

## A COMPARISON OF COGNITIVE EMOTION REGULATION STRATEGIES AND EMOTIONAL SCHEMAS BETWEEN MOTHERS OF CHILDREN WITH MENTAL DISORDERS AND MOTHERS OF PHYSICALLY AND MENTALLY DISABLED CHILDREN

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### ABSTRACT

**Introduction:** This study aimed to evaluate cognitive emotion regulation strategies and emotional schemas in mothers of children with mental disorders and mothers of physically and mentally disabled children.

**Methods and Materials:** The method of this study was descriptive followed by a casual-comparative design. The statistical population of this study included all mothers of children with mental disorders and mothers of physically and mentally disabled children in Zahedan. The statistical sample consisted of 63 mothers of children with mental disorders, including emotional disorders, disruptive behavior disorders, and developmental disorders, selected using the random sampling method. The sample was matched with 63 mothers of physically and mentally disabled children chosen among clients admitted to rehabilitation centers and clinics in Zahedan. These two groups filled out the Garnefski, Kraaij, and Spinhoven Cognitive Emotion Regulation Questionnaire and the Leahy Emotional Schemas Scale. The obtained data was analyzed using the multivariate analysis of variance (MANOVA).

**Results:** The results indicated that compared to the mothers of disabled children, the mothers of children with mental disorders obtained higher scores on self-blame, catastrophizing, and other-blame (the subscales of maladaptive cognitive emotion regulation strategies), putting into perspective (the subscale of adaptive cognitive emotion regulation strategies), emotional self-awareness, expression of feelings, not being controlled, comprehensibility, simplistic view of emotions, and acceptance of feelings (the subscales of emotional schemas).

**Conclusion:** It can be concluded that using these improper strategies can put these mothers at the risk of mental issues and conflicts. Therefore, through training efficient emotional schemas and adaptive cognitive emotion regulation strategies, these mothers can be aided to improve their conditions.

**Keywords:** Cognitive Emotion Regulation, Emotional Schemas, Mental Disorders, Disabled Children, Mental and Physical Disability.

DOI: 10.19193/0393-6384\_2017\_1s\_132

Received November 30, 2016; Accepted March 20, 2017

### Introduction

Becoming a mother is one of the most important stages of a woman's life due to which she experiences pleasant feelings, positive and negative emotions, and doubts about her ability to give birth to a healthy baby and perform maternal tasks<sup>(1)</sup>. Research carried out on exceptional children have shown that parents of children with special needs experience considerable levels of parenting stress and anxiety<sup>(2,3)</sup>.

Not only do mental disorders lead to inefficiency among patients, but also they affect these patients' families and disrupt their performance<sup>(4)</sup>. Living with a person who suffers from mental disorders in a family imposes major objective and subjective pressure on other family members (especially those who take care of the patient)<sup>(5)</sup>.

To meet their children's needs, parents of children with mental disorders do not entrust the responsibilities of taking care of their children to others and do not devote any special time to them-

selves. This in turn can increase relationship problems among parents and lead to marital dissatisfaction, adjustment issues, and mood and emotional disorders<sup>(6)</sup>.

Besides families of children with mental disorders, families of physically and mentally disabled children are also under a lot of stress and this stress is correlated with the severity of a child's disability<sup>(7)</sup> and the type of problem he/she suffers from<sup>(8)</sup>. In developing countries, the number of people with moderate to severe disabilities has reached 200 million people<sup>(9)</sup>. This number is usually associated with poverty<sup>(4)</sup>.

2 out of every 100 babies born in the United States suffer from a type of disability<sup>(10)</sup>. Nearly, 7-10% of the world's population are estimated to live with some form of disability<sup>(11)</sup> which ranges from mild to severe and permanent to temporary. These disabilities can be physical, sensory or mental and may influence people's everyday lives, personal and social developments, and their education<sup>(12)</sup> and put them at lower-than-normal levels.

