

Research Paper:

Comparing Personality Disorders and Criminal Thinking Styles in Male and Female Prisoners Convicted of Violent Crimes



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ABSTRACT

Introduction: Crime has a history as long as humanity; issues related to offenders and prisoners, in particular, its relation to psychiatric issues and problems, are among the most challenging and active areas of research.

Objectives: This study aimed at comparing personality disorders and criminal thinking styles in male and female prisoners sentenced to violent crimes.

Materials and Methods: This was a causal-comparative research. We investigated a sample of 996 prisoners convicted of violent crimes in Alborz Province, Iran, in 2017. The required data were collected using a demographic data questionnaire, Texas Christine Criminal Thinking Style Questionnaire, and Millon Personality Disorder Questionnaire. The obtained data were analyzed using Independent Samples t-test and Multivariate Analysis of Variance (MANCOVA) in SPSS.

Results: The collected results revealed that the prevalence of all mental disorders was averagely higher than the cutoff point in prisoners ($P < 0.0001$). The MANCOVA results indicated a significant difference in criminal thinking style between male and female prisoners convicted of violent crimes ($P < 0.01$, $F_{1,200} = 7.324$, $E_2 = 0.180$).

Conclusion: The prevalence of psychiatric disorders among male and female prisoners the violent crime was higher than the average rate of society. Additionally, criminal thinking styles among male and female prisoners committed to violent crimes were above the average rate of society.

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1. Introduction

Crime has a history as long as humanity; issues related to offenders and prisoners, in particular, its relation to psychiatric issues and problems, are among the most challenging and active research areas [1]. Violent crimes are the most severe crimes that most people fear, such as killing or murder, rape, robbery, and child abuse [2]. Violent offenses are mainly “the intentional use of force, physical force, threats, the tendency to harm self or others, or to a group or society (that may be harmless or associated with injury), death, mental injury and growth disorder, or various deprivations” [3].

Criminal offenses are different types of violent crimes. Murder or homicide, kidnapping, and taking hostage, rape, and armed robbery are among them. Seriousness and the intensity of violent crimes are different among various groups in the community. Extensive research has been conducted to identify individuals at risk for committing violent crimes [4]. If personality traits are inflexible and lead to subjective or functional disorders, the diagnosis of personality disorder is raised. In the first group, i.e. schizoid, paranoid, and schizotypal personality disorders often appear to be abnormal, whereas in the second group, i.e. histrionic, narcissistic, antisocial, and borderline personality disorders, suffering people are often emotional, impulsive, and unstable. In the third group, i.e. avoidant, dependent, obsessive-compulsive, passive-aggressive personality disorders, individuals often appear anxious and fearful [5].

In studying the causes of the development of personality disorders, different authors have cited various associated factors. Hodgins [6] mentioned hereditary factors in the emergence of aggression and antisocial behavior; these hereditary factors indicate a high susceptibility to insults and limit environmental capacities. For example, stress-related coping skills or verbal intelligence are associated with aggression and antisocial behaviors.

Eysenck believes that the combination of environmental conditions, and neurological and personality characteristics cause different types of crime [7]. This hypothesis implies that some characters are more prone to crime than others. Unlike most contemporary theories, Eysenck’s theory places great emphasis on the genetic potential for criminal behavior and, ultimately, antisocial behavior. Eysenck believed that some people were born with a specific nervous system that differs from the majority of the population, rather than inheriting crime. According to Eysenck’s theory, personality is a major fac-

tor in criminal behavior; it plays a decisive role in the emergence of crime, and studying it is the only systematic way of explaining criminal behavior [8].

Mental illness is a common feature in the criminal population of the prison. Reviewing the historical process of the formation of prisons and their relationship with mental disorders supports this idea. People with a mental health condition were once held in prisons. Their exit from prison due to the developments in society and modified viewpoint towards them, in addition to the positive points, led to the adverse event that numerous psychiatric problems were represented as a crime in their community [9].

In response to this unforeseen complication, the correction and education units gradually took responsibility for improving mental health. However, the forces had inadequate knowledge and expertise to understand the patient population. Such unawareness posed a question for the legislating power, which is more effective; providing intervention to individuals with a mental health condition or imprisoning them. The inability to scientifically answer this question made it easier for the decision-makers to send criminals to prison [10]. Imprisoning offenders are associated with serious harm, and in many cases, they receive inadequate medical care appropriate to their crimes. This lack of effective intervention most probably results from inadequate knowledge of mental disorders and underlying cognitive factors impacting a particular crime [11].

