

## Effectiveness of Training Problem Solving and Anger Management on improve of problem solving ability and aggression control ability in Prisoners

Reza Mirzaei<sup>1</sup>, Najmeh Iraj Meimandi<sup>2</sup>, Eshagh Mousavi<sup>3</sup>, Zohre Raesi<sup>4</sup>, Sareh Masoudi<sup>5</sup>

<sup>1</sup>Associated professor, MA in clinical phycology, Central Prison in Shiraz, Shiraz, Iran

<sup>2</sup>Associated professor, MA in General Psychology, Islamic Azad University, Marvdasht Branch, Iran

<sup>3</sup>Associated professor, MA in clinical phycology, Salman Psychiatric Hospital Yasouj, Yasouj, Iran

<sup>4</sup>Assistant professor in psychology, Faculty of educational sciences and psychology, University of Islamic Azad University, Najaf Abad Branch, Iran

<sup>5</sup>Assistant professor, MA in Clinical Psychology, Fatemiyeh (P.B.U.H) Shiraz Nongovernmental, Nonprofit High Education Institute, Shiraz, Iran

Received: February 3, 2016

Accepted: April 12, 2016

### ABSTRACT

**Introduction:** Many of prisoners have poor levels of life skills, especially anger control, and problem solving skills. The aim of the present study was to improve anger management and problem solving ability in prisoners in Shiraz.

**Method:** Based on semi-experimental research design, with pre-posttest, control group and one month followed up, 30male participants with crimes classified as robbery were selected and randomly divided into two equal groups of control and experimental (n=15). The instruments of the research were anger questionnaire (Buss and Perry, 1992)and problem solving questionnaire (Cassidy & Long, 1996)which are administered by both groups as pre-test and post-test. The experimental group was exposed to six 90-minute sessions (two sessions a week). A follow up administration was done with aforementioned instruments a month later.

**Results:** Data analysis with MANCOVA revealed that anger control and problem solving training, improved problem-solving abilities and increased the ability to control anger in experimental group.

**Conclusion:** Problem-solving skills, and anger management could be seen as sound ways to reduce aggression and facilitate problem-solving ability in imprisoned populations.

**KEYWORDS:** Problem-Solving Skills, Anger Management Skills, Prisoners.

### 1. INTRODUCTION

According to the report of World Health Organization (WHO) in 2009, about 9 million people have been imprisoned in the prisons around the world. At least half of them suffer from severe mental disorders like depression, cognitive, and behavioral impairments (1). Some serious deficiencies are related to prisoners' lack of self-control, inability to acquire social points of view, interpersonal problem-solving skills, critical thinking, and understanding moral arguments. Defective cognitive impairments may lead to impairment in proper social skills and, the commission of a crime (2).

Williams (2005) suggests that the main reasons for prisoners committing a crime include cognitive skills deficiencies, self-control problems as well as poor critical thinking and interpersonal problems. The environment and atmosphere of prison are between the most influential factors in the mental health of both sides of jailers and prisoners (2). The atmosphere of prison is intolerable for both. Generally, jails are unusual environments with limited physical space which are used to punish violent persons and other lawbreakers who are held against their will (3). In such an environment, violence and cognitive psychological traumas are increased because of loss of freedom. As a result, prisoners and jailers mostly lose their sensitivity to aggressive behaviors that they observe in their surroundings (4).

Evidence revealed the relationship between committing a crime, mental disorders, and cognitive, behavioral, and moral problems. It appears that most prisoners suffer from impairments/ disorders and need psychological services, even if the impairments are indirectly related to unsuitable economic and social Conditions(5).

Undesirable influence of aggressive behaviors in prisons' interpersonal, personal, and moral behaviors drew researchers' attention to conducting research in this field. The lack of control on aggressive behaviors would cause interpersonal problems, crime, guilt, and violation of others' rights. It can also be endocrine and cause mental and physical health problems like gastric ulcer, migraine, and depression (6). Some serious social problems like child

and/ or spouse abuse and various kinds of interpersonal physical aggression have roots in anger and inability to control anger (7).

Unfortunately, nowadays, in spite of deep cultural and lifestyle changes, some people still lack the necessary abilities to face problems. They are vulnerable in facing daily problems (8).

