



Early maladaptive schema, emotion regulation, and general health in prisoner and non-prisoner men: A comparative study

Reza Davoodi¹, Shahrbanoo Ghahari²

¹ Department of Clinical Psychology, School of Psychology, Tonekabon Branch, Islamic Azad University, Tonekabon, Iran

² Department of Mental Health, School of Behavioral Sciences and Mental Health (Tehran Institute of Psychiatry), Iran University of Medical Sciences, Tehran, Iran

Original Article

Abstract

BACKGROUND: Early maladaptive schemas (EMSs) and difficulty in emotion regulation are mechanisms leading to dysfunctional behaviors and reduction of mental health; hence, this study aimed to compare EMSs, emotion regulation, and general health in prisoners and non-prisoners.

METHODS: The research method was causal-comparative (post-event). Statistical society comprised all of prisoners and non-prisoners in Fuman City in Iran. Of them, 100 prisoners were selected using random sampling and they were compared with 100 matched non-prisoner men based on the inclusion criteria and. Non-prisoners were matched with prisoners in terms of age, job, and education level. Both groups filled out Young Early Maladaptive Schemas Questionnaire (YEMSQ), Persian version of the Cognitive Emotion Regulation Questionnaire (CERQ-P), and 12-item General Health Questionnaire (GHQ-12). Data were analyzed using independent t-test and multivariate analysis of variance (MANOVA).

RESULTS: A significant difference was observed between two groups in total score of EMSs, emotion regulation, and general health ($P < 0.001$).

CONCLUSION: There is a significant difference between two groups in general health, maladaptive schema, and emotion regulation which indicates that EMSs, inability to regulate emotions, and low general health could play a critical role in criminal behaviors.

KEYWORDS: Maladaptive Schemas, Emotion Regulation, General Health, Prisoners

Date of submission: 15 July 2018, **Date of acceptance:** 17 Sep. 2018

Citation: Davoodi R, Ghahari S. Early maladaptive schema, emotion regulation, and general health in prisoner and non-prisoner men: A comparative study. Chron Dis J 2019; 7(4): 258-65.

Introduction

Crime is one of the social and psychiatric problems.¹ According to World Health Organization (WHO), about 9 million people across the world are in prisons and at least half of prisoners suffer from psychiatric and personality disorders such as major depression, anxiety, and other psychiatric symptoms.²

Young et al. in 2003 extended Beck's model of cognitive schemas by introducing early maladaptive schemas (EMSs), which are

assumed to be responsible for incidence of psychiatric disorders. Young et al. proposed 18 schemas based on clinical experiences. He cited that these maladaptive schemas resulted from the interaction between the individual's emotional temperament and negative early life experiences and subsequent adult psychopathology in adulthood.³ These schemas influence what we interpret as events, they could bias and distort our perceptions and behaviors. In many cases, we are more likely to remember information that supports our negative schema and core beliefs about the world and ourselves compared to information

Corresponding Author:

Shahrbanoo Ghahari

Email: ghahhari.sh@iums.ac.ir

that challenges them. They could therefore lead to continuation of schemas. Unmet main emotional needs in children could be considered as the basic factor for development of EMSs.⁴

EMSs are stable after formation during lifecycle and could form the basis of cognitive structures of individuals and play key role in organization of experiences of individuals.⁵ EMSs could affect data processing procedure and distort the reality and experiences. They may be used adaptively, allowing people to function successfully in their environment, or maladaptively, leading to problems in life.⁶

Young et al. presented 18 maladaptive schemas that could have effect on emotion, behaviours, and interpersonal relationship.³ Committing crime as a social problem could be affected by maladaptive schemes.⁷ A study showed that these maladaptive schemas, especially in two fields of avoidance-exclusion and autonomy-impaired performance could be vulnerable for people to take criminal behaviours.⁸ Moreover, Noferesti and Akbari Zardkhane conducted a study on EMSs in sexual criminals (over 18 years old) and normal individuals in Tehran, Iran, and found that 4 schemes including abandonment, mistrust, dependency, and vulnerability were prevalent in prisoners.⁹

