



Comparison of Personality Traits Between Psychopathic Prisoners, Non-Psychopathic Prisoners, and Non-Prisoner Patients

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Abstract

Background: Research in the field of personality has tried to recognize the main traits that reflect the building blocks of personality. For instance, personality dimensions, especially the five-factor model, deals with the field of personality disorder, especially the psychopathic personality disorder.

Objectives: The purpose of this study was to analyze and compare the personality traits of psychopathic prisoners, non-psychopathic prisoners, and non-prisoner patients separated by gender in Tehran.

Methods: This descriptive-comparative study was conducted on 355 participants including 202 male prisoners, 105 female prisoners, and 48 non-prisoner patients. All the participants filled out the Hare Psychopathy Checklist and the Revised Neuroticism-Extraversion-Openness Five-Factor Inventory. The data were analyzed by the Pearson correlation coefficient, regression analysis, one-way analysis of variance (one-way ANOVA), and Scheffe's post hoc test.

Results: The results showed that there was a significant positive correlation between psychopathy and extraversion and a significant negative relationship between psychopathy and openness, agreeableness, and conscientiousness in male prisoners. The relationships were significant at the level of 0.1.

Conclusions: By comparing male psychopathic and non-psychopathic prisoners, female psychopathic and non-psychopathic prisoners, and non-prisoner non-psychopathic patients, it was found that psychopathic prisoners had lower levels of agreeableness, conscientiousness, and openness than the other groups.

Keywords: Personality Traits, Psychopathic Prisoners, Non-psychopathic Prisoners, Non-prisoners

1. Background

Research in the field of personality has focused on discovering the main traits that are representative of building blocks of personality. As a sample of these personality paradigms, we can refer to the five-factor model. The models are different from each other according to numbers, combinations, main dimensions of personality, and the way the traits are extracted. The five-factor model is based on a language pattern that claims to be the most important trait for interaction, relationships, and human survival in a natural language as unique words being codified (1). According to this hypothesis, a meta-analysis concerned the adjective phrases to identify the key dimensions of personality (1). In the present study, the focus is on the five-factor model.

The five-factor model of English language study has its root in identifying major characteristic functions in

describing the personality traits of oneself and others (2-4). This language study emphasizes the five comprehensive traits identified as extraversion (E), agreeableness (A), conscientiousness (C), neuroticism (N), and openness (O) (3). Extraversion evaluates those who are prone to positive emotions and socialization. Agreeableness focuses on people with interpersonal relationships and approaches. Those who receive higher scores on agreeableness tend to be trustworthy, straightforward, and sympathetic. On the other hand, those who receive lower scores tend to be manipulative, arrogant, and unsympathetic. Conscientiousness is related to controlling impulses, as well as the ability to plan, organize, and complete behavioral tasks. Openness refers to people who are interested in culture and activities and new sorts of excitement (5). Each of these five broad domains is divided into other procedures or fundamental components. After briefly describing the Five-Factor Inventory, it has to be said that personality disorder

der and psychopathic personality disorder in particular are the domains in which studies on personality dimensions especially the Five-Factor Inventory has been applied to.

Psychopathy is a personality disorder characterized by multiple social and behavioral problems (6, 7). There is a poorly anticipated precognition in personality disorders (8, 9). Psychopathy was the first identified personality disorder in psychiatry and it has a clinical tradition and a long history. During the last decade, the validity of psychopathy has developed by a series of research (10) although this concept was not officially identified as a personality disorder in the third revision of statistical manual and diagnosis of psychological disorders DSM III (1980). Nevertheless, interest in psychopathy has grown and its evaluation has increasingly gained importance in risk assessment. Psychopathy is a rare condition that is seen in less than 1% of the general population, but it is highly prevalent among prisoners and has been associated with homelessness and psychiatric medical care during their lifespan (8). However, there are noticeable differences in reports of the epidemic rates of the psychopathic disorder among prisoners from different countries ranging from 3% to 73% (8, 9, 11-13). For centuries, psychopathic personality has been identified in a narrative way in religious, political, and literary texts. Until recently, it had remained unknown as a clinical diagnosis (14). By the genesis of psychopathic check list (PCL) (15) and its revised version (R-PCL) (Hare 1991, 2003), the psychopathic structure in the realm of personality disorders was considered the most authoritative and relevant category in diagnosis (16).

