

## Effectiveness of Rational Emotive Behavior Therapy (REBT) on Self-Control and Impulsivity in Male Prisoners

Mehdi Shomali Ahmadabadi<sup>1</sup>, Yaser Rezapour Mirsaleh<sup>\*2</sup>, Zahra Yousefi<sup>1</sup>

### Abstract

**Objective:** Consequences of imprisonment include negative psychological effects, social stigma, and challenges for reintegrating into society. In this regard, this study aimed to investigate the effectiveness of Rational Emotive Behavior Therapy (REBT) on self-control and impulsivity among male prisoners.

**Method:** A randomized controlled clinical trial (RCT) utilizing a design the included pretest, post-test, and follow-up assessment as well as a waiting-list control group was conducted. A total of 30 male prisoners were selected using convenience sampling and randomly assigned to experimental and waiting list control groups (the intervention group (n = 15) and the control group (n = 15)). The participants in the experimental group underwent the 12-session REBT intervention over a period of six weeks. (For six weeks). All participants responded to the Self- Control Scale (SCS) and Dysfunctional Impulsivity Questionnaire (DFIQ) as dependent variables at three time points (pretest, post-test, and one-month follow-up). A repeated measures analysis of variance was used to analyze the data.

**Results:** The results revealed that after the implementation of the REBT intervention, the mean scores of self-control increased ( $P < 0.05$ ), while the mean scores of impulsivity diminished significantly ( $P < 0.05$ ). Furthermore, these changes remained relatively stable during the follow-up period ( $P < 0.05$ ).

**Conclusion:** Based on the findings of this study, it can be inferred that REBT intervention plays a significant role in diminishing self-control deficits and mitigating impulsivity among incarcerated individuals. These results present promising implications for the utilization of REBT in lowering recidivism rates.

**Key words:** *Impulsivity; Prisoners; Rational Emotive Behavior Therapy (REBT); Self- Control*

1. Department of Psychology, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran.
2. Department of Counseling, Faculty of Humanities and Social Sciences, Ardakan University, Ardakan, Iran.

### \*Corresponding Author:

Address: Department of Counseling, Faculty of Humanities and Social Sciences, Ardakan University, Ardakan, Iran, Postal Code: 89518-95491.

Tel: 98-353224302, Fax: 98-3532240991, Email: y.rezapour@ardakan.ac.ir

### Article Information:

Received Date: 2023/06/23, Revised Date: 2023/08/31, Accepted Date: 2023/11/18.



**P** psychological and criminological researchers have continuously sought to comprehend countless interacting biological, psychological, and social factors to clarify why some people tend to involve in criminal and antisocial behaviors (1). Numerous theories attribute the basis of these behaviors to factors such as personality (2), mental disorders (3), ineffective parenting (4), cognitive factors and skills (5). Also, numerous studies have revealed that men are more prone to criminal and anti-social behaviors compared to women (6, 7). Although these behaviors start from adolescence and reach their peaks during this period, a major part of these delinquent behaviors occur in adulthood (8).

One of the cognitive factors and skills that can decrease criminal behavior is self-control (9). This issue is significant since self-control has been proposed as one of the predictors of anti-social behaviors (10). Self-control is defined as regulating and modulating thoughts, feelings, and actions when valued long-term goals conflict with momentary (more gratifying and sometimes harmful) goals (11). People with high self-control give up immediate values to obtain more lasting pleasures and reflect on their behavior (12). Due to the fact that many anti-social behaviors such as selling and consuming drugs, stealing, and illegal sexual behaviors are associated with great pleasure, low self-control causes people to realize that they are unable to control the temptations resulting from the pleasure of performing these behaviors, and they succumb to performing or repeating anti-social behaviors (13).

Another variable that can increase criminal behavior is impulsivity (14). Impulsivity comprises a propensity to take quick but premature actions and pay inadequate attention to potential adverse consequences (15). Generalized Steinberg's dual systems model (2008) depicts that impulsivity is a significant predictor of risky behavior and is independently related to various illegal acts (16, 17). Impulsivity causes people to perform behaviors such as antisocial behaviors without intellectual support (17). The results of numerous studies also indicate the role of impulsivity in predicting criminal behaviors (16, 17).

While preceding studies related to criminal behavior have often focused on criminology-related risk factors, recent research has shifted its focus to psychological factors (18). Accordingly, Rational Emotive Behavior Therapy (REBT), recognized as one of the most effective methods in improving cognitive factors and one of the most essential and oldest cognitive-behavioral approaches (19), aims to modify and substitute irrational thoughts patterns that lead to maladaptive behaviors and unfavorable reactions (20). Based on REBT, antisocial behaviors can also be influenced by errors in habits and thoughts. The result of a study by Meterko and Cooper (2021) also indicates that cognitive bias is one of the causes of people's tendency towards criminal and anti-social behavior (5).