These effects are not only limited to children; however, they influence their family members<sup>(13)</sup>. Disabled children have significant impacts on family functioning. Families with disabled children, compared to other families, are more likely to experience stress<sup>(14)</sup>, frustration, low self-esteem, and anger<sup>(4)</sup>. There are many discrepancies in families with disabled children. While some of these families feel desperate when dealing with their disabled children, others can manage their children with severe disabilities without any major difficulties<sup>(15)</sup>. Having a disabled child imposes physical, spiritual, and mental stress and anxiety on a family, particularly the mother. Parents of children with developmental disabilities have to deal with high levels of stress and negative emotions<sup>(16)</sup>.

In addition to what was mentioned earlier, having a disabled child (including any disorder) decreases maternal mental health and increases maternal depression, anxiety, and stress. Although the presence of a disabled child in a family reduces its productivity, mothers due to taking care of their disabled children are more prone to semi-clinical disorders and physical and mental trauma. Studies indicated that maternal mental health was associated with the type of disability their children dealt with and whether their disability was acute or chronic<sup>(17)</sup>. The major consequence of these disabilities is stigmatization which is not only limited to immediate family members, but also it expands

over generations to extended family members<sup>(18)</sup>. This is a psychological trauma that is often overlooked and increases feelings of guilt among families with disabled children.

We all experience various emotions and attempt to deal with them through applying effective and ineffective methods. Experiencing these emotions is not the main issue; however, our ability to recognize, accept, and, if possible, use these emotions to work in our favor can be considered as the major issue<sup>(19)</sup>.

People are born with a set of emotional responses that is alike in all cultures and societies. While this set of emotional responses occurs in response to internal and external stimulators, people learn to employ different strategies in response to various stimuli. Accordingly, no two people display similar emotional responses to a stimulus<sup>(20)</sup>. Examining emotional responses a person uses provides important information about his/her experiences in relation to others. With keeping this information in mind, people learn how to face various emotions, how to verbally express their emotional experiences, what strategies they can apply in response to their emotions, and how to interact with others in the context of experiencing specific emotions<sup>(21)</sup>.

Emotion regulation has a prominent role in developing and maintaining emotional disorders. Emotion regulation is a process aimed at influencing the severity, duration, and type of experienced emotions<sup>(22)</sup>. Using this process, people consciously and unconsciously adjust their emotions<sup>(23)</sup>. Emotion regulation is usually assessed within two important frameworks, i.e. emotion regulation strategies that activate before or at the beginning of the incident of an event and emotion regulation strategies which activate after the incident of an event and after the formation of an emotion. The former strategies have significant roles in controlling negative emotions<sup>(22)</sup>. Given the significant role of emotion regulation difficulties in creating emotional problems and mental disorders, emotional inconsistencies occur in all axis I disorders and a half of axis II disorders<sup>(24)</sup>.

Any difficulties and defects in emotion regulation can make an individual vulnerable to mental disorders including depression and anxiety<sup>(25)</sup>. Therefore, it can be stated that emotion regulation is a key factor in determining mental well-being, effective performance, coping with stressful life events, and quality of life<sup>(26)</sup>.

The method of evaluating an individual's cognitive system in the face of negative events is of utmost importance and the individual's mental health results from the interaction among cognitive emotion regulation strategies, emotional experiences, and accurate assessment of stressful situations<sup>(27)</sup>. Through reviewing research and theoretical literature in the field of cognitive coping and emotion regulation, Garnefski and Kraaij<sup>(28)</sup> proposed nine cognitive strategies, namely self-blame, acceptance, rumination, positive refocusing, refocusing on planning, positive reappraisal, putting into perspective, catastrophizing, and other-blame. Among these strategies, self-blame, rumination, catastrophizing, and other-blame were considered as maladaptive emotion regulation strategies. This is while acceptance, positive refocusing, refocusing on planning, positive reappraisal, and putting into perspective were regarded as adaptive emotion regulation strategies. Overall, it is believed that cognitive emotion regulation strategies aid people to regulate their negative emotions<sup>(22, 23, 29)</sup>.