General personality models are used to constantly investigate the concept of psychopathy in the field of personality pathology. In just over 15 years, more than 50 studies examined the relationship between the five-factor personality trait and personality disorders, including psychopathy (17). Besides, several scholars have recently argued that psychopathy can be understood by a comprehensive pattern of personality traits (18, 19).

According to research, Harpur et al. contend that the big five personality traits provide a large profile of people with a psychopathic disorder characterized by high extraversion, neuroticism, openness, agreeableness, and low level of conscientiousness (16). In another study in this area, it was found that psychopathy is identified by agreeableness and conscientiousness (20). According to Miller et al. (19), psychopaths are generally identified by their higher scores on some neuroticism and extraversion scales and lower scores on agreeableness and conscientiousness scales. By further meta-analysis of the relationship between these two variables, it was disclosed that all the five main factors were related to psychopathy. According to

this study, there was a weak positive relationship between neuroticism and psychopathy. There was a weak negative relationship between extraversion/openness and psychopathy. There was also a strong negative relationship between agreeableness/conscientiousness and psychopathy (1). In another study, similar results were obtained while trying to measure psychopathy by both observation and a self-assessment scale (21).

The literature review shows that research in psychopathy roots in western countries and this matter is vague whether the findings in this area can be generalized to other populations. Another issue is that the number of prisoners is increasing in Asia. It was mentioned in a report that during the last decade, 87% of Asian countries witnessed an increase in the number of prisoners (11, 22). A review of studies on prisoners in non-western countries showed the paucity of research in this field (22).

2. Objectives

It is also worth mentioning that the current study is unique in the domestic and foreign literature concerning that it investigated whether there were significant differences between the characteristics of psychopathic prisoners, non-psychopathic prisoners, and non-prisoner psychopaths. Therefore, the answer to this research question was one of the main issues raised in this study.

3. Methods

This is a descriptive, comparative study utilizing a post hoc design. Subjects under investigation had been informed about the objectives of the study prior to the implementation of the questionnaires. They were given complete freedom to answer or avoid answering the questionnaires. The obtained results were analyzed by the Pearson correlation coefficient, *t*-test for independent groups, regression analysis, one-way ANOVA, and Scheffe's post hoc test.

The population of this study included both male and female prisoners in Tehran in 2010, as well as patients who visited the psychotherapy centers and private counseling centers in Tehran. In order to select the sample, one prison near Tehran (Shahr-e-Rey penitentiary) was randomly selected from among male prisons and a sample of 202 male prisoners was selected through convenience sampling. The mean and standard deviation of the age were 48 and 14.8 years among the male subjects, respectively, within the age range of 38 - 54 years. The average length of imprisonment was 18 months. In terms of education, 48.42% of the male prisoners were educated until the

fifth grade, 58.42% were educated until the eighth grade, 16.8% finished high school, and 84% were university undergraduates. Moreover, 34.16% of the subjects in this study had three to five children, 14.57% of the subjects had less than three children, and 8% had less than three children. Of the cases in this study, 45% were in the prison for drug offenses, 21% for non-criminal offenses, 11% for criminal offenses, 13% for financial crimes, and 4% for unethical acts.

In addition, 105 female prisoners were selected through convenience sampling from Evin Prison, Tehran. The mean and standard deviation of age in the female participants were 41 and 3.06 years, respectively, that was within the range of 38 - 46 years. The average time spent in prison was 11 months. In terms of education, 56.16% of the subjects studied up to the fifth grade, 31.31% studied until the eighth grade, and 12.53% had a diploma. Moreover, 51.42% of the subjects had five children or more, 39.28% had three to five children, and about 9% had less than three children. Of the sample under investigation, 14% were convicted of drug offenses, 41% of non-criminal offenses, 8% of criminal offenses, 1% of financial crimes, and 36% of immoral conduct.