Emotions are most often conceptualized as a set of experiential, physiological, and behavioral responses.¹⁰ Emotion regulation is defined as the attempts people make to maintain, inhibit, and enhance emotional experience and expression of emotions, both positive and negative.¹¹ Emotion regulation strategies are neither adaptive and healthy nor maladaptive.¹¹ Cognitive emotion regulation means using cognitive-behavioral strategies to change the type and severity of emotional experience.¹² Difficulties with emotion regulation are associated with mental health disorders as well as problematic behaviors such as substance use and high-risk

sexual behaviors.¹³

In regard of the significant of identifying and changing maladaptive schemas, promotion of general and mental health and emotion regulation in prisoners can be useful for prevention of criminal behaviors in future. The aim of this study was comparing EMSs, emotion regulation, and general health of prisoner and non-prisoner men.

Materials and Methods

In this study, research method was causal-comparative (post-event). Statistical society comprised all of prisoners and non-prisoners in Fuman City in Iran (n = 200). Of them, 100 prisoner men were selected using random sampling based on the inclusion criteria; non-prisoner men were matched with prisoner men in terms of age, job, and educational level.

Inclusion criteria included being male, age range of 20-40 years old, having at least secondary school education, having at least 2 years of conviction, commitment of intentional crimes, and having certificate of mental health. After selection of the cases, 100 prisoner men participated in this study. Exclusion criteria included suffering from schizophrenia and psychotic and bipolar disorders. Both groups filled the 90-item Young EMS Questionnaire (YEMSQ), Cognitive Emotion Regulation Questionnaire (CERQ) (long form), and 12-item General Health Questionnaire (GHQ-12) under supervision of a psychologist.

Instruments: The data collection instruments in this study were demographic questionnaire, 90-item YEMSQ, CERQ (long form), and GHQ-12.

Demographic questionnaire: The questionnaire measures items such as age, background, job, type of crime, education, marital status, and number of children.

EMSQ: The self-report questionnaire of EMS contains 90 items that can measure 18 domains of EMS including unrelenting

standards/hypercriticalness, emotional inhibition, negativity/pessimism, punitiveness, self-directedness, subjugation, approval-seeking/recognition-seeking, hypervigilance/inhibition, entitlement/grandiosity (impaired limits), insufficient-control/self-discipline, dependence/incompetence, vulnerability to harm or illness, enmeshment/undeveloped self, failure, abandonment/instability, defectiveness/shame, social isolation/alienation, emotional deprivation, and mistrust/abuse. Each scale has 5 items to measure the type of EMSs.¹⁴ Reliability of the questionnaire was reported to be 0.95 and 0.81 using internal consistency and retest methods, respectively.¹⁵ In Iran, this form was normalized by Yoosefi et.al. Confirmatory factor analysis (CFA) of the Differentiation of Self (DSI-2) scale showed that the questionnaire had required validity.¹⁶

CERQ (long form): The questionnaire includes 36 items and 9 subscales including self-blame, acceptance, rumination, positive refocusing, focus on planning, positive reappraisal, perspective-taking, catastrophizing, and blaming others. The questionnaire was used by Garnefski et.al to evaluate cognitive strategies used by person after experiencing threatening or stressful events of life. Reliability of the questionnaire was obtained 0.91, 0.87, and 0.93, using Cronbach's alpha.¹⁷

GHQ: The 12-item questionnaire has been prepared with the purpose of screening healthy and abnormal people. Therefore, the aim of the questionnaire is not to achieve to a psychiatric diagnosis. The questionnaire is available in 12, 28, 30, and 60-item forms. 12-item form of the instrument has such feature that healthy people could be screened from abnormal individuals in the shortest

time. Short form of the questionnaire is validated in most countries across the world and is used. In Iran, short form of the questionnaire with 12 items was validated by Iran Healthcare Research Center of Scientific Information Database (SID) under supervision of Dr. Montazeri. Validity of internal consistency of the questionnaire was estimated to be 0.87 by Cronbach's alpha after translating instrument and testing it on 748 Iranian students.¹⁸

Results

In this study, 200 prisoner and non-prisoner men were compared with each other. The results showed prevalence of illiteracy among prisoners (89.4%) compared to non-prisoner men (23.4%). In this study, investigating job status in prisoners and non-prisoners was done through placing them in 3 groups of self-employment, governmental employment, and unemployed. The results showed that unemployment rate among prisoners (34.0%) was more than non-prisoner men (23.4%). Married men formed 62.8% of participants and single men formed 37.2% of participants. Prisoner men were mostly addicted to drugs and substances.