The conducted studies have revealed that, in general, cognitive behavioral therapies are effective interventions in improving self-control and reducing impulsivity (21-25). Though these studies were done in non-criminal communities and the methods and tools are inconsistent with the objectives of the current research, their results still demonstrate the effectiveness of cognitive and behavioral treatments in relation to self-control and impulsivity. In this regard, cognitive and personality problems are important in the emergence of anti-social behaviors and related factors. Despite its effectiveness, REBT has been underused in the criminal community and preceding studies have been less suitable for the prison community in terms of their methods, tools, research population, and educational content. The reviewing of literature revealed that no prior studies were available that addressed these goals. Thus, the present research was conducted with the aim of investigating the effectiveness of REBT regarding self-control and impulsivity among male prisoners.

## Materials and Methods

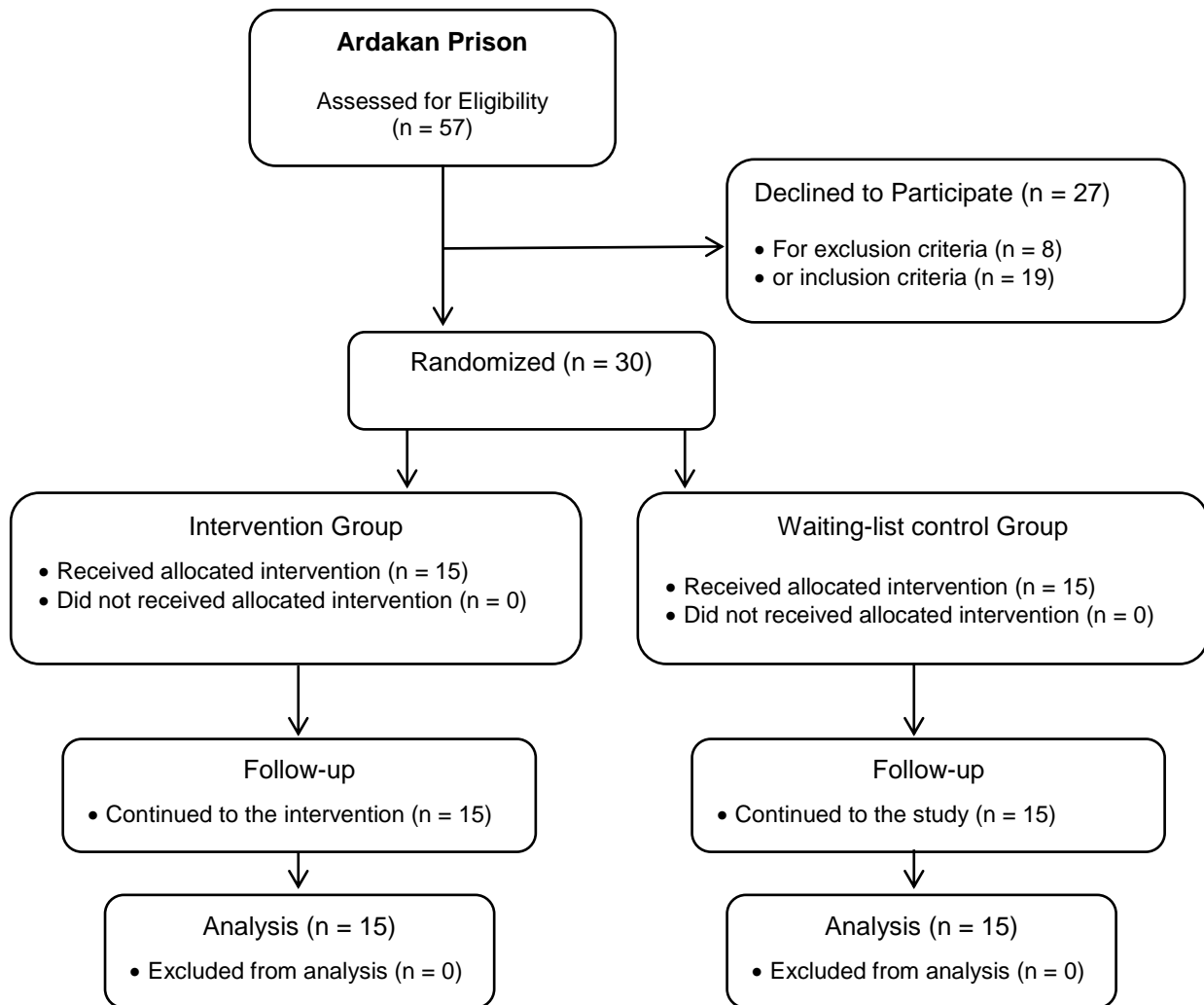
A randomized controlled clinical trial (RCT) was carried out in 2023, utilizing a design that included pretest, post-test, and follow-up assessments, along with a waiting-list control group. The study involved the participation of 30 male prisoners from the Ardakan prison in Iran. The study employed convenience sampling to select participants who were then randomly assigned to either the experimental or waiting-list groups. While the sample size of 15 participants in each group is relatively small for an RCT study, this is a common challenge in group therapy research, and increasing the sample size could potentially diminish the effectiveness of the group intervention. Nonetheless, the small sample size may limit the generalizability of the study's findings and effect size (26).