The Problem solving skills and anger management are considered as self-management skills and also as a component of life skills. Numerous researches show that life skills training can be effective in increasing mental and physical health, increasing self- confidence, showing other people respect, increasing interpersonal trust, preventing from mental behavioral and social problems, and reducing symptoms of anxiety and depression, and decreasing educational failure(9). Although numerous attempts have been done over the past two decades ago to develop effective techniques for treating prisoners' disorders and controlling their criminal behaviors, there is still a deep gap between research activities and clinical proceeding (10). In Iran, most of the researches conducted on prisoners, examined epidemiology, prisoners' traits, and etiology of disorders (10). Regarding some cognitive, behavioral, and moral impairment, and also the environments and atmosphere of prison, the main research question was: does training in problem solving and anger management skills decrease prisoner' aggressive behaviors and increase their problem solving abilities? Therefore, the purpose of the present study was to assess the effectiveness of problem solving training and anger management on improving problem solving and anger control ability in prisoners.

## 2. METHODS

### 2.1. Design

The present study is a pre-test/post-test control group design or (a quasi-experimental design with pre-test/post-test, control group and one month follow up). The current research made attempts to examine was the effectiveness of problem solving training and anger management on improving of problem solving and anger control ability in male prisoners convicted of robbery.

In the present study, the independent variables were problem-solving skills and anger management and the dependent variables were problem solving and anger management abilities respectively. Control variables included mean age, type of crime, the period of dwelling in prisons, and educational level. On the basis of the structured interviews, the prisoners with the lack of mental disorders, intellectual problems and having physical health were excluded.

As for the ethical standards, attempts were made to ensure that all data gathered for the study would be stored secretly and not to be held in public. Written informed consent forms were taken from participants. Only participants of the study could be aware of the personal results if they were interested in. The participants participated voluntarily and they could leave interventional sessions any time they would desire.

### 2.2. Participants

The participants of the study were all male with robbery offences who were imprisoned in the central prison in Shiraz during the summer of 2012. From this population, 30 male were selected randomly and were placed in two random groups in a random assignment method.

### 2.3. Procedure

The current study utilized quasi experimental pre-test/post-test design. Training sessions, each 90 minutes in length, were held 2 times a week. At the end of each session, the issues taught were wrapped up and a task was assigned for the next session. The training intervention program included 6 sessions and was based on the cognitive-behavioral mode. The course was implemented with the aim of following the objectives of the research as follows:

The first session was an introduction. The participants were familiar with objectives of the course, problem-solving definition. Problem-solving skills, obstacles to problem-solving, making calculated decisions, and problem-solving steps were also taught in the first session.

In the second session, the participants taught related to problem-solving orientation, the steps of identifying and defining a problem, creating alternative solutions, evaluating and selecting an alternative, implementing and following up on the solution.

The third session comprised teaching the definition of anger and aggression, identifying the causes of arousing anger, identifying ways of showing anger, cognitive and behavioral techniques and steps for anger management, procedures for generating a state of least excitation of consciousness, and anger symptoms.

The fourth session included teaching the steps for neutralizing anger, long-term strategies, physical exercise, muscular recovery, predicting, how to discharge bad and past feelings, and using problem-solving skills.

In the fifth session, short-term strategies were taught for anger management. These consisted of training in deep breathing techniques, making changes in the environment, leaving an abusive situation, how to begin to write thoughts and feelings, and how to use distraction techniques, counting numbers, remembering poems, remembering sweet and unforgettable memories, a joke, language management, and postponing reaction until after tranquilizing the mind.

The sixth session began with training in decisive behavioral style and finished with several recommendations (think about advantages and disadvantages of getting angry, accept the current situation, think about your health, don't make a casual decision, anger and aggression effects).

It is worth mentioning that every session started with reviewing the assignments of the previous session and finished with assigning a task for the next session (14, 15).

#### 2. 4. Instruments

**Aggression questionnaire (Buss and Mark Perry):** the questionnaire on aggression was design by Buss & Perry (1992). This questionnaire contains 24 Items. Replicated factor analysis yelled 4 second physical aggression, verbal aggression, anger and hostility. Items of the questionnaire are on a five-point Likert scale ranging from (Not at all like me), to 5 (completely like me). Higher score indicate more self-reported aggressive behavior. It has internal validity. Cronbach's Alpha coefficient for physical/verbal/ violence and hostility aggression scales are reported 0.85, 0.72, 0.83, and 0.77, respectively. The Cronbach's alpha coefficient for total items of the questionnaire were 0.89. The questionnaire is a stable tool with good retesting measures. Test-retest correlation for all subscales of the questionnaire after 9 weeks were 0.80, 0.76, 0.72, 0.72, respectively, and it was 0.80 for all scores of the questionnaire (11).