Emotional schemas are metacognitive models of emotions proposed based on the concept of emotional processing. According to the emotional schema model, people may be different in the conceptualization of emotions. Other words, people may have various schemas about their emotions. These schemas reflect how people experience their emotions. It is believed that once an unpleasant emotion arouses in an individual, he/she has a plan in mind and knows how to deal with that unpleasant emotion<sup>(30)</sup>.

Fourteen main schemas are validation seeking, comprehensibility, guilt and shame, simplistic view of motions, higher values, control, attempts to be rational, duration, consensus, acceptance of feelings, rumination, expression of feelings, and blame<sup>(31)</sup>. According to what was mentioned, emotion regulation and emotional schemas are associated with several mental disorders including anxiety, depression, metacognitive aspects of distress, stress, marital conflicts, and personality disorders<sup>(32)</sup>.

Since mothers of children with special needs suffer from mental disorders, the present study aimed to examine cognitive emotion regulation strategies and emotional schemas in mothers of children with mental disorders and mothers of physically and mentally disabled children. The main hypothesis of this study was that mothers of children with special needs obtain high scores on

maladaptive cognitive emotion regulation strategies and negative emotional schemas.

## Methods

The current study was descriptive followed by a casual-comparative design. The statistical population of this study included families of children with mental disorders (developmental disorders, emotional disorders, and disruptive behavior disorders) and families of physically and mentally disabled children admitted to rehabilitation centers and clinics in Zahedan. Through explaining the main objective of this study (by holding a briefing) and obtaining the participants' consent, those who were eager to take part in this study were tested. Eligible people (obtained 1 standard deviation above the mean) were asked to participate in this study.

The sample contained 126 participants (63 mothers of children with mental disorders and 63 mothers of physically and mentally children) selected using the random sampling method. Besides having children with some sort of disorder or disability, these two groups were matched, as much as possible, in other variables such as economic, social, and cultural variables and number of children. Inclusion criteria of the present study were having the criteria of psychiatric disorders in children with mental disorders, being in the age range of 19 to 45, having congenital anomalies in children with disabilities, having at least one healthy child in the family, and requiring training and special care. Exclusion criteria of this study were divorced families, families with one child, and families with more than one physically and mentally disabled child.

### Measurement Tools

The Garnefski, Kraaij, and Spinhoven Cognitive Emotion Regulation Questionnaire: This is a multidimensional questionnaire which was developed by Garnefski, Kraaij, and Spinhoven to identify cognitive coping strategies used after experiencing stressful events or negative emotions. Unlike other similar questionnaires which make no clear distinctions between an individual's thoughts and his/her real actions, this questionnaire evaluates an individual's thoughts after encountering with negative experiences or traumatic events. This is a self-report questionnaire and it includes 36 items<sup>(25)</sup>. This questionnaire has 9 subscales including self-blame, acceptance, rumination, positive refocusing, refocusing on planning, positive reappraisal, putting

into perspective, catastrophizing, and other-blame. The scores on each subscale range from 4 to 20. Obtaining higher scores on each subscale indicates greater use of each strategy in the face of stressful and negative events<sup>(28)</sup>.

The Persian version of the cognitive emotion regulation questionnaire in Iranian culture was standardized by Hasani<sup>(32)</sup>. In this study, the reliability of this questionnaire was assessed using the internal consistency (with Cronbach's alpha coefficients ranging from 0.76 to 0.92) and test-retest (with correlation coefficients ranging from 0.51 to 0.77) methods and its validity was evaluated through applying the principal component analysis using varimax rotation, analyzing correlations between the subscales (ranging from 0.32 to 0.67) and criterion validity. The results of the abovementioned tests showed that this questionnaire is reliable and valid<sup>(26)</sup>.