The study had inclusion criteria that required participants to have an inclination to participate in the research, to have been imprisoned for at least one year, to have a history of criminal behaviors, and to be between the ages of 25 and 50. Those who had specific mental disorders or were receiving other psychological treatments were excluded because these factors could impact criminal behaviors and related variables. In order to measure the state of mental health, the participants were assessed using the Minnesota Multiscale Personality Inventory (MMPI-2) and received a score less than  $t = 70$  (26). Interviews and psychiatric record files were used to assess the criteria, and participants were provided with information about the study's objectives before giving their consent. The process of approving the code of ethics was carried out in the Research Committee of Islamic Azad University, Isfahan branch (code of ethics: IR.IAU.KHUISF.REC.1401.355), and the trials were also conducted in the Iranian Clinical Trials Registry (IRCT code: IRCT20230218057442N1).

**Procedure**

After receiving the invitation, 57 prisoners accepted the offer to participate in the research. The volunteers participating in the research were informed that if they were placed on the waiting list, a similar course would be held for them after the intervention was completed. Among the volunteers, only 30 met the entry and exit criteria. Participants were assured of the confidentiality of their responses and were asked to provide honest responses during the group discussions. In this RCT adhered to rigorous randomization procedures in order to minimize bias and ensure the internal validity of

findings. Prior to the initiation of the trial, a randomization sequence was generated by a statistician independent from the research team, utilizing a computer-generated random number sequence. This sequence was then used to assign participants to either the intervention or control group in a randomized fashion. The random allocation of participants to the respective study arms was carried out by a research staff member who was blinded to the assignment sequence, thus ensuring that the allocation process was indeed random and free from selection bias. The intervention process is shown in Figure 1.



**Figure 1. Intervention Sample Selection Process: Flow-Chart**

Throughout the intervention period, no intervention was provided to the control group. The control group was deprived of any type of intervention during the specified period. In the pre-test phase, participants in both groups answered self-control (SCS) and functional impulsivity (DFIQ) questionnaires. In the post-test and follow-up stages (one month after the intervention), participants in

both groups completed the SCS and DFIQ questionnaires again. In the follow-up phase, none of the participants received any interventions. Finally, the research data were analyzed using the MANOVA method with repeated multivariate measurements. The experimental group received REBT (27) in twelve 90-minute sessions, with a frequency of twice per week.

The intervention was administered by the lead author, who possessed a Primary Certificate in REBT and was supervised by the second author, who had received

training in REBT through an advanced practicum. Table 1 itemizes the subjects that were addressed during the sessions.

**Table 1. REBT Training Content: Overview of Training Sessions**

Session	Aims	Content	Homework
1	General introduction to and review of REBT	Creating relationships with participants, determining group rules with the help of group members, explaining the general principles of Ellis's rational-emotional therapy, explaining the nature of crime and its consequences in the lives of participants, examining participants' experiences of crimes and their personal results, giving homework.	Reviewing past behaviors and their results in individual and family life
2	Recognition of emotions	Examination of homework, introducing emotions, investigating emotional experiences of participants and their role in criminal behavior, giving homework.	Practicing identifying emotions
3	Introducing the main concepts of REBT and presenting the A-B-C-D model	Examining homework, explaining the role of thoughts and beliefs in choosing behaviors, helping participants to be aware of the role of thoughts and beliefs in creating problems. Introducing the main concepts of REBT and presenting the A-B-C-D model, giving homework.	Identifying and writing irrational thoughts and conversations (in yourself and others)
4	Disputing irrational thoughts	Examination of homework, helping participants to be aware of the role of dysfunctional beliefs in creating individual and social problems. Creating awareness of how criminal behavior is formed, practicing challenging irrational thoughts, giving homework.	Challenging irrational thoughts and writing them down
5 & 6	Teaching the principles of ABC-DC	Examination of homework, examining participants' experiences from life events and group discussions about how irrational beliefs affect criminal behaviors, teaching the general principles of ABC-DC, investigating the role of irrational do's and don'ts in creating problems, examining the concepts of hot and cold cognition as well as healthy and unhealthy negative emotions, giving homework.	Practicing the principles of ABC-DC
7	Focus more on criminal thoughts	Examination of homework, examination of participants' experiences of criminal thoughts, examination of criminal thoughts in Ellis's rational-emotional model, giving homework.	Identifying and challenging criminal thoughts and writing them down
8	Learning how to say "no"	Examination of homework, teaching the skill of saying no, examining participants' experiences of criminal behavior in relation to the skill of saying no, examining the skill of saying no in Ellis's rational-emotional model, giving homework.	Practice saying no in small steps
9	Exposure to a feared situation	Examination of homework, teaching how to recognize and control disappointing, irrational, pessimistic, and anxious thoughts; teaching the methods of arguing with irrational beliefs using the method of role playing, giving homework.	Challenging disappointing thoughts
10	Dealing with temptation	Examination of homework, introducing the concept of self-control, discussing the role of self-control in criminal behavior, explaining that Self-control is a form of effective thinking., examining self-control in Ellis's rational-emotional model, giving homework.	Practicing self-control in situations of temptation

