression analysis showed that mother style significantly predicted Ab, Beta = 0.205, Sig = 0.043, F = 4.208. Hence, the second criterion for mediation was met. The third step required that the relationship between the predictor variables (mother style, Ab) and the outcome variable (BDI) be examined. As expected,

both mother style (Beta = 0.196, Sig. = 0.048, F = 6.488) and Ab (Beta = 0.302, Sig. = 0.003, F = 12.381) significantly predicted BDI. As it is observed, beta would be reduced and was significant when Ab was included. The final step showed that the strength of the association between parenting style and depressive symptoms was significantly reduced when the mediators were added to the mode. These results revealed that the third criterion for mediation was met in Iran. But it was partially significant.

Table 5 presents the association between father parenting styles and depression, mediated by abandonment. Four multiple regression analyses were conducted. The first step, involved examining the relationship between parenting style-father (the predictor variable) and BDI (the depended variable) (Beta = 0.298, Sig. = 0.008, F = 7.381). In the second step, the relationship between the predictor variable (father style) and the mediator variable (abandonment) was tested. The results indicated that paternal style significantly predicted abandonment (the mediated variable) (Beta = 0.247, Sig. = 0.015, F = 6.115). In the third step, Abandonment also significantly predicted depression when controlling for recalled paternal style (Beta = 0.220, Sig. = 0.049, F = 4.003).

When abandonment was included in the regression analyses, recalled paternal styles significantly predicted depression (Beta = 0.251, Sig. = 0.025, F = 7.381). In the final step, with hierarchical regression, the significance of the decrease in beta coefficients of the predictor variables, the significance of the relationships between the mediating variables, and the predictor and criterion variables were analyzed. Consequently, beta coefficient was reduced in the third step compared to the first step.

To test the hypothesis stating that the relationship between father parenting styles and depressive symptoms mediated by punitiveness, multiple regression analyses were conducted, which are demonstrated in Table 6. In order to investigate the mediator role of punitiveness between perceived parenting style (YPI) and depressive symptoms (BDI scores), hierarchical regression analyses were performed. In the first step, a significant regression

**Table 4.** Hierarchical and Multiple Regression Analyses Examining the Mediating Role of Abandonment (Ab) Between Parenting Style (PS)-Mother and Depression in Iran <sup>a</sup>

Predictor Variable	Criterion variable	B	Beta	t	Sig.	R <sup>2</sup>	R <sup>2</sup> Change	F Change
<b>Step 1</b>								
PS-mother	BDI	0.029	0.254 <sup>a</sup>	20.547	0.012 <sup>a</sup>	0.065	0.065	60.488 <sup>a</sup>
<b>Step 2</b>								



PS-mother	Abandonment	0.029	0.205 <sup>a</sup>	20.051	0.043 <sup>a</sup>	0.042	0.042	4.208 <sup>a</sup>
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**Step 3**

PS-mother	BDI	0.023	0.196 <sup>a</sup>	2.001	0.048 <sup>a</sup>	0.065	0.065	6.488 <sup>a</sup>
Abandonment	BDI	0.251	0.302 <sup>a</sup>	3.087	0.003 <sup>a</sup>	0.117	0.117	12.381 <sup>a</sup>

<sup>a</sup> P < 0.05.

**Table 5.** Hierarchical and Multiple Regression Analyses Examining the Mediating Role of Abandonment (Ab) Between Parenting Style (PS)-Father and Depression in India

Predictor Variable	Criterion Variable	B	Beta	t	Sig.	R <sup>2</sup>	R <sup>2</sup> Change	F Change
<b>Step 1</b>								
PS-father	BDI	0.038	0.298	2.717	0.008	0.089	0.089	7.381
<b>Step 2</b>								
PS-father	Abandonment	0.036	0.247	2.473	0.015	0.061	0.061	6.115
<b>Step 3</b>								
PS-father	BDI	0.032	0.251	2.280	0.025	0.089	0.089	7.381
Abandonment	BDI	0.190	0.220	2.001	0.049	0.135	0.046	4.003

**Table 6.** Hierarchical and Multiple Regression Analyses Examining the Mediating Role of Punitiveness (Pn) Between Parenting Style (PS)-Father and Depression in India

Predictor Variable	Criterion variable	B	Beta	t	Sig.	R <sup>2</sup>	R <sup>2</sup> Change	F Change
<b>Step 1</b>								
PS-father	BDI	0.038	0.298	2.717	0.008	0.089	0.089	7.381
<b>Step 2</b>								
PS-father	Punitiveness	0.036	0.310	3.145	0.002	0.096	0.096	9.890
<b>Step 3</b>								
PS-Father	BDI	0.029	0.225	2.025	0.046	0.150	0.046	4.103
Punitiveness	BDI	0.284	0.259	2.334	0.022	0.104	0.104	8.800

between the independent variable and the dependent variable was found (Beta = 0.298, Sig. = 0.008, F = 7.381). In the second step, a significant relationship between the independent variable and the mediating variable was observed (Beta = 0.310, Sig. = 0.002, F = 9.890). Next, the mediating variable significantly relates to the dependent variable when both the independent variable (Beta = 0.225, Sig. = .046, F = 4.103) and mediating variable (Beta = 0.259, Sig. = 0.022, F = 8.800) were the predictors of the dependent variable. Finally, the coefficient relating the independent variable to the dependent variable was higher (in absolute value) than the coefficient relating the independent variable compared to the dependent variable in the regression model, with both the independent variable and the mediating variable predicting the dependent variable.

