



Original Article

# Investigating the correlation between early maladaptive schemas and clinical symptoms in patients with major depressive disorder with and without psychotic features

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## Abstract

**Introduction:** Numerous studies have been so far conducted on the relationship between early maladaptive schemas and clinical symptoms. Considering this issue, the present study aimed to compare early maladaptive schemas in major depressive disorder with and without psychotic features.

**Materials and Methods:** The statistical population of this research comprised patients with major depressive disorder in the psychiatric hospital in Arak in the year 2014-15. To this end, 60 patients suffering from major depressive disorder and 30 patients with major depressive disorder with psychotic features were selected through simple random sampling method. For data collection, Young Schema Questionnaire and Symptom Checklist-90-R were applied. Data were analyzed through discriminated function analysis and ANOVA tests by SPSS software.

**Results:** Our findings demonstrated that maladaptive schemas of defectiveness/shame, failure to achieve, social isolation, dependence/ incompetence, Subjugation, and self-control/ inadequate self-discipline in patients with major depressive disorder with psychotic features are more prominent than in patients suffering from major depressive disorder without psychotic features ( $P < 0.01$ ).

**Conclusion:** With regard to the relationship between early maladaptive schemas and clinical symptoms in major depressive disorder, it can be concluded that maladaptive schemas play a role in the formation of psychopathology in individuals.

**Keywords:** Major depressive disorder, Psychosis, Schema

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## Introduction

Everyone will experience depression in his lifetime. Depression like sadness and joy is the natural human response to the pressures of life. Morbid depression is so common that has been called cold of psychiatry. In most cases, depression is limited in time. Non-treated periods usually disappear after 3-6 months, but the risk of recurrence is high. For this reason, the purpose of treatment should be not only the acceleration of improving the current period but also continuation of the improvement and if possible, reducing the risk of recurrence (1). World Health

Organization predicts that by 2020, depressive illness will be the biggest disease in terms of affliction and will be the second leading cause of death (2). In Beck's cognitive model of depression, negative self-schemas are the key to the factors of vulnerability to depression (3). Early maladaptive schemas may create cognitive vulnerability even for vulnerable people who are not currently depressed (4). Schemas are considered as fundamental inefficient beliefs that are activated by an attack. Indeed, schemas are stored to be activated under certain conditions (5). The concept of schemas in Young's view includes deep and strong beliefs about oneself and the world that we learn early in life. Schemas have a central role in our feelings towards ourselves. We are linked with these schemas even when they cause damage to us (6). Normally, the

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main objectives in schema treatment consist of identifying early maladaptive schemas, validating inappropriate emotional needs, changing dysfunctional beliefs and maladaptive schemas for better performance, changing life patterns and maladaptive coping styles and providing an environment for learning adaptive skills (7). Some maladaptive schemas, particularly those formed primarily as a result of adverse experiences in childhood, may be placed as the core of personality disorders, mild cognitive behavior problems and many chronic axis I disorders (8). Early maladaptive schemas are basic cognitive structures that are formed during the life and exist in normal individuals of the society to varying degrees. But in people with mental disorders, they appear in an exaggerated form (9). Recently, with the revision of the concept of schema, Young emphasizes early maladaptive schemas as key structures in creating psychopathology (10). Early maladaptive schemas and maladaptive methods that patients learn to cope with them are often the foundation of the symptoms of chronic axis I disorders such as substance abuse disorders, depression, anxiety and psychosomatic disorders (6).