This dramatic outbreak also supports the relationship between psychological domains and the criminal justice system. It is necessary to investigate the psychological dimensions and their relation to specific crimes based on this prevalence rate. A key psychological aspect that must be considered about offenders is personality disorders. The prevalence of these disorders is very high among the offender population. A personality disorder represents “a consistent pattern of internalized experience and behavior that significantly deviates from the expectations of one’s community culture” [12].

These patterns are relatively stable under different conditions and appear to be appropriate by the individual even if they hurt their daily lives. A criminal lifestyle is reinforced by a system of deeper criminal beliefs, i.e. associated with certain perceptions and justify criminal behavior [13]. Research on the system of criminal beliefs and criminal thinking has focused on perceptions or styles of thinking that criminals use to justify their criminal behavior [14]. The pattern of mental illness ex-

amination of the prison population (according to criminal thinking styles) is embedded in the general theory of lifestyle. To study the relationship between psychological factors and criminal constructs, the underlying perspective is of great importance. Lifestyle theory provides an operational framework for this research. Lifestyle theory is rooted in the criminal lifestyle model. Walters [15] argues that the criminal lifestyle derives from three sources of influence, namely “conditions,” “choice,” and “cognition” (known as the three C’s). For him, “conditions” include natural traits (e.g. inheritance), education (e.g. social interactions with family), or the interaction of these (a combination of nature and education) that determine future behavior and make choices for one’s life. Conditions do not necessarily lead to criminal behavior, but they can provide the individual with options to do so. It depends on one’s decisions to whether to engage in criminal behavior or not. The person then adjusts his/her thinking style to determine their choice. This is the third C or “cognition” [15].

These three Cs evolve through a complex system of interactive effects. In lifestyle theory, 8 irrational beliefs are instrumental in justifying criminal behavior. Initially, these 8 beliefs were thought to be the only styles of criminal thinking [16]. However, further analysis suggested that thinking styles have three distinct levels. The first level includes the same 8 beliefs of relief, shortcut, labeling, power orientation, emotionality, over-optimism, cognitive comfort, and discontinuity. The second level comprises two active and reactive primary subunits. If the style of criminal thinking can be related to a specific personality disorder, including Antisocial Personality Disorder (APD), its diagnosis could be an important early step in treatment. However, despite this benefit, according to Walters [15], not much attention has been paid to this variable. Michel et al. argued that research in the area of criminal thinking styles is modest. Therefore, the present study aimed to determine whether personality disorders predict criminal thinking styles in male and female prisoners convicted of violent crimes in Alborz Province, Iran [17].

2. Materials and Methods

This was a causal-comparative research. The study population comprised all male and female prisoners in 4 prisons of Alborz Province, Iran, covering approximately 17000 defendants. In the present study, 25-60-year-olds who were sentenced to 7 groups of (violent) criminal offenses (1- deliberate killers, 2- muggers, 3- kidnappers and gangsters, 4- armed robbers, 5- rapists (sexual assault), 6- bag-snatchers, and 7- burglars) that received

their final verdict by a judge were selected. The required sample size, according to Krejcie and Morgan’s (1977) table, was equal to 384 individuals. However, considering the nature of the research and the multiplicity of crimes and considering the phenomenon of dropouts, 1071 persons were selected. According to the correcting and deformed indices, 71 tests were useless and excluded from the analysis. Thus, the sample size was considered as 996. We applied a convenience sampling method, and participation in the research was voluntary. Accordingly, among the 4 prisons (Ghezelhesar, Rajaei Shahr, Karaj Central Sanctuary, Fardis) with an estimated 17000 male and female inmates in Alborz Province, the names of offenders convicted of crimes of murder, mugging, kidnapping and hostage-taking, armed robbery, rape (sexual assault), bag snatching, armed trafficking were selected and classified by crime. Subsequently, the required prisoners were selected. The study inclusion criteria were the age of 35 to 60 years, expecting ≤ 6 months of imprisonment, having at least a primary school diploma, and verdicts issued by the judicial authorities. The study exclusion criteria were the age of 35-60 years, imprisonment for ≥ 6 months, and being illiterate. The required data were obtained, applying the following tools.