Moreover, 48 individuals (including 32 women and 16 men) who visited three psychotherapy clinics and private counseling centers were selected through convenience sampling. They were labeled to have a type of psychological disorder except for anti-social personality disorder and psychopathy with a mean age of 42 years and a standard deviation (SD) of 6.08. About 39% of the subjects were undergraduates, 11% were graduates, 38% had a diploma, and 12% were educated lower than a diploma. In addition, 48% of the subjects had an anxiety disorder, 24% mood disorder, and the rest mental disorder. In addition to completing the questionnaires, the subjects identified their demographic characteristics by a researcher-made section at the beginning of a questionnaire. They had no history of drug use and they were homogenized in terms of characteristics such as age, financial status, level of education, and marital status. All subjects were literate and married.

The instruments used in this study included the psychopathy checklist and the Neuroticism-Extraversion-Openness and Revised Five-Factor Inventory (NEO-FFI) checklist. The psychopathy checklist is a 12-item scale taken from the Revised Hare Psychopathy-Checklist (23, 24). Each of the 12 items is rated from zero to two, giving the total score ranging from 0 to 24. This scale is composed of two factors. The first factor measures the interpersonal and emotional psychopathic syndrome and the second one determines the intensity of social deviation and non-social lifestyle. The total score of each factor lies in the range of 0 - 12. Of course, the interpretation of the overall score is very common. The scale's validity is highly recognized in

the scientific community. In males, the Cronbach's alpha coefficient was 83% that indicated acceptable internal consistency. The reliability was reported as 77%. In addition, the interclass correlation coefficient was 76% (24). Das et al. in a recent study investigated the reliability and validity of the psychopath checklist in Dutch-speaking female adolescents and found some evidence of internal reliability of this scale in women. In addition, in this paper, the validity of the whole scale was confirmed based on the existing personality theories and MMPI test scores. The convergent and predictive validity of the checklist were examined and confirmed by a sample of 115 people. In this study, it was also found that the scale is of higher predictive value than other scales in the prediction of crime. It is worth mentioning that the reliability and validity of the present scale had already been confirmed by the constructor (23, 24). In this study, the Cronbach's alpha coefficient was 81% for this scale. It should be noted that the checklist was used to evaluate psychopathy in offenders (7, 11, 13). Another questionnaire used in this study is called NEO-FFI (short form). The theoretical basis of this questionnaire relies on the Five-Factor Model known as Big Five Personality Factors. In fact, this questionnaire is the short version of the NEO-PIR, with 240 items reduced to 60. It is used to evaluate the big five personality traits (neuroticism, extraversion, openness, agreeableness, and conscientiousness) developed by Costa and McCrae. The scoring system is based on a five-point Likert scale from "completely disagree" to "completely agree" (25). The test reliability coefficients ranged from 83% to 75% over a period of three months. In addition, Cronbach's alpha was measured to be 92% by its developers (26). It is suggested by evidence that this questionnaire is consistent with other five-factor measurement tools such as the Goldberg adjective checklist (27). This process is witnessed to be quite similar to those carried out with males and females, university students, and clinical samples (26). Test-retest reliability indicated a correlation coefficient of 66% to 92% by administering the same test twice. Stability for neuroticism, extraversion, and openness was 87%, 91%, and 86%, respectively (26). Garoosi Farshi (28) also reported the internal consistency coefficients of neuroticism, extraversion, openness, agreeableness, and conscientiousness as 86%, 72%, 56%, 68%, and 87%, respectively. Cronbach's alpha for the above-mentioned factors in this study was 87%, 69%, 48%, 61%, and 84%, respectively.

4. Results

The mean and standard deviation of all variables under study are shown in Table 1.

