PREDICTION OF PSYCHIATRIC SYMPTOMS BASED ON THE EARLY MALADAPTIVE SCHEMAS IN THE MURDERERS

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ABSTRACT

The purpose of the current research was studying the role of early maladaptive schemas (EMSs) as the predictor of psychiatric symptoms including somatization, anxiety, obsessive- compulsive, depression, and phobia in the murderers jailed in Shiraz city. Eighty male jailed murderers were selected at hand sampling method. To gather the data, Young Maladaptive Schemas Questionnaire-Short Form (YSQ-SF) and Symptoms Checklist-90-Revised (SCL-90-R)(questions related to the symptoms of somatization, anxiety, obsessive- compulsive, depression, and phobia) were used. For data analysis, statistical methods of one way variance analysis (ANOVA), Pearson correlation and stepwise multiple-variable regression were used. Data analysis using stepwise multiple-variable regression showed that the strongest predictor related to any of somatization, anxiety, obsessive- compulsive, depression, phobia symptoms were schemas of social isolation/alienation, abandonment/instability, mistrust/abuse, emotional inhibition, and social isolation/alienation respectively. As a whole, it is concluded that the EMSs can predict psychiatric symptoms of somatization, anxiety, obsessive- compulsive, depression, and phobia in the murderers.

KEYWORDS: Early maladaptive schemas, psychiatric symptoms, Murderers.

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Knowing the character of a criminal, diagnosing the antisocial behavior tendencies in human, and evaluating the institutional factors of response to such a tendency and the evolutionary process of it from potentiality to actuality, evaluating of self-awareness and responsibility in perpetration of the crime, and the role of the unconsciousness in the loss or deterioration of criminal liability (retributive), are the intellectual concerns of researchers, sociologists, criminologists and psychologists (De Silva, 2001). So far, several studies have been conducted on the relationship between creation and cognition. EMSs are among important and new schemas that deal with the study of cognitive processing style and its influence on emotional processing in human being. EMSs are cognitive, emotional and self-injurious patterns that are formed in the mind of the person at the beginning of development and are repeated throughout the life (Young et al., 2003). EMSs are created due to negative experiences in childhood that affect the style of thinking, feeling and behaviors of individuals in the subsequent intimate relationships and other aspects of life. EMSs fights for their existence. Young et al. (2001) interprets this issue as human tendency for cognitive consistency. People tend to events that are consistent with their schemas. Therefore, the schema's changing is hard. These schemas turn back adult's life to unwilling conditions of childhood as contradictory and inevitable, which most of the time is harmful to patients. EMSs at the deepest level of cognitive aspect usually operate outside of consciousness. And psychologically make the person vulnerable to the disturbances such as depression, anxiety, dysfunctional relationships, drug addiction and psychosomatic disorders. (Young, 1999).

EMSs are caused as a result of failure to satisfy basic emotional needs in childhood. The origin of this scheme consists of five domains: 1) secure attachment to others, 2) autonomy, competence and sense of identity, 3) freedom to express needs and emotions, 4) game and spontaneity, and 5) the reasonable constraints, self-control, early life experiences (failure to satisfy basic needs, excessive satisfaction, and assimilation with the wrong behavior of parents) and child temperament (a set of child's behavioral characteristics which are inherent and discriminating the personality of the child. when schemas are activated can influence the perception of the individual's reality and cognitive processing (Young, 1999).

According to initial description of Beck and Freeman (1990) of psychopathology, each of the mental disorders associated with maladaptive schemas and habitual thought patterns are very popular and versatile, which specify the type of vulnerability to that disorder. EMSs as maladaptive cognitive foundations influence on the perception of the phenomena and the formation of schemas, and can create social and psychological injuries; thus, the crime perpetration is one of the major damages that is organized and formed based on inefficient foundations (Young et al., 2003). Young (1999) believes any of the psychopathological symptoms is associated with one or more of the EMSs (Delattre et al., 2004). The study also mentioned that EMSs are inefficient mechanisms that directly or indirectly lead to psychological distress (Cecero et al., 2004).