Persian standardization of the Buss and Perry Aggression Questionnaire yielded Cronbach's alpha coefficients for physical, verbal, violence and hostility aggression subscales of 0.73, 0.58, 0.76, and 0.64, respectively, and it was 0.70 for all items of the questionnaire(12). The current study used this questionnaire to measure the total rate of aggression.

**Cassidy and Long's Problem Solving Scale:** multifactorial problem solving scale was design by Cassidy and Long (1996). This scale is a six-factor measure obtained through 24 items which subjective "yes/no" questions. The factors are namely helplessness, control of problem solving (with an internal and external dimensions control in problem situation), creative problem solving styles(reflects the planning and consideration of alternative solutions in problem solving processes), confidence in the solution of the problem (indicate belief in one's ability to solve problems), Avoidance style, and approach style (reflects a positive attitude toward problems and a tendency to tackle them). The reliability of this instrument subscale Cronbach's alpha coefficient was reported 0.37 to 0.72. In the Persian version of the questionnaire, the mean correlation coefficient was reported 0.20 to 0.29(13). The present study used Persian version of questionnaire to measure the total rate of problem solving skills ability.

### 3. RESULTS

SPSS software was used for data analysis in the current study. In the descriptive statistical level, the means for the participants' ages in experimental and control group were 27.53 and 28.26, and in inferential statistic level, the standard deviations were 3.17 and 4.06 respectively.

The findings of the study also showed that the educational levels of 66.66% and 73.33% of the participants in both groups included guidance school or even primary school. 20% to 26.66% were graduated at the diploma or even lower level (high school). 6.66% held an associate degree.

Table 1: the mean and standard deviation of problem solving and anger management scores in three stages of pre/post-test and follow up test in experimental and control group

		Mean		Standard deviation	
		Problem solving	anger management	Problem solving	Anger management
Pre-test	Experimental group	16.40	82.71	2.03	12.43
	Control group	16.73	83.33	2.86	24.27
Post test	Experimental group	9.42	57.28	2.90	11.82
	Control group	15.06	79.13	3.53	28.46
Follow up test	Experimental group	10	59.85	2	12.38
	Control group	14.13	79.86	4.17	31.76

To test the hypothesis of homogeneity of variance, the Levene test was used. The results showed that  $H_0 = F(0.83)$  for post-test and  $F(0.75)$  for pre-test in not statistically significant and the null hypothesis is rejected. To test the hypothesis of normality of the variables distribution, the Kolmogorov-Smirnov test was used. The results ( $P=0.41$ ,  $P=0.47$ ,  $P=0.47$ ) revealed normality of the variables distribution.

Table 2. The results of the co-variance analysis for examining the difference in problem -solving and anger -management abilities between two groups

Variables	Testing stages	total squared	Degree of freedom	mean squared	F value	Significance level	eta squared	Power test
Problem solving	Post test	258.11	1	258.11	31.11	0.001	0.54	1
	Follow up test	126.99	1	126.99	11.30	0.002	0.30	0.89
Anger management	Post test	3286.27	1	3286.27	16.11	0.001	0.38	0.97
	Follow up test	2712.63	1	2712.63	14.93	0.001	0.36	0.96

Findings of this study support this hypothesis and show a significant differentiation between the mean scores of problem solving and anger management abilities and their data are depicted in table 2: ( $p < 0.005$ ). It means that problem solving and anger management skills training have been effective in improving problem solving and anger management abilities. Table 3 shows levels of significance among three tests and also shows a significant differentiation between experimental and control groups ( $p < 0.005$ ).

Table 3. The results of multivariable analysis of co-variance (MANCOVA) by controlling pretest and analysis of post-test and follow up test

Variable sources	Name of the test	Value	Df1	Df2	F	P
Pre-test on problem solving	Pillai's trace	0.26	2	25	4.51	0.02
	Wilks' lambda	0.73	2	25	4.51	0.02
Pre-test on anger management	Pillai's trace	0.70	2	25	30.33	0.001
	Wilks' lambda	0.29	2	25	30.33	0.001

#### 4. DISCUSSION

Findings of the current study reveal that problem solving and anger management skills training significantly improved problem solving and anger management abilities in prisoners. Based on these findings we can say that Problem-solving and anger management skills training program for intervention on prisoners can improve the problem-solving ability and ability to anger management. The main hypothesis of the study was that problem solving and anger management skills training improve prisoners' problem solving abilities. The hypothesis was approved in the post-test and follow-up. The findings of the current study correspond to the results of the previous studies (16, 17,18,19).