11	Decision making	Examination of homework, introducing the concept of impulsivity, discussing the role of impulsivity in criminal behavior, explaining that impulsivity is a form of dysfunctional thinking, examining impulsivity in Ellis's rational-emotional model, giving homework	Reviewing the results of a choice and then making a decision
12	Summarizing and concluding	Counseling for the sustainability of achievements, teaching ways to prevent behavioral and intellectual problems, repeating practical exercises individually and in-group, summarizing the contents by group members and the therapist, appreciation participants' participating in the study.	Repeating the previous exercises on a daily basis

Multivariate Repeated Measure MANCOVA (with groups and times as factors) was used to analyze the data. To estimate effect sizes, the mean change scores were divided by the standard deviation of the change scores, resulting in Cohen's d (28).

**Instruments**

**Self-Control Scale:** The short form of the Self-Control Scale (BSCS13) was employed to measure self-control among participants. The BSCS13 is a more concise version of the Self-Control Scale (SCS) developed by Tangney and colleagues in 2004 (29). Despite having fewer questions, the BSCS13 is a reliable tool and has been used in several studies. The survey comprises 5-point Likert scale questions, with 1 being "not at all like me" and 5 being "very much like me." A higher score indicates the presence of greater self-control. Tangney and colleagues validated the BSCS13 by reporting a Cronbach's alpha coefficient of 0.83 and 0.85 in two independent samples, establishing similarity to the SCS's reliability (alpha = 0.89). The questionnaire's validity and reliability were verified in Iranian demographics as well, with the study yielding Cronbach's alpha coefficients of 0.83 and 0.85 in two statistical samples, respectively (32). The current research calculated the scale's reliability using Cronbach's alpha, resulting in a value of 0.819.

**Dysfunctional Impulsivity Questionnaire (DFIQ):** In this study, the Dysfunctional Impulsivity Inventory (DFIQ) questionnaire was utilized to measure impulsivity (33). The DFIQ is a self-report questionnaire that measures impulsivity and consists of 23 items divided into two scales: functional impulsivity (11 items) and dysfunctional impulsivity (12 items). A four-point format was employed to improve measurement accuracy. Scores for each scale are obtained by summing relevant items, with higher scores indicating more pronounced functional or dysfunctional impulsivity characteristics. The questionnaire has been validated through factor analysis, with reported factor coefficients above 0.3. The reliability of the DFIQ scales was deemed acceptable for the German version of the

questionnaire, showing  $\alpha$  values of 0.78 and 0.80 for functional and dysfunctional impulsivity, respectively. Additionally, test-retest reliabilities demonstrated satisfactory results, with r values of 0.77 and 0.84 for dysfunctional and functional impulsivity, respectively. No significant differences were observed in total scores for either scale between the two timepoints (34). The current study utilized Cronbach's alpha coefficient to estimate the questionnaire's reliability, which yielded a coefficient of 0.791.

**Statistical analysis**

The data in this study underwent statistical analysis using three methods: the chi-square test, the independent group T test, and multivariate covariance analysis. The statistical software SPSS26 was employed for these analyses at a significance level of 0.05.

**Results**

**Demographics**

Analysis of the data revealed that there was no significant difference in the mean age of participants between the experimental and waiting-list control groups. The mean age in the experimental group was 35.33 years with a standard deviation of 7.92, while the waiting-list control group had a mean age of 37.40 years with a standard deviation of 8.04. T-tests conducted on this data confirmed that there was no significant difference between the two groups concerning age. It was observed that a vast majority of participants in both groups were married and had received elementary education. The frequency of criminal offenses reported in both groups was found to be less than five times, with the duration of imprisonment ranging from one to ten years. The chi-square test results revealed that there were no statistically significant differences between the two groups regarding marital situation, education, number of prior convictions, and length of conviction. These findings suggest that the groups were equivalent in terms of demographic and criminal background characteristics (Table 2).

**Table 2. Demographic Findings**

	Experimental	Control	P.value*
Marital situation			
Single	5(33.3%)	3(20.0%)	P = 0.53
Married	9(60.0%)	8(53.3%)	
Divorced	1(6.7%)	4(26.7%)	
Education			
School education	10(66.7%)	9(60.0%)	P = 0.77
Graduate education	5(33.3%)	6(40.0%)	
Number of prior convictions			
No prior convictions	0	0	P = 0.46
Less than 5	10(66.7%)	11(73.3%)	
Between 5 and 10	3(20.0%)	3(20.0%)	
Between 11 and 15	0(0.0%)	1(6.7%)	
16 and above	2(13.3%)	0(0.0%)	
Length of the conviction			
1-10 years	12(80.0%)	9(60.0%)	P = 0.39
11-20 years	2(13.3%)	2(13.3%)	
21 and above	1(6.7%)	4(26.7%)	

\* Chi-Square Test

The Shapiro-Wilk test indicated that the distribution of scores in the experimental group was normal ( $P > 0.05$ ). Additionally, Levene's test for equality of variances resulted in no significant differences between the

variances of the groups ( $P > 0.05$ ). The use of the t-test also demonstrated that there were no significant differences between the two groups with regard to their pre-test scores ( $P > 0.05$ ), as illustrated in Table 3.