Hypothesis 1: There is a significant difference between prisoner and non-prisoner men in EMSs.

According to insignificant value of Levene's test in studied variables, assumption of equality of variances was provided. Independent t-test with value of 4.75 and degree of freedom (df) of 198 showed that due to the obtained value in $P = 0.005$, H1 was confirmed based on the significant difference between two groups in terms of EMS (Table 1).

Table 1. Results of independent t-test to compare total score of early maladaptive schemes (EMSs) within two groups of prisoner and non-prisoner men

Participants	N	Mean difference	SE difference	T	df	P
Prisoners	100	106.60	22.43	4.75	198	0.005
Non-prisoners	100					

SE: Standard error; df: Degree of freedom

Table 2. Results of independent t-test to compare total score of emotion regulation between two groups of prisoner and non-prisoner men

Participants	N	Mean difference	SE difference	T	df	P
Prisoners	100	10.47	4.23	2.475	198	0.385
Non-prisoners	100					

SE: Standard error; df: Degree of freedom

Hypothesis 2: There is a significant difference between prisoner and non-prisoner men in emotion regulation.

Mean differences and standard error (SE) of two groups in terms of total score of emotion regulation were respectively equal to 10.47 and 4.23. Independent t-test with value of 2.475 and df of 198 showed that the difference between two groups was significant statistically in terms of emotion regulation (0.385) (Table 2).

Hypothesis 3: There is a significant difference between prisoner and non-prisoner men in general health.

Mean differences and SE of two groups in terms of total score of general health were respectively equal to 1.733 and 2.475. Independent t-test with the value of 2.475 and df of 198 showed that the difference between two groups was significant statistically in terms of general health ($P = 0.631$) (Table 3).

In order to compare dimensions of EMS in two groups of prisoner and non-prisoner men, multivariate analysis of variance (MANOVA) test was used. To test the significance of difference between levels of independent variable in linear combination of dependent variables, Pillai's test, Hotelling's trace test, Wilks' lambda test, and Roy's largest root test were applied. Significance levels of all tests showed that there was a significant difference between two groups at least in terms of one dimension of EMS (Table 4).

According to table 5, there was a significant difference between two groups in terms of

abandonment/instability, emotional deprivation, dependence/incompetence, vulnerability to harm or illness, failure, entitlement/grandiosity, negativity/pessimism, overvigilance/inhibition, and punitiveness ($P < 0.050$). However, there was no significant difference between two groups in terms of defectiveness/shame, social isolation/alienation, mistrust/abuse, enmeshment/undeveloped self, failure, approval-seeking/recognition-seeking, and unrelenting standards/hypocriticalness.

Analysis of each domain associated with EMS using Bonferroni alpha showed that there was a significant difference between two groups in disconnection and rejection [$F(1,28) = 13.987$, $P = 0.001$, partial eta = 0.333], impaired autonomy and performance [$F(1,28) = 13.705$, $P = 0.001$, partial eta = 0.340], impaired limits [$F(1,28) = 14.416$, $P = 0.001$, partial eta = 0.340], other-directedness [$F(1,28) = 13.642$, $P = 0.001$, partial eta = 0.328], and overvigilance/inhibition [$F(1,28) = 14.427$, $P = 0.001$, partial eta = 0.340]. Therefore, EMSs in prisoner men were significantly higher than non-prisoner men. Square of eta can specify portion of each domain (Table 6).

In order to compare dimensions of emotion regulation between two groups of prisoner and non-prisoner men, MANOVA was used. The results from Wilks' lambda test showed that variances of emotion regulation dimensions were not the same within two groups and were significantly different from each other [$F(1,32) = 8.134$, $P = 0.0275$, Wilks' lambda = 0.668].