Problem solving skills are among cognitive-behavior processes that conducted by an individual in which the person tries to find a suitable solution to her/his daily problems and thus, solving a problem is a deliberate reasonable, difficult, and purposeful action (18). Therefore, it could be assumed that problem solving skills are technique to train individuals to put their cognitive skills in action within interpersonal situations. This method of action emphasize on the importance of cognitive skills in perception, interfacing, solving the problem of intra/inter personal conflicts. On the other hand, problem solving deficits have been related to cognitive functions like the misuse of illegal drugs, depression, anxiety, abnormality behavior, marriage and parental children training problems, and bad interpersonal problems. Thus, increasing prisoners' awareness can be effective for prisoners who spent a period of their life in prisons and have been exposed to negative cognitive infestation such as downgrading, lack of self-confidence, and inefficiency(19).

Another hypothesis was related to the effectiveness of problem solving and anger management training on improvement of prisoners' anger management ability. This hypothesis was confirmed as well. The results are correspondent to the previous studies. (5, 20, 29). Anger management does not mean that an individual isn't getting angry but it included expressing anger compatibly. Whereas feeling of losing control and making personal dissatisfaction is one of the aspects of having low self-esteem, it can be mentioned that anger management skills made prisoners aware of the scientific techniques and principles of anger management in anger arousing situations. Some views of anger management believe in the vital role of management quality in prisons (19). As findings of previous studies show, anger control would be facilitated significantly just by simply using anger-management skills training, which is one of the modern cognitive behavioral approaches and is an essential component of life skills(3).

As a result, the training method of the study would help prisoners to be aware of their cognitive processes and recognize the causes of anger to have been aware that the external situations don't cause to make them angry, but their way of thinking and interpretation of events can make them angry. They believe that by reforming their interpretations and replacing them with useful beliefs, they can control their anger in different situations. They can also use safe and useful methods that they learn in the course of anger management and avoid aggressive and irreparable actions. So in conclusion it can be said that problem solving and anger management skills training to improve problem-solving ability and ability to anger control on the prisoners as well. So it can be used as a stand-alone therapy or in conjunction with other therapies such as medication or psychotherapy used a variety of methods.

The limitation of this study was that the sample had been selected only from those convicted of robbery and only male prisoners. Future research could be improved by involving larger samples of gender-balanced offenders who have committed different types of crime, and selected by stratified sampling method in order for the findings to be generalized. Practically, it is hoped that by making such research reports available to educators and policy-makers, psychologists, and career counselors in prisons that the reports can create interest regarding the use of problem-solving and anger-management skills training in the proposed harm reduction and education program.

After the research is suggested, a similar study can be conducted on training for other skills like happiness, self-esteem, etc., involving gender effects in prisoners with different types of crimes in order to lead to the recognition of effective therapy methods for reducing problems in prisoners.