The mean and standard deviation of all variables under study are shown in Table 1. Table 1 shows the descrip-

Table 1. Descriptive Characteristics of Variables in Samples Under Investigation

Variables	Trait				
	Number of Participants	Max.	Min.	Mean	SD
Psychopathy	307	22	2	11.60	3.85
Neuroticism	355	52	9	23.45	7.85
Openness	355	52	10	25.55	7.82
Agreeableness	355	52	10	25.45	8.20
Extraversion	355	50	10	23.38	7.30
Conscientiousness	355	52	8	25.98	7.74

tive characteristics of variables in samples under investigation. It is worth mentioning that in the psychopathic factor since the instrument was only implemented on prisoners, the number of participants under study was less than the number of participants filling out the other questionnaire.

The results of correlation between psychopathy and big five personality factors in male prisoners showed a significant positive relationship between psychopathy and openness and a significant negative relationship between agreeableness and conscientiousness at the significance level of 0.01 (Table 2). Following the inferential data analysis for further clarification of the findings, the regression analysis was used to investigate the predictability of the psychopathy variable by the big five personality factors as the predicting variables.

By analyzing the correlations obtained in this study among variables, only could two factors, namely agreeableness and conscientiousness, predict psychopathy (Table 3).

The results of psychopathy questionnaire indicated that out of 202 prisoners under study, 21 (39.10%) had psychopathic symptoms.

The relationship between the big five personality traits and psychopathy was also investigated by the Pearson correlation coefficient in female prisoners. The predictability of psychopathy by the big five personality factors was also examined.

Analyzing the relationship between variables in female prisoners showed a significant positive correlation between psychopathy and openness and a significant negative correlation between psychopathy and agreeableness. The level of significance was 0.01 (Table 4). A further analysis was done to assess the relationship between the variables in this study to predict psychopathy based on the big five personality factors using regression analysis.

The regression analysis results for female prisoners showed that psychopathy in this group could only be predicted by agreeableness (Table 5).

In order to examine the difference in the five big personality traits between the three groups of study, one-way ANOVA was used, followed by a post hoc test to determine the probable differences.

The results of one-way ANOVA indicated that there were significant differences between the three groups in terms of four traits, namely conscientiousness, agreeableness, openness, and neuroticism (Table 6).

Analyzing the results by Scheffe's test showed significant differences between all the three groups in conscientiousness, agreeableness, and openness traits so that in these traits, the sample of psychopathic prisoners, non-psychopathic prisoners, and non-psychopathic non-prisoners had less agreeableness, conscientiousness, and openness. In addition, this situation was true when it came to non-psychopathic prisoners compared to non-psychopathic non-prisoners in these traits. There was no significant difference between other groups. It should be noted that the level of significance for the above-mentioned differences was 0.01. It is worth mentioning that Table 7 presents only the results of significant traits analyzed by one-way ANOVA along with differences between their means.

5. Discussion

Overall, the obtained results in this study confirmed a significant relationship between psychopathic personality disorder and the big five personality traits except for neuroticism (1, 15, 20, 21). Our results are consistent with the findings of most studies conducted in this field, but they are not in parallel with some other studies. In agreement with most research results in this field, we found significant negative correlations between agreeableness and psychopathy in both male and female prisoners (1, 10, 16, 19-21). The results of the studies indicate that low agreeableness is one of the noticeable characteristics in people with the psychopathic disorder. These individuals are identified by

Table 2. Correlation Coefficient Between Psychopathy and Big Five Personality Traits of Male Prisoners

	Conscientiousness	Agreeableness	Openness	Neuroticism	Extraversion
Psychopathy					
Correlation coefficient	0.214**	-0.011	-0.226**	-0.786**	-0.422**
P value	0.002	0.874	0.001	0.001	0.001

Table 3. The Results of Regression Analysis of Psychopathy Variable (Predicted) and Big Five Personality Factors (Predictors) in Male Prisoners