The Millon Clinical Multiaxial Inventory MCMI-III (MCMI-III) is among the most widely used psychological tests. It has been translated into several languages and used in numerous cross-cultural studies. This test has been validated twice and has been used several times. To refine the test from item selection to scale construction and to external validation using Millon’s theory as a criterion, three stages were followed; MMCI-III was designed to assess personality traits and psychological trauma. Thus, it can be used for clinical decision-making or the diagnosis of a specific disorder or psycho-cognitive characteristic. Various studies indicated a relatively desirable validity of MCM- III; for personality disorder scales, strong correlations, ranging from 0.58 to 0.93 with a mean value of 0.78, were obtained.

Regarding the clinical syndrome scales, functional correlations ranging from 0.44 to 0.95 with a mean score of 0.80 were achieved [18]. Evidence from Iranian studies also indicated the reliability and validity of this test [19]. MCM-III is a revised form of the MCM-II that was introduced in 1994 at the meeting of the American Psychological Association. In the new version, the test’s length, the scoring scale, and the subscales varied. In the third version, unlike version II (which had a three-point response scale), a two-point scale was used. On this scale, items that represent a core feature of a disorder gained 2 scores, and those reflecting a secondary feature of a disorder gained one score.

Criminal Thinking Styles Questionnaire: One of the most important instruments for measuring criminal thinking is the long-form of the Psychological Inventory of Criminal Thinking Styles (PICTS); its short form (CTS) comprises 37 questions. Researchers of Texas Christian University [20], based on a joint research project with the Federal Bureau of Prisons, designed the Criminal Thinking Scale with 37 questions. This scale's reliability was medium, and it got medium reliability for its scales ranging from 0.60 to 0.82 using Cronbach's alpha coefficient [21].

This test measures 6 dimensions of cognitive hazards with antisocial attitudes associated with criminal behavior. These 6 scales include entitlement (claiming special right and the misrepresentation of requests as a need), justification (tendency to mitigate the deterioration of antisocial behavior and justifying these practices by resorting to external factors or covert causes), the orientation of power (applying aggression to control others and situations), cruelty (the lack of emotional involvement in dealing with others), the motive for committing a crime (negative attitude towards law and officials), and personal irresponsibility (blaming others for his/her problems).

The scale is scored on a 5-point Likert-type scale (totally disagree=1; totally agree=5). Items 1, 7, 13, 18, 19, 28 are scored in reverse order. It takes 15 minutes to respond to this questionnaire. Knight et al. examined the psychometric properties of a CTS questionnaire on a sample (N=250) of probationers. The primary purpose of Knight et al.'s study was to evaluate the predictive validity of the CTS. The results of the validity of the scales through internal consistency estimation were as follows: desirability (0.80), justification (0.72), power orientation (0.75), cruelty (0.66), the rationale for committing a crime (0.64), and personal irresponsibility (0.63). Taxman et al., using the Confirmatory Factor Analysis (CFA), investigated the 6-factor structure as well as a 2-factor probability structure and a single-factor model on a sample of prisoners released on bail. Confirmatory factor analysis results for the 6 factors revealed that based on three general fit indices, including Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), and Tucker-Lewis Index (TLI), the data demonstrated appropriate fit [22].

The obtained data were analyzed in SPSS using descriptive analysis, including calculation of central tendency indices, dispersion, and the characteristics of distribution chart diagrams. The comparison data of personality disorder variables and criminal thinking styles were analyzed by Independent Samples t-test and Multivariate Analysis of Variance (MANOVA).

3. Results

Table 1 presents that the prevalence rate of all disorders in prisoners was higher than the cutoff point (standard average), on average. The first hypothesis assumed that the rate of mental disorder among male prisoners committing a violent crime is above the average rate of society. The findings supported this hypothesis; the mean score of mental disorders among male prisoners committing a violent crime was higher than the average rate of the society.

Table 2 suggests that the observed mean scores of disorders in the studied females was more than the standard value. Considering the significance of T-index for all psychiatric disorders, it can be concluded that the prevalence of psychiatric disorders among female prisoners of violent crime was higher than the average rate of society.

According to **Table 3**, the mean score of each criminal thinking style among the male prisoners convicted with violent crimes was above the average rate of society. Findings supported this hypothesis and indicated that the mean scores of these styles in the sample group were higher than the average rate of society.

According to **Table 4**, criminal thinking styles among female prisoners committed to violent crime are above the average rate of society. The findings generally support this hypothesis. According to the statistical tests, the mean score of thinking styles in the prison population was higher than the average rate of society.