**Table 3. Descriptive Statistics of Self-control and Impulsivity Scores in the Experimental and Control Groups at Intervention Stages**

Dependent variable	Group	Pre-Test		Post-Test		Follow-up	
		Mean	S.D	Mean	S.D	Mean	S.D
Self-control	Experimental	31.73	6.51	37.87	3.50	38.53	2.97
	Control	32.73	5.13	33.67	5.08	33.47	4.85
	Sig.*	P = 0.644		t = -0.467			
Impulsivity	Experimental	61.93	8.97	56.00	8.37	57.47	5.23
	Control	60.27	10.98	60.47	7.89	58.33	8.71
	Sig.*	P = 0.653		t = 0.455			

\* T-Test

The repeated measures analysis of variance revealed significant effects of group, time, and the interaction between time and group on variables related to self-control and impulsivity ( $P < 0.05$ ). These results provide support for the efficacy of the REBT intervention (Table 4).

The Bonfferoni Post-Hoc test revealed that there was a statistically significant increase in mean self-control

scores ( $P < 0.05$ ) and a decrease in mean impulsivity scores ( $P < 0.05$ ) following the REBT intervention. Additionally, the durability of the improvement for participants in the experimental group was found to be statistically significant for both dependent variables ( $P < 0.05$ ), as shown in Table 5.

**Table 4. The Results of Repeated Measures Analysis of Variance Test on Self-control and Impulsivity**

Source	Dependent Variable	Measure	SS	Df	MS	F	Sig.	Effect Size
Group	Self-control	Tests of Between-Subjects Effects	170.844	1	170.844	7.192	0.015	0.22
	Impulsivity		33.611	1	33.611	5.185	0.039	0.17
Time	Self-control	Sphericity Assumed	267.26	2	133.63	16.56	0.000	0.37
		Huynh-Feldt	267.26	1.13	236.15	16.56	0.000	0.37
	Impulsivity	Sphericity Assumed	185.68	2	92.84	4.98	0.010	0.15
		Huynh-Feldt	185.68	1.30	142.25	4.98	0.023	0.15
Time * Group	Self-control	Sphericity Assumed	161.48	2	80.74	10.00	0.000	0.26
		Huynh-Feldt	161.48	1.13	142.68	10.00	0.003	0.26
	Impulsivity	Sphericity Assumed	142.48	2	71.24	3.82	0.028	0.12
		Huynh-Feldt	142.48	1.30	109.16	3.82	0.048	0.12
Error	Self-control	Sphericity Assumed	451.91	56	8.07			
		Huynh-Feldt	451.91	31.68	14.26			
	Impulsivity	Sphericity Assumed	1043.15	56	18.62			
		Huynh-Feldt	1043.15	36.54	28.54			

**Table 5. Bonferroni Post-Hoc Analysis for Comparing Groups in Pre-test, Post-test, and Follow-Up on Self-Control and Impulsivity Variables.**

Measure	Group	(I) Time	(J) Time	Mean Difference (I-J)	S.E	Sig. <sup>b</sup>
Self-Control	Experimental	Pre-test	Post-test	-6.13*	1.25	0.000
			Follow-up	-6.80*	1.25	0.000
		Post-test	Follow-up	-0.66	0.29	0.090
	Control	Pre-test	Post-test	-0.93	1.25	1.000
			Follow-up	-0.73	1.25	1.000
		Post-test	Follow-up	0.20	0.29	1.000
Impulsivity	Experimental	Pre-test	Post-test	5.93*	2.10	0.026
			Follow-up	4.46*	1.17	0.002

	Post-test	Follow-up	-1.46	1.27	0.778
Control	Pre-test	Post-test	-0.20	2.10	1.000
		Follow-up	0.19	1.17	1.000
	Post-test	Follow-up	2.13	1.27	0.315

\*The Bonfferoni Post-Hoc test was significant, P < 0.05

### Discussion

The present study aimed to investigate the efficacy of Rational Emotive Behavior Therapy (REBT) regarding self-control and impulsivity among male prisoners. The results indicated that REBT was effective in improving self-control and reducing impulsivity in male prisoners. Furthermore, the sustained improvement in the experimental group's self-control and impulsivity was found to be statistically significant. These findings suggest that REBT could be a promising intervention for enhancing self-control and reducing impulsivity among male prisoners.