## REFERENCES

1. World health Organization (2009). *Health in prisons: Guidelines of WHO about health in prisons*. Translated by S. M. H., Mansuri Nasab, & S. H., Saneei, Tehran, Iran: andishmand Publications [Persian].
2. Thomas, M., Jackson, S. (2003). Cognitive skills group work. In C. Towl (Ed), *Psychology in prisons*. London, UK: Black well publishing.
3. Homel, R., & Thamson, C. (2005). *Causes Prevention of violence in prisons*. Brisbane, Australia: Griffith University Publication.
4. Vortly, K. (2003). *Anger management to offender*. Ontario, Canada: Official publication of College family physicians of Canada.
5. Akbari, B., Dastaran, A., & Taymori, Z. (2012). Effectiveness of Problem Solving and Anger Management Training on reduce of aggression and Increased self-esteem in Prisoners of Noshahr. Proceedings of the First National Conference on Research and Treatment in Clinical Psychology. Torbate Jam, Iran [Persian].
6. Ellis, A. (1998). *Anger: how to live with and without it*. New York, NY, USA: JAICO publishing bous.
7. Novaco, R.W., & Robins, S. (1999). Systems conceptualization and Treatment of anger. *Journal of clinical psychology*, 325-337.
8. Teruer, J.P., & Simon, J.A. (1999). *Stress, Anxiety and How to Fight It*. translated by A., Bakhshi pour. Tehran, Iran: Astan Qods Razavi Publication [Persian].
9. Amiri Barmkofi A. (2011). Life Skills Training on Reduce of Depression in Iran. *Journal of Psychology*. 5 (20) [Persian].
10. Khodayarifard, M., Sohrabi, F., Shokouhi Yekta, M, Ghobari bonab, B., Behpazhoh, A., & Faghigi, A. (2009). Psychotherapy and Rehabilitation of Prisoners in Rajaei-Shahr Prison: A Study of Effectiveness. [Persian].
11. Buss, A. H. & Perry, M. (1992). The aggression questionnaire. *Journal of Personality and Social Psychology*, 63, 452-459.
12. Langari, M. R. (2000). Comparison of aggression in immigrant and non-immigrant male student of the first year of secondary in High schools of Bojnourd. Masters Thesis, Faculty of Educational Sciences. University of Tarbiat Moalem, Tehran Iran [Persian].
13. Cassidy, T., Long, C. (1996). Problem solving style, stress and psychological illness. Development of a multifactorial measures. *British Journal of Clinical Psychology*, 35, 256 – 277
14. Klinke, C. L. (2011). *Life Skills*. Translated by S. Mohammad-Khani. Tehran, Iran: Resane Takhasosi Publications. Tehran, Iran [Persian].
15. Naseri, H. (2006). *Life Skills Training*. Tehran, Iran: Welfare Organization Press [Persian].
16. Turner N. E., MacDonald, J., & Somerset M. (2008). Life skills, mathematical reasoning and critical thinking: a curriculum for the prevention of problem gambling. *Journal of Gambling Studies*, 24(3),
17. Forneries, T., Danish, S. J., & Scott D. L. (2007). Setting goals, solving problems and seeking social support. *PubMed Adolescent*, 42(165), 103-114.
18. Warschausky, S., Cohen, E. H., Parker, J. G., Levendosky, A. A., & Okun, A. (1997). Social problem solving skills of children with traumatic brain injury. *Pediatrics and Rehabilitation*, 1(2), 77-81.

19. Jiang, D., & Diel, H. (2003). Effect of psychological drug aggression prison setting. *The Can j n.a.*
20. Joe J. (2010). Anger management. *Journal of family violence*, 21, 334-351.
21. Lawson, A. E., (2010). Anger management treatment groups in a community mental health setting: A program evaluation. (Digital Dissertations). UMI. PROQUEST.
22. Bradbury, K.E., Clark, I. (2009). Cognitive behavioral Therapy for anger management: effectiveness in adult mental health services. *Behavioral and cognitive psychotherapy*. 35, 201-208.
23. Chan, H. Y., Lu, R. B., Tseng, C. L., Chou, K. R. (2003). Effectiveness of the anger- control program in reducing anger expression in patients with schizophrenia. *Archives of Psychiatric Nursing*, 17, 88-95.
24. Lochman, J. E., Barry, T. D., & Pardini, D. A. (2003). Anger control training for aggressive youth. In A.E., Kazdin, & J. R. Weisz (Eds.), *Evidence-Based Psychotherapies for Children And Adolescents*. New York, NY, USA: The Guilford Press.
25. Lindsay, W. R., Allan, R., Macleod, F., Smart, N., & Smith, A. H. W. (2003). Long-term treatment and management of violent tendencies of men with intellectual disabilities convicted of assault. *Mental Retardation*, 41, 47-56.
26. Tang, M. (2001). Clinical outcome and client satisfaction of an anger management group program. *Journal of Occupational therapy*, 68, 228-236.
27. Dyer, I. (2000). Cognitive behavioural group anger management for out-patients: A retrospective study. *International Journal Psychiatric Nursing Research*, 5, 602-621.
28. Khodabakhshi kolae, A., & Rahim Panah, F. (2011). Efficacy of anger control training through secure approach to reduce stress on students Aggression. Proceedings of the Third Congress of Psychology, Shahid Beheshti University, Tehran, Iran, pp. 313-315. [Persian].
29. Mehrvarz yadak, T., Hatami, H. R. (2011). After the loss of their knowledge of life skills and anger control shyness in children; Proceedings of the Third Congress of Psychology, Shahid Beheshti University, Tehran, Iran, pp. 741-743 [Persian].