Table 5 illustrates a significant difference in criminal thinking styles between male and female prisoners convicted of violent crimes (parity etiquette= $P < 0.01$, $F_{1,200} = 7.324$, $E_2 = 0.180$). This result suggests that female and male prisoners have at least one different mean value of criminal thinking style.

4. Discussion

Two approaches were used to investigate the prevalence of personality disorders among prisoners. In the first method, the mean raw score of each disorder was compared with the raw score equal to the critical Break Rate (BR) (75) indicating the disorder. The BR cutoff line cited for the disorder's aspect based on Marnett's view was equal to 75.

The mean criterion is, the critical point of disorder diagnosis. To compare the prisoners' status, the observed mean values were compared with the criterion average. The mean score for each disorder varied with the

Table 1. One-Sample t-test results comparing the mean values of mental disorders in male prisoners with standard mean values

Mental Disorders	Mean±SD	t	Sig.
Schizoid personality disorder	17.15±4.19	8.18	0.000
Avoidant personality disorder	16.67±5.21	15.27	0.000
Depressed personality disorder	19.42±4.61	41.51	0.000
Dependent personality disorder	18.93±6.11	4.29	0.000
Histrionic personality disorder	18.93±6.11	14.29	0.000
Narcissistic personality disorder	28.93±8.14	29.04	0.000
Antisocial personality disorder	21.77±4.51	31.52	0.000
Sadism	23.83±5.88	29.55	0.000
Obsession	21.46±5.36	13.68	0.000
Negativism	21.12±5.69	21.58	0.000
Self-harm	17.07±4.14	21.10	0.000
Schizotypal personality disorder	19.17±4.20	115.40	0.000
Borderline personality disorder	21.93±6.70	21.89	0.000
Paranoid personality disorder	20.13±5.42	11.71	0.000
Anxiety disorder	16.40±5.36	18.91	0.000
Somatoform disorder	14.25±5.21	12.87	0.000
Mania disorder	14.13±4.52	14.05	0.000
Dysthymia	15.62±3.98	19.62	0.000
Alcoholism	18.38±3.03	43.09	0.000
Substance dependence	17.30±4.45	28.80	0.000
Post-traumatic stress disorder	16.29±3.90	17.50	0.000
Thought disorder	19.11±3.43	35.72	0.000
Major depressive disorder	19.56±5.57	8.34	0.000
Delusional disorder	14.03±5.52	11.00	0.000

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number of questions and the prevalence rate in each disorder. The results also suggested that all disorders in prisoners were above the cutoff point (mean score). Male inmates were divided into two groups of patients and healthy according to the cutoff point. The relevant results suggested that out of 889 male inmates, 154 (about 17.4%) presented schizoid personality disorder traits, and 735 (about 82.6%) had no traits.

These findings are consistent with those of Wolff et al. [23] and Gross and Morgan [24] studies that reported the prevalence of personality disorders was higher than the average rate among prisoners; Walters [25] and Lang et al., [26] argued that the prevalence of personality disorder in male prisoners causes violence.

One-sample t-test results indicated that the observed mean scores of disorders in females was more than the standard value. Considering the significance of T-index for all psychiatric disorders, the prevalence of psychiatric disorders among female prisoners convicted of violent

crimes was higher than the average rate of society. These findings were consistent with those of Wilson et al. [27].

A One-Sample t-test was used to compare the criminal thinking styles in the studied inmates with the community average values. This test compares the observed average scores with the criterion average. Since the population mean scores were not available in advance, the observed averages were compared with the mean response density. In this approach, the expected score of each subscale was calculated by considering the average answers to each question. The Independent Samples t-test revealed that the deserving thinking style among male prisoners convicted of violent crimes was higher than the average rate of society. These findings were consistent with those of Bulten et al., [28] and Folk et al., [29]. To test this hypothesis, first, the mean score of violent crimes in each criminal thinking style was compared with the mean score of society. Then, to determine the prevalence rate, the distribution of each style among females was plotted. The typical thinking

Table 2. One-Sample t-test results comparing mean mental disorder scores of female prisoners with standard mean values