Predictors	Unstandardized Coefficients		Standardized Coefficients	t	P Value
	B	Std. Error	Beta		
Neuroticism	-0.002	0.024	-0.003	-0.076	0.940
Extraversion	0.001	0.026	0.003	0.055	0.956
Openness	0.014	0.027	0.024	0.503	0.915
Agreeableness	-0.376	0.026	-0.735	-14.689	0.001
Conscientiousness	-0.083	0.028	-0.149	-2.943	0.004

Table 4. Correlation Coefficient Between Psychopathy and Big Five Personality Traits in Female Prisoners

	Conscientiousness	Agreeableness	Openness	Neuroticism	Extraversion
Psychopathy					
Correlation coefficient	0.061	0.038	0.318**	-0.692**	-0.015
P value	0.538	0.698	0.001	0.001	0.879

Table 5. The Results of Regression Analysis of Psychopathy Variable (Predicted) and the Big Five Personality Traits (Predictors) in Female Prisoners

Predictors	Unstandardized Coefficients		Standardized Coefficients	t	P Value
	B	Std. Error	Beta		
Neuroticism	-0.002	0.027	-0.006	-0.077	0.939
Extraversion	0.042	0.033	0.099	1.285	0.202
Openness	0.032	0.032	0.076	1.010	0.315
Agreeableness	-0.343	0.040	-0.663	-8.675	0.001
Conscientiousness	-0.026	0.032	-0.062	-0.814	0.0418

traits such as being manipulative and callous and tend to use others (parasitic lifestyle). By considering the lifestyle and personality traits of these individuals, a relationship between the subscale (low agreeableness) and those with psychopathic personality disorder is expected.

Agreeableness is identified by traits such as cooperation, forgiveness, kindness, sympathy, goodwill, and trust. The personality traits mentioned by Cleckley and Hare (23, 24) for psychopaths with the aforementioned characteristics are not in agreement with those asserted by McCrae and Costa. Originally, according to the psychopathic description by Hare and Cleckley, it is evident that these individuals have a low cooperative spirit and are not trusted by others. If they are trusted by others, it will be soon evident

that they are worthy of trust and their occasional sociable spirit and their agreeableness are merely used for achieving their own objectives (29).

In the current study, we found a significant negative relationship between psychopathy and conscientiousness in male prisoners although this was not true in female prisoners. The relationship in male prisoners is consistent with the literature (10, 16, 19-21), with no contradictory results. These findings are consistent with those obtained by Hare regarding the psychopathic personality characterized by traits such as inability to take responsibility for their actions, parole violation, and non-accountability.

Conscientiousness is characterized by traits such as very active planning, organizing, and performing the as-

Table 6. The Results of One-way ANOVA for the Five Big Personality Traits in the Three Groups

Variables, Groups	Sum of Squares	df	Mean Square	F	P Value
Conscientiousness				36.275	0.001
Between groups	3626.717	2	1813.358		
Within groups	17596.878	352	29.991		
Total	21223.594	354			
Agreeableness				41.661	0.001
Between groups	19278.571	2	2281.706		
Within groups	23841.1983	352	54.769		
Total	2530.016	354			
Openness				23.009	0.001
Within groups	19146.551	2	1251.508		
Between groups	21649.566	352	54.394		
Total	3.770	354			
Extraversion				0.035	0.966
Between groups	18907.892	2	1.885		
Within groups	18911.662	352	53.716		
Total	245.751	354			
Neuroticism				2.001	0.137
Between groups	21620.406	2	122.876		
Within groups	21866.158	352	61.422		
Total	3626.717	354			

signed tasks perfectly. The reason why prisoners with psychopathic personality disorder lack these traits is highly noticeable since this issue can be of a high predictive value for identifying such individuals and recognizing the traits possessed by these individuals. This assists researchers to identify criminals and potential prisoners in the future and offer preventive solutions. According to the classical description of psychopaths by Cleckley (1941, 1976), these individuals have some traits that are the same as the conscientiousness trait described by McCrae and Costa and McCrae (26) for psychopathic individuals: instability, lying, hypocrisy, self-centered disorder, inability to love, general failure in major emotional interactions, and lack of indifference in interpersonal relationships, all of which, in fact, are traits that cannot cause self-destructive traits known as conscientiousness in psychopathic individuals. It also should be noted that in a description by Hare (9, 23), there are some characteristics in psychopathic individuals that confirm this observation. Traits such as lying, cheating, being irresponsible as a parent, frequent marital problems, provisional release in parole, and the inability to assume responsibility of their actions are found in these individuals that highly clarify their low-level commitment.