The first result of the research indicated a significant increase in the average of self-control scores among the participants in the experimental group after receiving REBT in comparison to the scores of the control group. Furthermore, statistically significant differences in persistence levels were observed during the follow-up period. These results are consistent with previous research in the field, further supporting the effectiveness of REBT in enhancing self-control and promoting long-term change (35-37). For example, Zeidi *et al.* (36) indicated that group cognitive-behavioral therapy is effective in increasing students' self-control. In another study, Ngamthipwatthana *et al.* showed that group cognitive behavioral game therapy is effective in enhancing self-control (38). These previous studies support the notion that group cognitive-behavioral treatments can be effective interventions for enhancing self-control. The current study contributes to the existing literature by specifically examining the effects of REBT on self-control and demonstrating its significant impact on elevating self-control scores in the experimental group compared to the control group. Overall, the consistent findings across these studies suggest that cognitive-behavioral interventions are promising approaches for enhancing self-control. In the illumination of this part of the research findings, it can be mentioned that self-control involves an effective inhibition of those thoughts that lead a person to behaviors associated with instant pleasure but are ultimately ineffective. The prisoners disclosed that when faced with a situation where a conflict arises in their minds between an instant and long-term pleasure, they cannot make the necessary choice and choose a better

option, because they do not know which option is effective for them. Conversely, they do not know if waiting is in their best interest or not? Thus, in similar situations, they usually have a preference to benefit from an immediate reward. Based on REBT, the failure to identify irrational and rational beliefs can be the cause of these difficulties. In the REBT sessions, the prisoners were first introduced to the nature and difference between rational and irrational beliefs. Prisoners learned that though each human has preferences, this does not mean that these preferences must be acted upon immediately or necessarily. In the ABC model, the prisoners were able to imagine themselves in preceding situations and experiences and review irrational and rational beliefs and see how acting on an irrational belief can deprive them of real and lasting pleasures, such as freedom, being with their families, and attaining social status. Consequently, REBT was related to increased self-control.

The results of examining the second research hypothesis revealed that after the REBT intervention, the impulsivity of participants in the experimental group decreased significantly compared to the control group. Moreover, and the difference among the two groups in terms of persistence during the follow-up period was statistically significant. The results in this part are consistent with those obtained from preceding research (21-25). Comparing these findings with previous studies, it is evident that various interventions have been explored to address impulsivity in different populations. Javadi *et al.* (21) investigated the effectiveness of Family Mode Deactivation Treatment, Cognitive-Behavior Therapy, and Acceptance-Commitment Therapy on emotional impulsivity of adolescent females with behavioral problems. Nateghi & Sohrabi (22) conducted a systematic review and meta-analysis on cognitive boosting interventions for impulsivity in addiction. Anderson & Youssef (23) explored the impact of cognitive-behavioral therapy on suicidal thoughts and impulsivity in adolescents with addiction. These previous studies provide a broader understanding of interventions targeted at impulsivity across different populations. While this study focused on male prisoners, the outcomes align with the effectiveness of cognitive-behavioral interventions observed in previous research.



The current study contributes to the literature by specifically evaluating the impact of REBT on impulsivity in a unique population (male prisoners). To explain this part of the findings of the research, it can be mentioned that numerous theorists (27) state that irrational beliefs are a type of hot cognition with a high emotional load that can lead to high-risk outcomes such as criminal behaviors (39). In fact, due to having a superficial view of the situations in which they are involved and failing to pay attention to consequences of their decisions, people who have hot cognition choose behaviors that are not sufficiently effective. On the other hand, cold cognition refers to how a person without much involvement in emotions can make superior evaluations of their life events and make choices considering consequences of behavior. Many inmates acknowledged that high emotional arousal in situations that make them prone to criminal behavior cause them not to do extensive cognitive processing of information, and by disregarding the result of their behavior and simply being overwhelmed by their strong emotions, they only focus on how to perform criminal behaviors. They simply fail to perform an efficient behavior that solves their problem. Therefore, the prisoners were instructed to choose more rational and less impulsive behaviors by recognizing their emotions and expanding their cognitive processing through challenging their dysfunctional thoughts in emotionally charged situations. Prisoners learned to refrain from making any decisions at the time of both positive and negative emotional states that may lead them to ineffective behaviors. Instead, they were encouraged to examine the situation and then consider the potential results of implementing the thoughts that are going through their minds. This exercise was a significant factor in recognizing emotions and thoughts that could lead to criminal behavior if not fully cognitively processed. In the following step, the prisoners repeated the practice of substituting efficient thoughts. What eventually led to a decline in impulsivity was the ability of prisoners to recognize emotions and thoughts, challenge them, and replace them with logical thoughts (cold cognition). This enabled them to think about the consequences before making any decision and then choose a behavior that will have a more effective outcome.