Mental Disorder Scores	SM	OM	SD	t	Sig
Schizoid personality disorder	16	17.76	4.19	4.32	0.000
Avoidant personality disorder	14	17.11	5.21	6.14	0.000
Depressed personality disorder	13	20.25	4.61	16.18	0.000
Dependent personality disorder	16	19.49	6.11	5.88	0.000
Histrionic personality disorder	15	19.33	5.79	7.69	0.000
Narcissistic personality disorder	21	25.72	8.14	5.96	0.000
Antisocial personality disorder	17	20.68	4.51	8.40	0.000
Sadistic personality disorder	18	22.55	5.88	7.96	0.000
Obsession	19	22.46	5.36	6.64	0.000
Negativism	17	20.33	5.69	6.02	0.000
Self-harm	14	18.13	4.14	10.26	0.000
Schizotypal personality disorder	17	19.08	4.20	5.09	0.000
Borderline personality disorder	17	22.14	6.70	7.89	0.000
Paranoid personality disorder	18	20.04	5.42	3.87	0.000
Anxiety disorder	13	17.30	5.36	8.25	0.000
Somatoform disorder	12	15.31	5.21	6.53	0.000
Mania disorder	12	13.79	4.52	14.07	0.000
Dysthymia	13	15.90	3.98	7.50	0.000
Alcoholism	14	18.11	3.03	13.95	0.000
Substance dependence	13	16.94	4.45	9.11	0.000
Post-traumatic stress disorder	14	17.29	3.90	8.68	0.000
Thought disorder	15	18.52	3.43	10.56	0.000
Major depressive disorder	18	19.89	5.57	3.49	0.000
Delusional disorder	12	14.32	5.50	4.34	0.000

AJNPP**Table 3.** One-Sample t-test results comparing the mean scores of criminal thinking in male prisoners with standard mean values

Mean Scores	SM	OM	SD	t	Sig.
Entitlement	18	22.17	4.15	29.96	0.000
Justification	18	22.30	3.16	40.58	0.000
Power orientation	21	31.56	5.11	61.62	0.000
Cold-heartedness	15	20.01	3.91	38.21	0.000
Rationalization	18	23.51	4.11	39.98	0.000
Personal irresponsibility	18	23.48	3.14	52.04	0.000

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Table 4. One-sample t-test results comparing the mean scores of criminal thinking in female prisoners with standard mean scores

Mean Scores	SM	OM	SD	t	Sig
Entitlement	18	24.40	4.90	13.50	0.000
Justification	18	26.05	3.98	20.91	0.000
Power orientation	21	28.70	5.49	14.50	0.000
Cold-heartedness	15	20.18	3.97	13.49	0.000
Rationalization	18	24.14	3.18	19.96	0.000
Personal irresponsibility	18	21.30	4.09	8.34	0.000

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Table 5. Multivariate analysis of variance based on gender

Effect	Value	F	Assumed df	df of Error	Sig.	E ₂	
Cross	Pillai's Trace	0.982	1850.432	6	200	0.000	0.982
	Wilk's Lambda	0.018	1850.432	6	200	0.000	0.982
	Hotelling's Trace	55.513	1850.432	6	200	0.000	0.982
	Roy's Largest root	55.513	1850.432	6	200	0.000	0.982
Gender	Pillai's Trace	0.180	7.324	6	200	0.000	0.180
	Wilk's Lambda	0.820	7.324	6	200	0.000	0.180
	Hotelling's Trace	0.220	7.324	6	200	0.000	0.180
	Roy's Largest root	0.220	7.324	6	200	0.000	0.180

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style among female prisoners was also significantly higher than the average value. These findings were consistent with those of Culhane et al. [30] as well as Link and associates [31].

The number of female and male prisoners was unequal in this study. To establish equality, a sample of 100 males was randomly selected to be compared with a population of 107 females. MANOVA was used to investigate the differences between criminal thinking styles in male and female prisoners committing violent crimes. According to the Box test data, the covariance matrices of the data were equal in both study groups. The MANOVA results suggested a significant gender-wise difference in the style of criminal thinking. The ANOVA results with interpersonal effects were reported to compare the individual styles between males and females. Based on the results of the thinking style, there was no significant gender difference between the study samples. Additionally, there was no significant gender difference in terms of deserving thinking style. The style of criminal thinking was more justified in females than in males.

The root of all social problems and complications that lead people to commit a crime is directly or indirectly related to human personality, i.e. an effective factor in the emergence of criminal thinking. Besides, those indi-

viduals with personality disorders due to their mental background have a decreased will, and a personable disposition and succumb to criminological conditions earlier than others.