Researchers have proven that EMSs associated with a wide range of psychiatric diagnoses and psychosocial problems (Dutra et al 2008, Hawke and Provencher, 2011, Lee et al., 1999, Waller et al., 2007, Young et al., 2003), somatization (Welburn et al., 2002), obsession (Welburn et al., 2002, Anderson et al., 2006, De Geus et al., 2007), phobias (Hudson and Rapee, 2000, Neal and Edelmann, 2003, Pinto-Gouveia et al., 2006, Young et al., 2003), depression (Young et al., 2001, Young, 1999, Welburn et al., 2002, Harris and Curtin, 2002, Calvete et al., 2005, Schmidt et al 1995, Lumley and Harkness, 2007, Reinecke and Simons, 2005, Muris, 2006, Wang et al., 2010, Garcia-Toro et al., 2002, Greenhau et al., 2003), anxiety (Welburn et al., 2002, Calvete et al., 2005, Schmidt et al., 1995, Lumley and Harkness, 2007, Muris, 2006, Cousineau, 2004, Delattre et al., 2004, Young et al, 2001, Young, 1999). According to what was mentioned, EMSs can be the root of many mental disorders; thus, the present study investigated the role of these schemas as the predictors of psychiatric symptoms (somatization, anxiety, obsessive- compulsive, depression, and phobia) in the jailed murderers.

METHODS
2. 1. PARTICIPANTS

The present study was descriptive – correlational. In this study, the examined population was all the murderers jailed in Fars province prison; these people are included in the

category of intentional murder; and this study was conducted in a numbers of the prisons in the city of Shiraz. In order to do so, 80 male jailed murderers were selected at hand sampling methods, who were tested using a Young Maladaptive Schemas Questionnaire-Short Form (YSQ-SF) and Symptoms Checklist-90-Revised (SCL-90-R)(questions related to the cited symptoms in this study).

2. 2. INSTRUMENTS

2. 2.1. Schema Questionnaire-Short Form (SQ-SF): The Schema Questionnaire–Short Form (SQ-SF) measures five domains containing 15 EMSs (Young, 1998). Respondents are asked to rate statements on a six point likert scale from „„completely untrue of me..to „„describes me perfectly. The SQ-SF has in different studies shown adequate reliability, validity in predicting psychopathology, and factor structure (Baranoff, Oei, Cho, & Kwon, 2006; Calvete et al., 2005; Welburn et al., 2002). In Iran, Yousefi et al. (2011) examined the validity and reliability of EMSs questionnaire on a sample of 579 people (in two stages of 394 and 185 people), and using split-half Cronbach's Alpha, the reliability for the whole sample, females and males was reported as 0.91 and 0.86, 0.87 and 0.84, and 0.84 and 0.81 respectively.

2. 2. 2. Symptoms Checklist-90-Revised (SCL-90-R): SCL-90-R is a well-validated self-report questionnaire that has been designed to reflect the psychological symptoms and respondents completed on 3rd and 13th day's menstruation

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cycles. SCL-90-R has been designed for those psychological and somatic disorders which respondents experienced during the last 7 days (Deragatist et al., 1972). The items are divided into 9 subscales: somatization, depression, anxiety, hostility, phobia, interpersonal sensitivity, paranoia, obsessive-compulsive and psychoticism. Respondents rated the 9 symptoms of distress on a 5-point likert scale (0=" not at all" to 4="extreme"). SCL-90-R also has 3 global indexes: 1) The global severity index (GSI) 2); the positive symptom total (PST) 3); the positive symptom distress index (PSDI) (Deragotis, 1983). The Iranian version of SCL-90 has been validated in several studies. Mirzai (1980) estimated its validity to be about 0.97; and its sensitivity, specificity and reliability were: 0.94, 0.98 and 0.96 respectively. In this study, we have examined only the symptoms of somatization, anxiety, obsessive- compulsive, depression, and phobia.

2. 3. DATA ANALYSIS

In this study, to investigate the relationship between EMSs and psychiatric symptoms, Pearson correlation analysis was used. Also, to predict psychiatric symptoms (somatization, anxiety, obsessive- compulsive, depression, and phobia) based on EMSs, methods of analysis of one way variance (ANOVA) and stepwise multiple-variable regression were used.