### Limitation

The findings of this study should be interpreted while taking into consideration its limitations. The generalizability of the results may be compromised due to a small sample size and intervention effect size. The inability to control confounding variables, the focus of the research being restricted to male prisoners, and the use of only one questionnaire as a research evaluation tool are some other limitations of this study. Thus, caution should be exercised while generalizing the results. As per the literature review, it was hypothesized that a change in self-control and impulsivity may lead to

changes in criminal behaviors, thereby preventing prisoners from re-entering incarceration. However, due to differences in the duration of imprisonment for participants and inability to track their future after release, the researchers were unable to investigate the impact of the intervention on the participants' rate of recidivism. Although the duration of imprisonment, level of education, and age of participants were controlled in this study, future research may benefit from comparing the effectiveness of REBT based on these demographic variables.

### Conclusion

This article aimed to examine the effect of REBT on self-control and impulsivity among male prisoners, which led to a better understanding of the influence of irrational beliefs and the effect of REBT on the tendency to criminal behavior in prisoners. Given REBT's emphasis on irrational beliefs, this paper evaluated the evidence linking irrational and rational beliefs to criminal behavior and related variables. As part of this examination, criminal behavior was considered a response based on irrational beliefs. REBT was posited as an important approach for use in prisons. The present article, by understanding the links between irrational and rational beliefs and criminal behavior, presents several research questions that should be addressed by researchers. Furthermore, it is recommended that REBT be promoted in crime prevention centers and post-release support centers. Psychologists and counselors, especially school counselors, can use REBT for crime prevention. Generally, we hope that this article will stimulate the interest of psychologists, researchers, students, and psychiatrists so that the value of REBT is more widely accepted and validated for crime reduction.

### Acknowledgment

We would like to express our gratitude to all the individuals who supported us in this study as well as the participants who took part in this research.

### Conflict of Interest

None.

### References

1. Moreira PA, Lopes JC, Inman RA, Cunha O. The personality of male prisoners: Moving towards an integrated temperament-and-character-based theory of criminal and antisocial behavior. *J Crim Justice*. 2022;79:101897.
2. Mansoor M, Butt SR, Satnarine T, Ratna P, Sarker A, Ramesh AS, et al. The Association between Borderline Personality Disorder and Criminal Activity and Self-harm, Including