Table 3. Results of independent t-test to compare total score of general health in prisoner and non-prisoner men

Participants	N	Mean difference	SE difference	T	df	P
Prisoners	100	1.733	0.752	2.303	198	0.631
Non-prisoners	100					

Table 4. Results of multivariate analysis of variance (MANOVA) test for mean values of early maladaptive schemes (EMSs) and emotion regulation in two groups of prisoner and non-prisoner men

Effect		Value	F	Hypothesis df	Error df	P	Partial eta squared
EMS	Pillai's trace	0.472	4.298	5.000	24.000	0.006	0.472
	Wilks' lambda	0.528	4.298	5.000	24.000	0.006	0.472
	Hotelling's trace	0.895	4.298	5.000	24.000	0.006	0.472
	Roy's largest root	0.895	4.298	5.000	24.000	0.006	0.472
Emotion regulation	Pillai's trace	0.332	1.327	9.000	24.000	0.275	
	Wilks' lambda	0.668	1.327	9.000	24.000	0.275	
	Hotelling's trace	0.498	1.327	9.000	24.000	0.275	
	Roy's largest root	0.498	1.327	9.000	24.000	0.275	

EMS: Early maladaptive schema; df: Degree of freedom

Measurement of each dimension of emotion regulation using Bonferroni alpha showed that there was a significant difference between two groups only in hypocriticalness [F(1,32) = 8.134, P = 0.006]. Therefore, values of hypocriticalness in criminal men were significantly higher than normal men, although in punitiveness, approval, positive refocus, planning refocus, positive reappraisal, and other-punitiveness, no significant difference was observed between two groups (Table 7).

The results showed that mean values and SE of total scores of EMS, emotion

regulation, and general health of prisoner men were higher than non-prisoner men. Obtained results from Wilks' lambda test showed that variances of 5 dimensions of EMSs were equal between both groups and were not significantly different and this finding could indicate reliability of further results [F(5,24) = 4.298, P = 0.006, Wilks' lambda = 0.528, partial eta = 0.472]. Implementation of Pillai's test showed that variances of EMS dimensions were significantly different between prisoner and non-prisoner men.

Table 5. Results of effects between trails in terms of values for dimensions of early maladaptive schemes (EMSs) in two groups of prisoner and non-prisoner men using multivariate analysis of variance (MANOVA)

Dependent variable		Type III sum of squares	df	Mean square	F	P	Partial eta squared
Disconnection and rejection	Abandonment-instability	374.533	1	374.533	16.824	< 0.001	0.375
	Defectiveness-shame	333.333	1	333.333	4.463	0.070	0.113
	Social isolation-alienation	86.700	1	86.700	3.556	0.063	0.118
	Emotional deprivation	464.133	1	464.133	16.779	< 0.001	0.375
	Mistrust-abuse	246.533	1	246.533	0.228	0.008	0.227
Impaired autonomy and performance	Dependence/incompetence	374.533	1	374.533	20.935	< 0.001	0.428
	Vulnerability to harm or illness	307.200	1	307.200	0.640	0.004	0.256
	Enmeshment/undeveloped self	128.133	1	128.133	4.075	0.053	0.127
Entitlement/grandiosity (impaired limits)	Failure	246.533	1	246.533	13.319	0.001	0.322
	Insufficient-control/self-discipline	235.200	1	10.796	6.012	0.003	0.278
Other-directedness	Insufficient-control/self-discipline	258.133	1	12.467	10.334	0.001	0.308
	Self-directedness	235.200	1	235.200	9.189	0.005	0.247
Overvigilance/inhibition	Subjugation	264.033	1	264.033	10.452	0.003	0.272
	Approval-seeking/recognition-seeking	136.533	1	136.533	0.701	0.065	0.117
	Unrelenting standards/hypocriticalness	48.133	1	48.133	1.657	0.209	0.056
	Emotional inhibition	294.533	1	294.533	12.948	0.001	0.316
	Negativity/pessimism	313.633	1	313.633	8.327	0.007	0.229
	Punitiveness	218.700	1	218.700	9.556	0.004	0.254

Df: Degree of freedom

Table 6. Results of effects between trails in terms of values for dimensions of early maladaptive schemes (EMS) in two groups of prisoner and non-prisoner men using multivariate analysis of variance (MANOVA)