The Leahy Emotional Schemas Scale. This scale was designed based on the emotional schema model proposed by Leahy. This scale has 50 items and is scored based on a 5-point Likert-type scale. The Persian version of this scale was developed by Khanzade, Edrisi, Mohamadkhani, and Saidian<sup>(33)</sup>. The results of exploratory factor analysis demonstrated that among 16 factors extracted from this scale, 12 factors were consistent with the emotional schemas proposed by Leahy. These 12 factors are rumination, guilt, expression of feelings, not being controlled, validation seeking, comprehensibility, blame, attempts to be rational, simplistic view of motions, higher values, acceptance of feelings, and consensus. To load an item, 3 factors were excluded and a new item, i.e. emotional self-awareness, was added to the scale. In addition, high internal consistency of the items indicated the validity of this scale. The results of examining the reliability of this scale using the test-retest method conducted within two weeks showed that the reliability of the whole scale was 0.76 and the reliability of its subscales ranged from 0.56 to 0.71.

Moreover, the internal consistency coefficient of this scale using the Cronbach's alpha coefficient demonstrated that the internal consistency of the whole scale was 0.82 and the internal consistency of its subscales ranged from 0.59 to 0.73. In general, the obtained results using these methods indicated that this questionnaire is reliable<sup>(33)</sup>. To analyze the obtained data, the multivariate analysis of variance (MANOVA) was used.

## Results

A total of 126 mothers of children with mental disorders and mothers of physically and mentally disabled children was examined. The participants' demographic information, including their level of education, age, employment status, was assessed. According to the obtained data, regarding their level of education, diploma had the highest frequency and middle school had the lowest frequency. The age range was 19 to 45 with the mean age of 34.97 in the first group (the mothers of children with mental disorders) and 35.06 in the second group (the mothers of physically and mentally disabled children). In terms of employment status, household women had the highest frequency in both groups.

To compare cognitive emotion regulation strategies in these two groups, the multivariate analysis of variance (MANOVA) was used. Results of the Box's M test ( $P > 0.01$ ) indicated that covariance matrices of the dependent variables were alike. Therefore, the multivariate analysis of variance (MANOVA) can be applied. Moreover, result of the multivariate Wilks' Lambda test was significant. Considering cognitive emotion regulation strategies, this showed that there was a significant difference between these two groups. However, this result did not specify which strategies were used differently in these two groups. Hence, the one-way analysis of variance was applied. Table 1 indicated means and standard deviations of cognitive emotion regulation strategies and F values obtained from the one-way analysis of variance.

The results presented in Table 1 showed that the mothers of children with mental disorders, compared to the mothers of disabled children, obtained higher scores on self-blame, catastrophizing, other-blame (the subscales of maladaptive cognitive emotion regulation strategies) and putting into perspective (the subscale of adaptive cognitive emotion regulation strategies). Moreover, the mothers of disabled children, compared to the mothers of children with mental disorders, obtained higher scores on rumination (the subscale of maladaptive cognitive emotion regulation strategies) and acceptance, positive refocusing, refocus on planning, and positive reappraisal (the subscales of adaptive cognitive emotion regulation strategies).

To compare emotional schemas in these two groups, the multivariate analysis of variance (MANOVA) was used. Results of the Box's M test

( $P > 0.01$ ) indicated that covariance matrices of the dependent variables were alike. Therefore, the multivariate analysis of variance (MANOVA) can be applied. Moreover, result of the multivariate Wilks' Lambda test was significant. Considering emotional schemas, this showed that there was a significant difference between these two groups.