Based on the present study findings and the available statistics, there was a significant difference between personality disorders and criminal thinking style in the studied prisoners with violent crimes; these factors could influence people's tendency to commit crimes. In other words, numerous crimes are highly prevalent and significant among criminals and inmates. Among the types of personality disorders that comprise three groups A, B, and C, each might have a different impact on criminal thinking by patients. Moreover, according to previous studies, personality disorders of group B have a higher association with criminal thinking in prisoners sentenced to violent crimes. Among the disorders in this group, social and borderline personality disorders were most associated with crime, with the most common offenses of these individuals being a fraud, murder, robbery, rape, drug trafficking, substance abuse, child abuse, sexual assault, domestic violence, and driving while intoxicated.

Furthermore, the most evident point about these people is never regretting their actions, as if they have

no scruples. In addition, this lack of guilt and inability to learn from experiences causes such persons to continue their past actions despite the legal consequences and penalties imposed. Therefore, they are exposed to higher odds of committing the same crime. The odds of committing post-release violent behaviors in these individuals, especially antisocial offenders, is very high; therefore, paying particular attention to individuals suffering from these disorders is of prime importance. Releasing them with control and the lack of medical treatment provided to these individuals is threatening and not suitable for them and society. Controlling and improving this population's behaviors is essential.

This is because they are not usually unaware of their criminal thinking and act with pre-determined plans. Thus, punishment is the most critical way to control them. However, the aims of punishment are the correction of criminal, and the enforcement of justice in society; however, in our country, imprisonment and the deprivation of liberty are forms of punishment. Therefore, no attention has been paid to the correction of criminals. The mere imprisonment of criminal suffering from a personality disorder does not correct him/her; however, the prison environment only exacerbates these disorders, because punishing this group only eliminates the effects.

This is while the causes are still present, and if the causes are eliminated, more effects will be achieved. Therefore, as stated in Article 5 of Article 156 of the Constitution of the Islamic Republic of Iran, one of the duties of the judiciary, appropriate measure shall not be possible unless preventive and educative measures should be taken to assist in the treatment and correction of offenders (whether responsible or irresponsible) in a dangerous state, i.e. a state that seriously magnifies the odds of committing crimes. As a result, such persons must be examined in special centers, like psychiatric hospitals devoted to criminals, and should psychologically be examined to be able to manage each case independently. They do not commit the crime for the same reasons that the same punishment should be applied to them; thus, the cause of the crime should be carefully examined so that other crimes can be prevented and their treatment and rehabilitation could be assisted.

Eventually, by summarizing the points as mentioned above and presenting its results, we have the following suggestions. The Ministry of Education should employ appropriate social assistants in schools, especially in disadvantaged and marginalized areas. Such measures help to identify students from disadvantaged and vul-

nerable families and provide the appropriate assistance. Besides, if necessary, by the cooperation of the Welfare Organization, seek to separate students who are on the verge of deviance from unqualified parents. Psychiatric records of persons with personality disorders should be collected in an appropriate, accessible, and usable manner to be used in the judicial courts. Accordingly, these data could be used in issuing judicial verdicts if they commit a crime.

It is a necessity to establish a protected criminal psychiatric hospital, forensic medicine center, and criminal psychiatry center, given that students have limited knowledge of various mental disorders (especially personality disorders). It is also suggested that these students be offered mentorship in mental hospitals, if possible. To better understand the criminals' mental states and their effects on the emergence of crime as well as being consistent with the views of expert witnesses, it is essential to improve the judges' awareness about various mental illnesses, especially personality disorders. Modifying the overall policy of the treatment and judiciary systems in using correction and remedial patterns (especially in patients with personality disorders), rather than using criminal patterns using the most modern methods possible, is also recommended. Like many countries, it is suggested that effective follow-up procedures be defined and implemented rather than waiting-based treatments for a referral to the treatment system. Furthermore, obliging offender patients to continue treatment programs using appropriate rewards and punishments methods should be considered.

The present research data indicated that the prevalence of psychiatric disorders was higher than the average rate of society among male and female prisoners committing a violent crime. Furthermore, criminal thinking styles among male and female prisoners who committed violent crimes were above the average rate of society.

Ethical Considerations

Compliance with ethical guidelines

All ethical principles were considered in this article. The study participants were informed about the purpose of the research and its implementation stages and signed the informed consent. They were also assured about the confidentiality of their information. Moreover, they were allowed to leave the study whenever they wished, and if desired, the results of the research would be available to them.

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Authors' contributions

All authors contributed equally in preparing all parts of the research.

Conflict of interest

The authors declared no conflicts of interest.

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