- Suicidal Behavior: A Systematic Review. *J Med Health Sci.* 2022;3(4):08-19.
3. Ruwan IIF, Fadare GO, Garba MY, Jose C, Ogechukwu OP. Assessment of Mental Disorder as a Predictor of Criminal Behaviours in Nigeria. *KIU j humanit.* 2021;6(2):143-52.
  4. Sana F, Rafiq M, Iqbal MN. Criminal thinking styles and criminal social identity among juvenile delinquents: moderating role of parenting styles. *PJNS.* 2021;16(2):4-11.
  5. Meterko V, Cooper G. Cognitive biases in criminal case evaluation: a review of the research. *J Police Crim Psychol.* 2022;37(1):101-22.
  6. Gottschalk P. Gender and crime: Convenience for pink-collar offenders. *Deviant Behav.* 2022;43(2):213-27.
  7. Benson ML, Harbinson E. Gender and criminal thinking among individuals convicted of white-collar crimes. *Crim Justice Stud.* 2020;33(1):46-60.
  8. Carlsson C, Sivertsson F. Age, gender, and crime in a Stockholm birth cohort to age 64. *J DEV LIFE-COURSE CR.* 2021;7(3):359-84.
  9. Walters GD. Early childhood temperament, maternal monitoring, reactive criminal thinking, and the origin (s) of low self-control. *J Crim Justice.* 2015;43(5):369-76.
  10. Intravia J. Crime, Substance Use, and Offensive Content: Exploring the Link Between Low Self-Control and Social Media Posting Behaviors among Young Adults. *Deviant Behav.* 2023;44(7):975-88.
  11. Duckworth AL, Taxer JL, Eskreis-Winkler L, Galla BM, Gross JJ. Self-control and academic achievement. *Annu Rev Psychol.* 2019;70:373-99.
  12. Stults BJ, Hernandez JL, Hay C. Low self-control, peer delinquency, and crime: Considering gendered pathways. *J Res Crime Delinq.* 2021;58(6):666-709.
  13. Xie M, Su C. Childhood abuse and juvenile offenders' aggressive behavior: Self-esteem and self-control as mediators. *SBP.* 2022;50(7):1-8.
  14. Hornsveld RH, Kraaimaat FW, Gijs LA, Palmer EJ. Cognitive-Behavioral Treatment (CBT) Programs for Violent Offenders and Sexually Violent Offenders: What Substantive Conditions Must Be Met? Assessment and obligatory treatment of violent and sexually violent offenders: Integrating research and practice. 2019:103-22.
  15. Dalley JW, Robbins TW. Fractionating impulsivity: neuropsychiatric implications. *Nat Rev Neurosci.* 2017;18(3):158-71.
  16. Armstrong TA, Boisvert D, Wells J, Lewis R. Extending Steinberg's adolescent model of risk taking to the explanation of crime and delinquency: Are impulsivity and sensation seeking enough? *PERS INDIV DIFFER.* 2020;165:110133.
  17. Kulacao F. The relationship between crime and impulsivity in psychiatric patients. *KLIN PSIKOFARMAKOL B.* 2019;29:413-4.
  18. Woldgabreal Y, Day A, Ward T. The community-based supervision of offenders from a positive psychology perspective. *Aggress Violent Behav.* 2014;19(1):32-41.
  19. Liu L, Chui WH, Hu Y. In the name of love: A narrative analysis of a Chinese single mother's rational and emotional pathways into and out of crime. *Asian J Soc Sci.* 2022;50(4):276-83.
  20. Neamtu GM, David OA. Coaching emotional abilities in fostered adolescents through Rational Emotive and Cognitive-Behavioral education: efficacy and mechanisms of change of using therapeutic stories. *J Evid-Based Psychother.* 2016;16(1):33.
  21. Javadi S, Golparvar M, Izadi R. The Effectiveness of Family Mode Deactivation Treatment, Cognitive-Behavior Therapy and Acceptance-Commitment Therapy on the Emotional Impulsivity of Adolescent Female with Behavioral Problems through Mothers' Education. *JSUMS.* 2021;28(5):800-13.
  22. Nateghi M, Sohrabi F. The effectiveness of cognitive-behavioral therapy in suicidal thoughts and impulsivity among adolescents with addiction. *Addict res.* 2017;11(42):213-28.
  23. Anderson AC, Youssef GJ, Robinson AH, Lubman DI, Verdejo-Garcia A. Cognitive boosting interventions for impulsivity in addiction: a systematic review and meta-analysis of cognitive training, remediation and pharmacological enhancement. *Addiction.* 2021;116(12):3304-19.
  24. Zamani N, Tavallaei M, Kahdoui S. Cognitive-behavioral play therapy in children with reactive attachment disorder: help reduce anxiety, impulsivity, bullying and antisocial behaviors. *J Adv Pharm Educ Res.* 2020;10(S4).
  25. Delgado-Rico E, Río-Valle JS, Albein-Urios N, Caracuel A, González-Jiménez E, Piqueras MJ, et al. Effects of a multicomponent behavioral intervention on impulsivity and cognitive deficits in adolescents with excess weight. *Behav Pharmacol.* 2012;23(5-6):609-15.
  26. Burlingame GM, McClendon DT, Alonso J. Cohesion in group therapy. *Psychotherapy (Chic).* 2011;48(1):34-42.
  27. Ellis J, Jaffe R. Sum rule for deep-inelastic electroproduction from polarized protons. *Phys Rev D.* 1974;9(5):1444.
  28. Feingold A. Effect sizes for growth-modeling analysis for controlled clinical trials in the same metric as for classical analysis. *Psychol Methods.* 2009;14(1):43-53.
  29. Tangney JP, Baumeister RF, Boone AL. High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *J Pers.* 2004;72(2):271-324.
  30. Morean ME, DeMartini KS, Leeman RF, Pearson GD, Anticevic A, Krishnan-Sarin S, et al. Psychometrically improved, abbreviated versions of three classic measures of impulsivity and self-control. *Psychol Assess.* 2014;26(3):1003-20.
  31. Cronbach LJ. Coefficient alpha and the internal structure of tests. *psychometrika.* 1951;16(3):297-334.

32. Mousavi SF, Rahiminezhad A. The comparison of interpersonal identity statuses in married people with regards to emotional divorce. *Appl Psychol Res J*. 2015;6(1):11-23.
33. Dickman SJ, Meyer DE. Impulsivity and speed-accuracy tradeoffs in information processing. *J Pers Soc Psychol*. 1988;54(2):274-90.
34. Hüpen P, Henn AT, Habel U. Adaptation and validation of a German version of the Dickman impulsivity inventory for the assessment of functional and dysfunctional impulsivity. *Sci Rep*. 2021;11(1):23310.
35. Khoroshi M. The Effectiveness of Communication Skills Based on Cognitive Behavioral Approach on Self-Control Practices in High School Girl Adolescents. *IJES*. 2018;4(1):150-7.
36. Zeidi IM, Divsalar S, Morshedi H, Alizadeh H. The effectiveness of group cognitive-behavioral therapy on general self-efficacy, self-control, and internet addiction prevalence among medical university students. *SHB*. 2020;3(3):93.
37. Li Y, binti Ahmad NA, binti Omar Z, Roslan SB. Group cognitive behavioral therapy for aggression, self-control, and social support among first grade university students of China.
38. Ngamthipwatthana T, Kiattisirichai Y, Hosiri T, Manussirivithaya V. The Effect of Group Cognitive Behavioral Play Therapy Program on Self-Control among Late Childhood in Foster Care. *SMJ* 2018;70(6):507-13.
39. Abelson RP, Rosenberg MJ. *Symbolic psychology: A model of attitudinal cognition*. Attitude change: Routledge; 2017. p. 86-115.