**5. Discussion**

This study considered the potential role of core beliefs in the relationship between recalled parenting in childhood and depression in the adulthood. Because all maladaptive schemas are mostly traced back to childhood environment, the present study aimed to explore the effect of early maladaptive schemas on the relationship of childhood maltreatment and toxic experiences with depressive symptoms. We tried first to evaluate the correlation between early maladaptive schemas and negative parenting styles and depression, then to find out the role of core beliefs as mediators or moderators in this relation.

Similar to the previous researches, the present study demonstrated that exposure to inadequate parenting is associated with increased risk of depression in adult-

hood. These results pointed out the relationship of parenting styles and early maladaptive schemas with depression in both countries. The outcomes obtained in this part are consistent with Beck's and Young's theory. They hypothesized that maladaptive schemas are generally developed early in life and, once activated, negatively distort the cognitive patterns, leading to depression. Such beliefs are usually the consequence of poor parenting or other traumatic experiences (1, 5).

The results also showed that perceived parenting style (father and mother) was linked with symptoms of depression in both countries, i.e., apart from cultural influences on parenting styles, any inadequacy in parenting leads to psychological problems in adulthood. This finding is compatible with an investigation on the relationship between parental bonding and mood disorder in six European countries. It showed that the relationship between parental child-rearing styles and mood disorders was mostly homogeneous across the six countries (12).

The present study exhibited the correlations of subscales of early maladaptive schemas and parenting styles with depressive symptoms. This finding is consistent to some extent with the result of a study that found the correlation between parenting style and vulnerability to depression in adulthood (7).

The mediate and moderate roles of early maladaptive schemas were examined too. The results showed that dysfunctional schemas failed to moderate the correlation between parenting style and depression. It indicated that the mediation role restricted to abandonment had a mediated role in the association of maternal styles with depression in Iran. Abandonment and punitiveness mediated the effects of unhealthy paternal style on depression in India. Abandonment is categorized in the first domain "Disconnection and Rejection". The schemas of this domain result from early experiences of an unpredictable and explosive family environment. People possessing schemas of this domain are anticipated not to receive their needs for security, safety, stability, nurturance, and empathy in the family in a predictable way. It is theorized that abandonment schema usually occurs when the parent has been inconsistent, unstable or unreliable in meeting the child's basic needs. It involves the sense that parents are unable to continue providing emotional support or practical protection because they are emotionally unstable and abandon the person in favor of someone better (26).

The results in India can be explained by considering the father's authority and prominent role in his family; he has a prerogative to behave in his own way. Unhealthy paternal style leads to the insecure feeling that the father might unpredictably abandon the family. Hence, these unhealthy schemas originate from the father's parenting style in an Indian family. In the Iranian family system, nowadays mothers have the greatest responsibility to fulfill the primary emotional needs of children. If a mother is unstable or unreliable in meeting the child's basic needs, abandonment schema might be formed.

The analysis of the data also revealed that punitiveness schema mediated the effects of perceived paternal style on depression scores in India. According to schema approach, punitiveness schema refers to the belief that people should be harshly punished for making mistakes. This schema includes difficulty in forgiving mistakes of oneself or others, due to unwillingness to consider extenuating circumstances. Generally, parents contribute to shape this toxic schema by blaming, punishing, or being verbally abusive when their children make mistakes (26). As it was mentioned, in Indian families, the father has the critical role. If the father criticizes and punishes too much or be verbally abusive, these states contribute to form punitiveness schema in children. Furthermore, the results support significant differences between parental styles as a result of family environments and cultural distinctions in Iran and India. It could be concluded that paternal and maternal rearing are each crucial in the mental health of a child.

The result of this part is consistent to some extent with investigations stating that when the child experiences inadequacy of a good thing in the early environment, the frustration of needs occurs and the schemas such as emotional deprivation or abandonment develops (6). A study also indicating cognitive styles mediated the link between the parental representation and depression (8, 10).

Since the schema approach emphasizes early childhood experiences, innate temperament of the child, and cultural origins influence in the development of early maladaptive schemas. In order to find out the effect of cultural origins, the present study explored the differences between the targeted countries. The results are compatible with the study indicating culture influences parental practice in child rearing (11).

In summary, it can be concluded that poor parenting styles contribute to dysfunctional schemas, which lead to depression in adulthood. Punitiveness and abandonment schemas mediated the correlation between negative paternal style and depression in India. On the other hand, abandonment schema operated as a mediator between maternal style and depression in Iran. Hence, the results indicated that mothers' and fathers' styles have significant contribution to the mental health and function of children in adulthood. Moreover, according to the results obtained from two countries, it can be inferred that parenting styles were influenced by cultural sources. It can be claimed that the present study is a pioneer to find out the role of dysfunctional schemas as mediators and moderates in relationship between recalled parenting style and depression in both countries.

### 5.1. Limitation

The main limitation of the present research is the sample that was restricted to females only. Thus, the findings cannot be generalized across both genders. In future studies, the researcher may attempt to extend the study,

which could be undertaken on a different gender group and to compare genders to identify their early maladaptive schemas and further parenting style.

## 5.2. Suggestions

The results of this research offer interesting insights into the relationship between parenting styles and cognitive styles. The findings suggest that clinical work on adults with symptoms of depression might need to take note of parental style. More research is needed to substantiate these findings. In addition, prospective research could focus on delineating the relationship between specific negative parenting styles and specific cognitive styles in individuals with depression.

## Acknowledgements

We would like to express our profound appreciation and gratitude to all Iranian and Indian women with symptoms of depression. This study would never be possible without their support and willingness to participate.

## Authors' Contributions

Maryam Khajouei Nia suggested the original idea, collected and analyzed the data, and wrote the manuscript; Anuradha Sovani provided guidelines to accomplish the study; Gholam Reza Sarami Forooshani helped with the statistical analysis.

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