RESULTS

3. 1. 1. Table 1 shows the descriptive data of the studiedgroup.

Table 1 Basic descriptive characteristics of the study groups.

		M	SD
PS	Somatization	13.19	10.50
	Anxiety	15.79	8.04
	Obsessive- compulsive	18.09	6.42
	Depression	21.08	9.68
	Phobia	8.87	6.60
EMSS	DR	69.96	24.11
	abandonment/instability	15.79	7.10
	mistrust/abuse	15.60	6038
	emotional deprivation	14.96	6.57
	social isolation/alienation	13.61	6.58
	defectiveness/shame	10.29	5.83
	IP	51.34	21.18
	dependence / incompetence,	13.62	6.70
	vulnerability to harm or illness	12.62	6.14
	enmeshment/undeveloped self	13.52	6.31
	failure	11.56	5.58

	Il	35.16	9.36
	entitlement/grandiosity,	18.17	5.20
	insufficient self-control/self-discipline	16.99	6.02
	OD	32.54	8.22
	subjugation	12.59	5.39
	self-sacrifice	19.95	5.58
	OI	47.39	12.18
	emotional inhibition	15.70	5.28
	unrelenting standards / hyper criticalness	20.69	7026

Note: N=80; PS: psychiatric symptoms; EMSS: early maladaptive schemas; M: mean; SD: standard deviation; DR: disconnection and rejection; IP: Impaired autonomy and performance; impaired autonomy and performance; IL: impaired limits; OD: other-directedness; OI: over vigilance and inhibition.

3. 2. CORRELATION BETWEEN EMSs WITH PSYCHIATRIC SYMPTOMS.

3. 2. 1. The results of Pearson correlation showed that between maladaptive schema of abandonment / instability and symptoms of somatization (p< 0.05), and anxiety (p< 0.01); between schema of mistrust / abuse and symptoms of somatization, obsessive-compulsive (p< 0.01), and anxiety (p< 0.05); between schema of social isolation/alienation and symptoms of somatization, phobia (p< 0.01), anxiety, and obsessive-compulsive (p< 0.05); between schema of emotional inhibition and symptoms of depression and anxiety (p< 0.05); between schema of subjugation and symptom of anxiety (p< 0.05); between schema of defectiveness/shame and symptom of anxiety (p<0.05); and between schemas of failure and dependence/incompetence and symptom of obsessive-compulsive (p< 0.05) there were significant positive correlations (Table 2).

Table 2
Correlation between EMSs with psychiatric symptoms.

		PS				
		So	An	OC	De	Ph
EMSs	Emotional deprivation	-0.03	0.02	0.20	0.15	0.14
	Abandonment/instability	0.14	0.20	-0.09	0.14	0.27*
	Mistrust/abuse	0.15	0.15	0.10	0.24*	0.29**
	Social isolation/alienation	0.39**	0.26*	-0.03	0.27*	0.35**
	Defectiveness/shame	0.08	0.08	0.13	0.09	0.12
	Failure	0.07	0.02	0.21	0.10	0.11
	Dependence/incompetence	0.10	0.02	0.08	-0.01	0.11
	Vulnerability to harm or illness	0.05	-0.06	0.08	0.04	0.15
	Enmeshment/undeveloped self	-0.20	-0.18	-0.05	-0.04	-0.05
	Subjugation	0.14	0.15	0.12	0.18	0.19
	Self-sacrifice	0.02	-0.09	-0.17	-0.03	-0/02
	Emotional inhibition	0.15	0.23*	0.04	0.31**	0.18
	Unrelenting standards/hyper criticalness	-0.10	-0.15	0.02	0.07	-0.16
	Entitlement/grandiosity	-0.05	-0.06	0.29*	0.28*	-0.09
	Insufficient self-control/self-discipline	0.03	0.01	0.12	0.12	-0.03

Note: Note: 80; EMSs : early maladaptive schemas; PS: psychiatric symptoms; So: somatization; An: anxiety; OC: obsessive-compulsive,; De: depression; Ph: phobia   *p<0.05   **p< 0.01.