Dependent variable	Type III sum of squares	df	Mean square	F	P	Partial eta squared
Disconnection and rejection	800.622	1	800.622	13.978	0.001	0.333
Impaired autonomy and performance	500.330	1	500.330	13.705	0.001	0.340
Impaired limits	133.986	1	133.986	14.416	0.001	0.340
Other-directedness	700.383	1	700.383	13.642	0.001	0.328
Overvigilance/inhibition	633.347	1	633.347	14.427	0.001	0.340

Df: Degree of freedom

Discussion

The results of the current study showed that there was a significant difference between prisoner and non-prisoner men in terms of EMS. In other words, mean values of prisoners in EMS were significantly higher than mean values of non-prisoners and the difference was significant statistically ($P < 0.050$). This result is in consistence with findings of Richardson, indicating that sexual criminals have more EMS than non-prisoners.¹⁹

The results are in consistence with findings of Najafi and Sattarpour which showed that mean values of EMS including emotional deprivation, failure, emotional inhibition, and overvigilance were different between non prisoners and prisoners.²⁰ Also, findings of Rezaei et al. showed that addicted people had EMSs.²¹ So, they feel that other people are rejective. The study of Reeves and Taylor showed that EMSs correlated to personality disorders such as anti-social disorders.²²

Moreover, the results are in consistence

with findings of Ball et al.,²³ showing that the most EMSs of homeless addicted people were respectively sacrifice, social isolation, unrelenting standards, entitlement, emotional inhibition, and mistrust/abuse and the lowest schemes included dependence/incompetence and self-inadequacy. The results are also in consistence with findings of Rezaei et al.²¹

The results of the current study about emotion regulation showed that there was a significant difference in significance level of 0.005 in terms of emotion regulation of prisoner and non-prisoner men; prisoners cannot regulate their negative emotions effectively. This finding is in consistence with findings of Suri,²⁴ under the title of EQ variables of the criminals and ordinary people (a comparative study), showing that prisoners had low score in terms of components of emotional intelligence (such as self-awareness, self-control and social skills, self-motivation, and empathy) and ability to regulate emotions.

Table 7. Results of effects between trails in terms of values for dimensions of emotion regulation in two groups of prisoner and non-prisoner men using multivariate analysis of variance (MANOVA)

Dependent variable	Type III sum of squares	df	Mean square	F	P	Partial eta squared
Self-punitiveness	16.941	1	16.941	0.991	0.327	0.030
Approval	5.765	1	5.765	0.372	0.546	0.011
Hypocriticalness	76.500	1	76.500	8.134	0.008	0.203
Positive refocus	19.882	1	19.882	1.665	0.206	0.049
Planning refocus	0.118	1	0.118	0.024	0.878	0.001
Positive reappraisal	4.971	1	4.971	0.589	0.448	0.018
Recognition-seeking	2.941	1	2.941	0.295	0.591	0.009
Catastrophizing	21.441	1	21.441	2.337	0.136	0.068
Other-punitiveness	21.441	1	21.441	1.971	0.170	0.058

Df: Degree of freedom

The results of the current study indicated poor general health in prisoners. This finding is in line with findings of Sobhi-Gharamaleki et al.²⁵ They showed that general health problems in prisoners were high. In this regard, this study showed that prisoner men had lower general health than non-prisoner men due to having EMS and inability to regulate their emotions.

Conclusion

EMSs could affect performance of individuals on emotion regulation, so that people cannot express their emotions in a healthy manner and as a result, they may face many interpersonal and legal problems. These problems could affect mental health and trigger for more criminal behaviors.

Conflict of Interests

Authors have no conflict of interests.

Acknowledgments

We would like to thank all the persons involved in this study. Also, this project is due to a Master thesis in clinical psychology (code: 15920701942035) in Tonekabon Branch, Islamic Azad University, Tonekabon, Iran.