In the samples of non-clinically depressed patients, it has been shown that early maladaptive schemas of failure to achieve, defectiveness/shame and sacrificing oneself have been coupled with severe depressive symptoms. Patients with chronic depression compared to non-chronically depressed patients (10) statistically obtain higher and more significant scores in all schema domains. A study was conducted in order to investigate the effectiveness of schema therapy in chronic depression among students. The results of this research revealed that schema therapy reduces the symptoms of chronic depression along with modifying early maladaptive schemas (11). In a four-year longitudinal study, in a large population sample amounting to 591 people, it was found that high harm avoidance significantly predicts subsequent severe depression after the beginning of early depression (12). In a nine-year longitudinal study, stability of dysfunctional thoughts and early maladaptive schemas in depressed people was evaluated. The results suggested that these schemas and thoughts are stable over time and can be the vulnerability factor for depression (13). In another study on early maladaptive schemas in patients with bipolar disorder, it was concluded that these patients obtained higher scores in early maladaptive schemas relative to the control group (14).

Schema therapy is a proper option for the treatment

of many axis I and II disorders. This method has been considerably used especially in the treatment of specific diseases of personality disorders. Most of the studies conducted about depression have focused on symptomatology of temper or cognitive products of depression. But little research has been so far carried out regarding the impact of early maladaptive schemas on people with depression. In this study, we intend to make a comparison between clinical symptoms and early maladaptive schemas that are effective in the formation of depression in patients suffering from major depressive disorder with psychotic features and people with major depressive disorder. Young believes that maladaptive schemas in individuals lead to experiencing negative events in life and presence of such events in people's life results in feeling too much psychological pressure and life dissatisfaction. Those who excessively use maladaptive schemas are further affected by negative life events (15). Hence, by identifying and modifying these maladaptive schemas in depressed people, we can greatly help to reduce the signs and symptoms in these patients.

### Materials and Methods

The present research is a descriptive study and of causal – comparative type (post-event). The target population of the study included all the referrers to three clinics for counseling and psychotherapy, two private clinics providing specialized psychiatric services and a specialized psychiatric hospital in Arak. They had received the diagnosis of major depressive disorder using clinical interview based on DSM-IV-TR. The subjects were selected through simple random sampling method and were assigned to two groups of major depressive disorder with and without psychotic features with regard to the sample size and received diagnosis. The sample size in major depressive disorder with psychotic features included 30 individuals and in major depressive disorder without psychotic features, it comprised 60 individuals. Then, the participants responded to Clinical Symptom Checklist (SCL-90-R) and Young Schema Questionnaire -Short Form (YSQ-SF). The work objectives were explained to the subjects and they were assured that their information is only for research and will remain confidential. After announcing the subjects' consent to participate in the study, the questionnaires were given to them.

### Research instruments

- *Young Schema Questionnaire:* This questionnaire is a self-report tool for assessing schemas. The patient evaluates himself in a six-point Likert scale based on description of each

sentence. Young Schema Questionnaire-Short Form has 75 sentences and is composed of five questions that had the highest factor analysis loading in the long form (6). Young Schema Questionnaire-Short Form (YSQ-S2) consists of 75 questions and is more used in research projects because its implementation takes a shorter time. Recently, Young has revised both schema questionnaires and consequently has made YSQ-L3 and YSQ-S3. Young Schema Questionnaire- Long Form (YSQ-L3) comprises 232 questions and measures 18 inefficient schemas. Standardization of this questionnaire has been performed in Iran by Ahi (2) on 387 students in Tehran universities who included 252 females and 135 males and were selected through multistage random sampling method from Allameh Tabatabai University, Shahid Beheshti University in Tehran, Modarres University and Azad University of Science and Research Unit. The questionnaire's internal consistency was measured by Cronbach's alpha which was 0.97 in female population and 0.98 in male population. The first comprehensive study on psychometric characteristics of young Schema Questionnaire has been conducted by Smith, Young and Telch. The results of this study demonstrated that for each early maladaptive schema, the obtained alpha coefficient ranged from 0.83 for enmeshment/undeveloped self-schema to 0.96 for defectiveness/shame schema. Test-retest coefficient in non-clinical population was reported to be between 0.50 and 0.82. Additionally, reliability (stability) of each schema was measured by Cronbach's alpha.