3. 3. THE STEPWISE MULTIPLE REGRESSION ANALYSIS FOR THE PSYCHIATRIC SYMOTOMS

3. 3. 1. The results of analysis of one way variance (ANOVA) indicated that the whole of regression models were significant for explaining somatization symptom (p< 0.001), anxiety symptom (p< 0.01), obsessive - compulsive symptom(p< 0.001), depression symptom (p< 0.01), and phobia symptom (p< 0/001) (Table 3). Table3

Indices one way analysis of variance (ANOVA) to determine the significance of the whole of regression model of psychiatric symptoms.

Criterion variable	Model	SS	Df	MS	F	P
An	regression	808.129	1	808.13	14.79	0.000 ***
	residual	4044.50	74	54.65		
	total	4852.63	75			
OC	regression	826.83	2	413.41	13.42	0.000 ***
	residual	2187.51	71	30.81		
	total	3014.34	73			
De	regression	866.86	2	433.43	5.02	0.009 **
	residual	612.49	71	86.29		
	total	6993.35	73			
So	regression	1418.66	2	709.33	7.76	0.001***
	residual	6846.02	73	93.78		
	total	8264.68	75			
Ph	regression	852.90	3	284.30	8.38	0.000***
	residual	2510.90	74	33.93		
	total	3363.79	77			

Note: SS: sum of squares; MS: mean square; AN: anxiety; OC: obsessive-compulsive; De: depression; So: somatization; Ph: phobia

*** $p < 0.001$ ** $p < 0.01$.

The results of the stepwise multiple-variable regression analysis showed that for explaining somatization symptom, the maladaptive schemas of social isolation / alienation($p < 0.01$, T=3.27, Beta= 0.35, $R^2 = 13\%$), and unrelenting standards/hyper criticalness as reversely($p < 0.05$, T= - 2.02, Beta = - 0.21, $R^2 = 4\%$) respectivly predict 17% of the variance in somatization symptom ($p < 0.001$, $F_{2,73}$ =7.56, $R^2 = 17\%$)(Table4).

3. 3. 2. The results showed that among EMSs only abandonment/instability maladaptive schema enters into the regression equation that predicts 17% of the variance in anxiety symptom in the murderers ($p < 0.001$, $F_{1,74}$= 14.79, T=3.84, Beta= 0.41, $R^2 = 17\%$)(Table 4).

3. 3. 3. The results showed that for explaining obsessive-compulsive symptom, the maladaptive schemas of mistrust/abuse ($p < 0.001$, T=3.73, Beta= 0.40, $R^2 = 16\%$), and self-sacrifice as reversely ($p < 0.001$, T= -3.32, Beta= - 0.35, $R^2 = 11\%$) respectively predict 27% of the variance in symptom of obsessive-compulsive in the murderers ($p < 0.001$, $F_{2,71}$= 13.42, $R^2 = 27\%$) (Table 4).

3. 3. 4. The results showed that for explaining depression symptom, the maladaptive schemas of emotional inhibition ($p < 0.05$, T=2.29, Beta= 0.26, $R^2 = 7\%$), and unrelenting standards/hyper criticalness as reversely ($p < 0.01$, T= -2.13, Beta = - 0.27, $R^2 = 5\%$) respectively predict 12 % of the variance in symptom of depression in the murderers ($p < 0.01$, $F_{2,71}$= 5.02, $R^2 = 0.12$) (Table4).

3. 3. 5. The results showed that for explaining phobia symptom, the maladaptive schema of social isolation/alienation ($p < 0.001$, T=3.55, Beta= 0.38, $R^2 = 14\%$), enmeshment /undeveloped-self asreversely ($p < 0.01$, T= -2.54, Beta= - 0.26, $R^2 = 7\%$), and emotional deprivation as reversely ($p < 0.05$, T= -2.07, Beta= - 0.23, $R^2 = 4\%$) respectively predict 25% of the variance in phobia symptom ($p < 0.001$, $F_{3,74}$= 8.38, $R^2 = 0.25$)(Table 4).

Table4
Index of the stepwise multiple regression analysis for the psychiatric symptoms.