References

1. Garnefski N, Kraaij V. Relationships between cognitive emotion regulation strategies and depressive symptoms: A comparative study of five specific samples. *Pers Individ Dif* 2006; 40(8): 1659-69.
2. Enggist S, Møller L, Galea G, Udesen C. Prisons and Health. Geneva, Switzerland: WHO Regional Office for Europe, 2014.
3. Young JE, Klosko JS, Weishaar ME. Schema therapy: A practitioner's guide. New York, NY: Guilford Press; 2003.
4. Young JE. Cognitive therapy for personality disorders: A schema-focused approach. Sarasota, FL: Professional Resource Exchange; 1990.
5. Thimm JC. Personality and early maladaptive schemas: A five-factor model perspective. *J Behav Ther Exp Psychiatry* 2010; 41(4): 373-80.
6. Bridges LJ, Denham SA, Ganiban JM. Definitional issues in emotion regulation research. *Child Dev* 2004; 75(2): 340-5.
7. Jennings PA, Greenberg MT. The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Rev Educ Res* 2009; 79(1): 491-525.
8. Fazel S, Baillargeon J. The health of prisoners. *Lancet* 2011; 377(9769): 956-65.
9. Nofereesti A, Akbari Zardkhane S. Comparison of early maladaptive schemas in sex offenders and ordinary people. *Knowledge and Research in Applied Psychology Journal* 2013; 2: 120-9.
10. Mauss IB, Bunge SA, Gross JJ. Automatic emotion regulation. *Social and Personality Psychology Compass* 2007; 1(1): 146-467.
11. Rottenberg J, Gross JJ. Emotion and emotion regulation: A map for psychotherapy researchers. *Clinical Psychology Science and Practice* 2007; 14(4): 323-8.
12. Gratz KL, Roemer L. Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *J Psychopathol Behav Assess* 2004; 26(1): 41-54.
13. Tull MT, Barrett HM, McMillan ES, Roemer L. A preliminary investigation of the relationship between emotion regulation difficulties and posttraumatic stress symptoms. *Behav Ther* 2007; 38(3): 303-13.
14. Bosmans G, Braet C, Van Vlierberghe L. Attachment and symptoms of psychopathology: Early maladaptive schemas as a cognitive link? *Clin Psychol Psychother* 2010; 17(5): 374-85.
15. Schmidt NB, Joiner TE, Young JE, Telch MJ. The schema questionnaire: Investigation of psychometric properties and the hierarchical structure of a measure of maladaptive schemas. *Cognit Ther Res* 1995; 19(3): 295-321.
16. Yosefi N, Etemadi O, Bahrami F, Fatehizade MA, Ahmadi SA. An investigation on early maladaptive schema in marital relationship as predictors of divorce. *J Divorce Remarriage* 2010; 51(5): 269-92.
17. Hasani J. The psychometric properties of the cognitive emotion regulation questionnaire (CERQ). *Journal of Clinical Psychology* 2010; 2(3): 73-84. [In Persian].
18. Ebadi M, Harirchi AM, Shariati M, Garmarudi GR, Fateh A, Montazeri A. Translation, determining the reliability of the questionnaire of 12 general health questions (GHQ-12). *Payesh Health Monit* 2002; 1(3): 39-46. [In Persian].
19. Richardson G. Early maladaptive schemas in a sample of British adolescent sexual abusers: Implications for therapy. *J Sex Aggress* 2005; 11(3): 259-76.
20. Najafi S, Sattarpour F. Comparing the early

- maladaptive schemas of dishonored check prisoners and normal people. *Shenakht Journal of Psychology and Psychiatry* 2014; 1(2): 16-27. [In Persian].
21. Rezaei F, Haidaripoor S, Ghadami N. P-81-Early maladaptive schemas in addicts and their association with personality disorders. *Eur Psychiatry* 2012; 27: 1.
 22. Reeves M, Taylor J. Specific relationships between core beliefs and personality disorder symptoms in a non? Clinical sample. *Clin Psychol Psychother* 2007; 14(2): 96-104.
 23. Ball SA, Cobb-Richardson P, Connolly AJ, Bujosa CT, O'neall TW. Substance abuse and personality disorders in homeless drop-in center clients: Symptom severity and psychotherapy retention in a randomized clinical trial. *Compr Psychiatry* 2005; 46(5): 371-9.
 24. Suri A. EQ variables of the criminals and ordinary people (a Comparative Study). *Journal of Criminal and Intelligence Researches* 2014; 9(33): 75-90. [In Persian].
 25. Sobhi-Gharamaleki N, Porzoor P, Aghajani S, Narimani M. Effectiveness of emotion regulation training on reduction of anxiety, stress and depression symptoms among university students. *Iran J Health Educ Health Promot* 2015; 3(1): 5-13.