- *Symptom Checklist-90-R (SCL-90-R)*: Symptom Checklist-90-R-90-Revised (SCL-90-R) and its shortened form, i.e. short disease symptoms list, are very suitable for rapid assessment of the type and severity of the referrers' symptoms through self-evaluation. This checklist should not be regarded as a scale of personality assessment, but it is more used as a tool for evaluating the current level of disease symptoms which occur during a period of one week.

One of the most widely used diagnostic tools is SCL-90-R test. This test consists of 90 questions for evaluating psychological symptoms and is reported by the client and was first designed for showing psychological aspects of physical and mental patients. By using this test, healthy individuals can be distinguished from patients. Each of the test questions is composed of a 5-degree scale of discomfort rate ranging from zero (nothing) to four

(severe). The scores obtained from SCL-90-R represent nine aspects of disease symptoms and 3 general indicators. This test enjoys good reliability. Internal consistency coefficients for nine aspects of disease symptoms regarding psychiatric outpatients range from 0.79 for paranoid ideation to over 0.90 for depression. Derogatis et al. (17) have reported the internal validity of the questionnaire to be satisfactory using alpha coefficient. The highest correlation coefficient (0.95) was obtained for depression and the lowest amount (0.77) was achieved for psychoticism. Validation of the test has also been investigated in various groups of patients, for instance researches of Vaalijoo et al. (18), Karlozzi and Lung (19), and Hessel et al (20). In Iran also Mirzaei showed reliability of the test in all scale except aggression, phobia, and paranoid thoughts scale more than 0.8. Results of Mirzaei's study indicate concurrent validity through proper retest in Iranian population. Structure validity showed the test can be used for screening and diagnosis of mental disorders in Iran (21). Bayani investigated the mental health of teachers in Golestan province by means of cutoff point of 5.2 for sundials and cut off point of 3.1 for morbid symptoms index. In this research, mean and standard deviation of morbid symptoms index for all women and men sample were respectively  $0.78 \pm 0.64$ ,  $0.84 \pm 0.58$  and  $0.72 \pm 0.7$  (22).

## Results

Patients with major depressive disorder with and without psychotic features form the participants of this research. In Table 1, demographic data, mean and standard deviation of the subjects' age have been provided.

**Table 1.** Demographic data of the subjects in both groups participating

Research variable		Major depression		Psychotic depression	
		frequency	centper	frequency	centper
Gender	woman	43	71.7	20	66.7
	man	17	28.3	10	33.3
Marital status	single	13	21.7	10	33.3
	darriem	47	78.3	20	66.7
Educational status	Below dip	34	62.9	17	47.2
	Diploma	17	31.48	10	27.7
	Associate	1	1.85	1	2.7
	Bachelor	2	3.7	8	22.2
Mean and Standard deviation		37.36	9.81	39.76	62.10

**Table 2.** Mean and standard deviation of maladaptive schemas in major depressive disorder with and without psychotic features

	Deprivation	Abandonment	Mistrust	Social isolation	Defectiveness shame	Failure to achieve	Dependence	Vulnerability	Emmeshment	Subjugation	Self-Sacrifice	Inhibition	Unrelenting standards	Entitlement	Self-control
Psychotic	22.40	22.20	19.96	23.16	18.9	21.7	21.1	19	16.83	21.16	20.73	20.66	23.43	19.43	20.60
	5.46	6.85	7.15	6.40	7.46	6.03	7.23	8.37	6.44	7.12	6.05	6.87	5.20	6.17	6.43
Non- psychotic	21.51	20	17.2	17.81	14.2	16.7	14.5	16.13	14.68	16	21.60	18.63	23.13	17.98	16.66
	11.9	6.58	6.81	7.69	6.98	7.59	7.64	6.78	6.78	6.82	6.58	6.99	10.65	5.19	5.47

In the table above, mean and standard deviation of the subjects' maladaptive schemas have been presented based on major depressive disorder with and without psychotic features.