Strategies Group		Mean	SD	F Df (124, 1)	Eta-squared
Rumination	Mothers of children with mental disorders	9.45	3.73	18.62***	0.34
	Mothers of disabled children	5.26	2.25		
Emotional self-awareness	Mothers of children with mental disorders	4.26	4.67	8.37**	0.13
	Mothers of disabled children	6.73	3.28		
Guilt	Mothers of children with mental disorders	9.96	4.63	6.27**	0.16
	Mothers of disabled children	8.79	3.66		
Expression of feelings	Mothers of children with mental disorders	11.05	1.37	4.38*	0.04
	Mothers of disabled children	13.87	2.35		
Not being controlled	Mothers of children with mental disorders	8.86	4.5	12.25**	0.21
	Mothers of disabled children	9.5	3.2		
Validation seeking	Mothers of children with mental disorders	8.3	3.49	7.15**	0.18
	Mothers of disabled children	6.37	4.46		
Comprehensibility	Mothers of children with mental disorders	6.85	3.85	17.83***	0.46
	Mothers of disabled children	11.38	2.63		
Blame	Mothers of children with mental disorders	12.49	4.48	12.01**	0.19
	Mothers of disabled children	7.62	3.02		
Attempts to be rational	Mothers of children with mental disorders	7.34	3.32	9.27**	0.27
	Mothers of disabled children	6.04	3.12		
Simplistic view of emotions	Mothers of children with mental disorders	7.48	4.41	5.21**	0.21
	Mothers of disabled children	8.03	2.31		
Higher values	Mothers of children with mental disorders	7.48	4.46	4.86*	0.01
	Mothers of disabled children	6.79	2.52		
Acceptance of feelings	Mothers of children with mental disorders	6.16	3.42	8.69**	0.17
	Mothers of disabled children	8.26	2.11		
Consensus	Mothers of children with mental disorders	6.38	4.42	7.96**	0.14
	Mothers of disabled children	8.36	3.24		

**Table 1:** The means, standard deviations, and results of one-way analysis of variance conducted to examine differences in cognitive emotion regulation strategies between these two groups. \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$

However, this result did not specify which schemas were used differently in these two groups. Hence, the one-way analysis of variance was applied. Table 2 indicated means and standard deviations of emotional schemas and F values obtained from the one-way analysis of variance.

The results presented in Table 2 showed that the mothers of children with mental disorders, compared to the mothers of disabled children, obtained higher scores on emotional self-awareness, expression of feelings, not being controlled, comprehensibility, simplistic view of emotions, and acceptance of feelings. Additionally, the mothers of disabled children, compared to the mothers of children with mental disorders, obtained higher scores on rumination, guilt, validation seeking, blame, attempts to be rational, and higher values.

**Discussion and conclusion**

The current study aimed to examine cognitive emotion regulation strategies and emotional schemas in the mothers of children with mental disorders and the mothers of physically and mentally disabled children. The obtained results revealed that the mothers of children with mental disorders, compared to the mothers of physically and mentally disabled children, applied more maladaptive cognitive emotion regulation strategies and inefficient emotional schemas. Having a child who suffers from mental disorders imposes a lot of pressure on all family members. This pressure includes issues related to parent-child relationships, relationships between the child and his/her siblings, and increased marital conflicts<sup>(4)</sup>. Studies have shown that siblings of a child with mental disorders were more likely to suffer from mental disorders<sup>(8)</sup> and semi-clinical disorders<sup>(10)</sup>.

In this process, emotion regulation strategies play important roles in coping with stressful events. The ability to properly manage emotions when dealing with environmental stressors aids people to avoid negative emotions and maladaptive behaviors<sup>(26)</sup>. Cognitive emotion regulation strategies are cognitive processes used by people to manage stressful events<sup>(28)</sup>. Other words, an individual's thoughts and cognitions can aid him/her to properly manage and control his/her emotions in the face of stressful events.

Research demonstrated that people with poor cognitive strategies such as rumination, catastrophizing, and self-blame, in comparison with others, were more vulnerable to emotional problems. In contrast, people who used desirable emotion regulation strategies including positive reappraisal, compared to others, were less vulnerable to such issues<sup>(25)</sup>. In addition, self-blame, catastrophizing, and positive reappraisal were strong predictors of negative emotional experiences<sup>(34)</sup>. In this regard, the results of this study revealed that the mothers of children with mental disorders and the mothers of physically and mentally disabled children applied a number of maladaptive cognitive emotion regulation strategies.