	Criterion variable	Predictive variable	B	SD	Beta	R2	Adj R2	F	T	P
Step1	Somatization	SA	0.57	0.17	0.35	0.13	0.11	10.69	3.27	0.002**
Step2		UH	-0.32	0.16	-0.21	0.17	0.15	7.56	-2.02	0.04*
Step1	Anxiety	AI	0.46	0.12	0.41	0.17	0.16	14.79	3.84	0.000***
Step1	Obsessive-compulsive	MA	0.41	0.11	0.40	0.16	0.15	13.89	3.73	0.000***
Step2		Ss	-0.41	0.12	-0.35	0.27	0.25	13.42	-3.32	0.001***
Step1	Depression	EI	0.47	0.20	0.26	0.07	0.05	2.53	2.29	0.02*

Step2		UH	-0.36	0.17	-0.27	0.12	0.10	5.02	-2.13	0.03*
Step1	Phobia	SA	0.38	0.11	0.38	0.14	0.13	12.61	3.55	0.001**
Step2		EU	-0.27	0.11	-0.26	0.21	0.19	10.00	-2.54	0.01**
Step3		ED	-0.23	0.11	-0.23	0.25	0.22	8.38	-2.07	0.04*

Note: ED: emotional deprivation; AI: abandonment/instability; MA: mistrust/abuse; SA: social isolation/alienation; EU: enmeshment/undeveloped self; Su: subjugation; Ss: self-sacrifice; EI: emotional inhibition; UH: unrelenting standards/hyper criticalness; EG: entitlement/grandiosity.   *** p< 0.001   ** p< 0.01   * p< 0.05.

DISCUSSION

The purpose of current research was to study of the role of EMSs as the predictors of psychiatric symptoms (somatization, anxiety, obsessive- compulsive, depression, and phobia) in the jailed murderers. The results showed that there are significant relationships between some of the EMSs and psychiatric symptoms. These results are consistent with the previous findings (Welburn et al., 2002, Welburn et al., 2002, Anderson et al., 2006, De Geus et al., 2007, Hudson and Rapee, 2000, Neal and Edelmann, 2003, Pinto-Gouveia et al., 2006, Young et al., 2003, Young et al., 2001, Young, 1999, Welburn et al., 2002, Harris and Curtin, 2002, Calvete et al., 2005, Schmidt et al 1995, Lumley and Harkness, 2007, Reinecke and Simons, 2005, Muris, 2006, Wang et al., 2010, Garcia-Toro et al., 2002, Greenhau et al., 2003, Welburn et al., 2002, Calvete et al., 2005, Schmidt et al., 1995, Lumley and Harkness, 2007, Muris, 2006, Cousineau, 2004, Delattre et al., 2004, Young et al, 2001, Young, 1999). The EMSs as cognitive substructures lead to the creation of irrational beliefs. Schemas contain cognitive, emotional and behavioral elements. EMSs operate on the deepest level of cognition, usually outside of awareness, and make the individual psychologically vulnerable to develop depression, anxiety, dysfunctional relationships, addiction, childhood trauma, social phobia, substance abuse, eating disorders, Personality disorders, mental disorders, panic disorder with agoraphobia and psychosomatic disorders (Young, 1999, Young et al., 2003, Hedley et al., 2001). According to initial description of Beck and Freeman (1990) of psychopathology, each of the mental disorders associated with maladaptive schemas and habitual thought patterns are very popular and versatile, which specify the type of vulnerability to that disorder. EMSs as maladaptive cognitive foundations influence on the perception of the phenomena and the formation of schemas, and can create social and psychological injuries; thus, the crime perpetration is one of the major damages that is organized and formed based on inefficient foundations (Young et al., 2003). Young (1999) believes any of the psychopathological symptoms is associated with one or more of the EMSs (Delattre et al., 2004). The study also mentioned that EMSs are inefficient mechanisms that directly or indirectly lead to psychological distress (Cecero et al., 2004). EMSs represent the core beliefs (unconditional defaults) on self and others, and divert processing of external information to an inefficient direction; Thus, they influence interpersonal relationships and self-perceptions (Young, 1999, Pinto-Gouveia et al., 2006).

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