**Table 3.** Mean and standard deviation of clinical symptoms in major depressive disorder with and without psychotic features

	Physical complaint	Obsessive-compulsive	Sensitivity in ...	Depression	Anxiety	Aggression	Phobia	Paranoid thoughts	Psychoticism	Overall intensity
Psychotic	2.24	2.46	2.32	2.80	2.56	2.35	1.80	2.53	2.13	2.39
	1.03	0.66	0.86	0.80	0.93	1.01	0.96	1.15	0.94	0.75
Non- psychotic	1.88	1.97	1.88	2.15	1.86	1.80	1.01	1.80	1.27	1.76
	0.77	0.77	0.80	0.82	0.91	1.17	0.75	0.91	0.80	0.72

In order to investigate the normality of data distribution, which is one of the assumptions of parametric tests including variance analysis, Kolmogorov – Smirnov test was applied whose results have been provided for each group in the following table.

**Table 4.** Kolmogorov-Smirnov test for examining the distribution normality of schemas in both groups

Schema	Psychotic		Major	
	z	P	z	P
Emotional deprivation	0.120	1.18	0.800	1.66
Abandonment	0.570	0.790	0.510	0.820
Mistrust/Abuse	0.680	0.850	0.72	0.60
alienation /Social Isolation	0.570	0.780	0.85	0.60
Defectiveness/Shame	0.720	0.690	0.270	1
Failure to achieve	0.490	0.830	0.790	0.650
Dependence/Incompetence	0.500	0.820	0.11	20.1
Vulnerability	0.740	0.680	0.73	0.68
Subjugation	0.610	0.750	0.79	0.65
Self-Sacrifice	0.360	0.920	0.32	0.95
Emotional inhibition	0.800	0.640	0.55	0.79
Emmeshment	0.370	0.910	0.08	27.1
Unrelenting standards	0.760	0.670	0.73	0.6
Entitlement	0.900	0.560	0.37	0.91
Insufficient Self control	0.880	0.580	0.350	0.920

Levene test was also used to investigate the homogeneity of variances, whose results have been provided in the table below. If Levene value is not significant at the level of 0.05, this indicates that variances are equal.

**Table 5.** ANOVA and Levene's test to assess the homogeneity of variances of the research variable

Schema	F	df1	df2	P	F	P
Emotional deprivation	2.24	1	88	0.14	0.14	0.70
Abandonment	0.04	1	88	0.85	2.01	0.16
Mistrust/Abuse	0.17	1	88	0.67	3.19	0.07
alienation/Social isolation	3.34	1	88	0.06	10.75	0.001
Defectiveness/ Shame	0.04	1	88	0.85	8.49	0.005
Failure to achieve	3.59	1	88	0.06	9.73	0.002
Dependence/ incompetence	0.21	1	88	0.64	15.44	0.000
Vulnerability	2.67	1	88	0.10	3.11	0.08
Emmeshment	0.05	1	88	0.82	2.07	0.15
Subjugation	0.14	1	88	0.71	10.84	0.001
Self-sacrifice	0.43	1	88	0.51	0.36	0.54
Emotional inhibition	0.02	1	88	0.88	1.07	0.19
Unrelenting standards	0.059	1	88	0.44	0.02	0.88
Entitlement	0.78	1	88	0.37	1.37	0.24
Insufficient Self control	1.26	1	88	0.26	9.17	0.003

Levene test results showed that there is no significant difference between the variances of two groups in the research variables. Hence, analysis of variance test was used to respond to the research hypotheses and its results can be observed in Table 5. Given the results of ANOVA, early maladaptive schemas of defectiveness/shame, failure to achieve, Subjugation, social isolation, dependence/ incompetence and self-control/ inadequate self-discipline in people with major depressive disorder with psychotic features and patients with major depressive disorder are significantly different ( $P < 0.01$ ). In analyzing concurrent diagnosis, 24

predictor variables were concurrently entered into the analysis and in this method, after the presentation, all the variables were retained in the analysis. Wilks lambda value obtained (0.57) can significantly distinguish the group with psychotic depression from the group with major depression. Wilks lambda value varies between zero and one. The closer the value to one, it means that differences are not significant. Since in the present study, Lambda value is significant at the level of 0.05, the result of the research hypothesis indicating the combination of maladaptive schemas and clinical symptoms as the predictor of psychotic depressive disorder and major depressive disorder is confirmed.