Studies have revealed that maladaptive cognitive emotion regulation strategies were related to mental disorders. Mashhadi, Midoraghi, and Hasani<sup>(34)</sup> stated that depression was positively correlated with self-blame, rumination, catastrophizing, and other-blame. However, depression was negatively related to positive reappraisal, refocusing on planning, and acceptance. They stated that the negative relationship between adaptive strategies and depression is due to the fact that using these strategies aids people to evaluate negative events in a different way and consider positive aspects and possible benefits of events in the long term.

Strategies	Group	Mean	SD	F Df (124, 1)	Eta-squared	
Maladaptive strategies	Self-blame	Mothers of children with mental disorders	11.62	3.21	8.34**	0.12
		Mothers of disabled children	10.81	4.52		
	Rumination	Mothers of children with mental disorders	13.31	4.2	7.05**	0.31
		Mothers of disabled children	14.43	2.21		
	Catastrophizing	Mothers of children with mental disorders	12.51	3	8.48**	0.27
		Mothers of disabled children	11.65	3.39		
	Other-blame	Mothers of children with mental disorders	13.12	4.1	14.33***	0.23
		Mothers of disabled children	12.84	3.41		
Adaptive strategies	Acceptance	Mothers of children with mental disorders	9.63	3.14	4.27*	0.08
		Mothers of disabled children	14.04	4.09		
	Positive refocusing	Mothers of children with mental disorders	10.92	2.89	7.08**	0.83
		Mothers of disabled children	13.35	3.31		
	Refocus on planning	Mothers of children with mental disorders	11.74	4.16	5.36**	0.5
		Mothers of disabled children	13.86	3.2		
	Positive reappraisal	Mothers of children with mental disorders	9.83	2.49	8.71**	0.67
		Mothers of disabled children	12.64	3.56		
	Putting into perspective	Mothers of children with mental disorders	12.83	3.51	7.63**	0.93
		Mothers of disabled children	9.23	4.41		

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**Table 2:** The means, standard deviations, and results of one-way analysis of variance conducted to examine differences in emotional schemas between these two groups

\* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$

The results obtained from this study were in line with the results of a study which indicated that since emotions work as solutions when dealing with life challenges, issues, and difficulties, regulating and modifying them can play key roles in improving mental health among mothers of children with chronic disorders<sup>(14)</sup>. The results obtained from other studies, e.g. Gross and Thompson<sup>(22)</sup> and Zamani et al.<sup>(17)</sup>, showed that emotions played an important role in people's lives and emotion regulation, as a therapeutic method in modifying emotions, was associated with self-esteem and positive social interactions.

a result, they experience low levels of discomfort and distress and they can easily cope with negative events<sup>(26)</sup>.

Examining emotional schemas, Leahy (30) concluded that comprehensibility, guilt, simplistic view of emotions, control, consensus, rumination were significantly correlated with depression and anxiety. Therefore, it can be stated that living with a child who suffers from a mental disorder or a disability is closely correlated with inefficient emotional schemas.

The main innovation of this study was that it was conducted on two groups of mothers who suf-

ferred from high levels of emotional suffering. Since this study was carried out on the mothers whose children suffered from some sort of disability or disorder, the results were unpredictable. Lack of access to families with children who suffered from different types and severity of disorders and disabilities was the main limitation of the current study. In addition, the results obtained from the present study can be generalized to those mothers who attempt to cure their children's disability or disorder. Finally, since the sample only included women, the results can only be generalized to mothers of children with mental disorders and mothers of physically and mentally disabled children. Further studies can be conducted to examine these variables among children who suffer from various types of disorders or disabilities.

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