**Table 6.** Discriminant function analysis test in psychotic depression and major depression

Function	Eigen value	Wilks's lambda	Chi square	Degrees of freedom	Significance level
1	0.75	0.57	42	24	0.01

Of 30 subjects with major depressive disorder with psychotic features, in 23 instances, discriminant function analysis has predicted that people suffering from major depressive disorder with psychotic features are separable from individuals with major depression in terms of maladaptive schemas and clinical symptoms. Moreover, out of 60 participants with major depression, 51 people have been distinguished from patients with psychotic depressive disorder in terms of maladaptive schemas and clinical symptoms.

## Discussion

The present study is intended to compare maladaptive schemas and clinical symptoms in patients with major depressive disorder with and without psychotic features and was conducted to identify and compare cognitive schemas in these patients. The results revealed that clinical symptoms and maladaptive schemas can predict the individuals' affliction by major depressive disorder with and without psychotic features. The results of this study are consistent with the findings achieved by (23) in relation to the existence of early maladaptive schemas and its relationship with psychiatric symptoms including somatization, obsessive-compulsive disorder, interpersonal sensitivity, anxiety, depression, hostility, paranoid beliefs and psychoticism. Further, they are congruent with the findings of Gorji et al. (24) indicating the existence of the relationship between maladaptive schemas and severity of depression and also findings of Lotfi et al. (25) and Pinto-Gouya et

al. (26). regarding early maladaptive schemas and creation of personality vulnerability. The findings of this research are also consistent with another study demonstrating the relationship between maladaptive schemas and depression symptoms in middle school students (27). In addition, studies have shown that improvement and modification of early maladaptive schemas lead to reduced clinical symptoms (28).

The results of the studies carried out regarding depression suggest that early maladaptive schemas are among the important predictors of depression severity during the course of treatment and after 9 years of follow-up which are consistent with the present study (29). The results of this research are congruent with the findings obtained by Renner, concerning the relationship between early maladaptive schemas and depression symptoms (30). In their study, early maladaptive schemas were tested during the course of treatment in outpatients who had received diagnosis of major depression and the obtained result was that maladaptive schemas of rejection/ separation and dysfunction/ autonomy are associated with severe symptoms of depression. In a study conducted to investigate the role of early maladaptive schemas and negative life events in predicting depression and anxiety, it was shown that early maladaptive schemas are a predictor of depression and anxiety (31). Besides, the results of this study are consistent with Nilsson's findings which demonstrated that schemas of social isolation/ alienation, failure to achieve, dependence, vulnerability to harm or illness, emotional inhibition, self-control, insufficient self-discipline and pessimism can show 28% of the reduction in the variance in the individuals' performance when these symptoms are controlled during convalescence and depression signs. This research and other studies performed in connection with early maladaptive schemas and psychopathological symptoms have always approved the importance of these schemas in the formation of clinical symptoms (32). As to the limitations of the study, it can be said that in response to the questionnaire's items, the large number of questions and time limit can affect the manner of answering the questions. With regard to identifying maladaptive schemas in these disorders, it is recommended that the results of this study be used for more practical studies with the aim of applying schema therapy in the treatment of major depressive disorder.

## Conclusion

With regard to the relationship between early maladaptive schemas and clinical symptoms in

major depressive disorder, it can be concluded that maladaptive schemas play a role in the formation of psychopathology in individuals.

Activated schemas tend to produce negative and automatic emotions and thoughts, which lead to alternating periods of depression.

By identifying and modifying early maladaptive schemas, we probably can help to improve and reduce the symptoms so that they help in the treatment process.

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