However, as mentioned earlier, such a relationship was not found among female prisoners. There might be several explanations. The first is that according to McCrae and Costa (25, 26), gender differences exist in the big five personality traits and females have a higher level of conscientiousness than males. Another issue is that in most cases, the reason behind women's imprisonment in our society is the irresponsibility of their husbands and not their own. Thus, if husbands act responsibly, it is less likely that their spouses are imprisoned. The reason roots in our traditional society and most responsibilities of life such as making a living are assumed by men. Finally, the psychopathic signs, as found in the present study and other studies, are less frequent in females than in males.

There was a positive correlation between extraversion and psychopathy in male prisoners; however, no relationship was found in female prisoners. The finding of this study corroborates some other studies carried out in this area (15, 19). On the other hand, it is not consistent with some other findings (1, 21). Of note, there is a positive relationship between extraversion and psychopathic personality disorder, as Cleckley and Hare described individuals with this type of disorder. Accordingly, some personality

Table 7. Post-hoc Test for Data Obtained from ANOVA in the Comparison of the Three Groups

Dependent Variable	Psychopath	Non-Psychopath	Mean Difference	Std. Error	P Value
Conscientiousness	Psychopath	Non-psychopath	-10.23383	1.47544	0.000
		Non-prisoner, non-psychopath	-14.82667	1.74388	0.000
	Non-psychopath	Psychopath	10.22383	1.45544	0.000
		Non-prisoner, non-psychopath	-4.60284	1.10397	0.000
	Non-prisoner, non-psychopath	Psychopath	-14.82667	1.74388	0.000
		Non-psychopath	-4.60284	1.10397	0.000
Agreeableness	Psychopath	Non-psychopath	-7.41106	1.54433	0.000
		Non-prisoner, non-psychopath	-15.72667	1.82531	0.000
	Non-psychopath	Psychopath	4.41106	1.54433	0.000
		Non-prisoner, non-psychopath	8.31560	1.15552	0.000
	Non-prisoner, non-psychopath	Psychopath	15.72667	1.82531	0.000
		Non-psychopath	8.31560	1.15552	0.000
Openness	Psychopath	Non-psychopath	-4.54227	1.53904	0.003
		Non-prisoner, non-psychopath	-10.16417	1.81905	0.000
	Non-psychopath	Psychopath	4.54227	1.53904	0.003
		Non-prisoner, non-psychopath	-6.62190	1.15156	0.000
	Non-prisoner, non-psychopath	Psychopath	11.16417	1.81905	0.000
		Non-psychopath	6.62190	1.15156	0.000

traits in these individuals including superficial charm and glibness prove this matter (23, 24, 29). The presence of a weak negative relationship between extraversion and psychopathic personality disorder somewhat confirms this issue. In fact, the presence of high extraversion in most cases results in being trapped by psychopathic criminals. These people by their superficial charm and glibness traits seek to attract people's attention to achieve their objectives. Of course, the difference in researchers' findings may be because they worked in different areas and this may suggest that the findings in other areas cannot be applicable to other areas and situations; this can justify more research in a wide variety of fields. As mentioned earlier, there was no significant relationship between psychopathy and extraversion in female prisoners. Sexual differences in psychopathy and extraversion may be accounted for this matter. They also may be due to the cultural setting of our society. In our society, extraversion and its subcategories and the importance of these traits in individual and social success are more encouraged in men while in women, the traits associated with introversion are usually emphasized. It is possible that psychopathic disorder that is most com-

monly found in men internalizes such training.

There was no relationship between psychopathy and neuroticism in both male and female prisoners. This finding is not consistent with other findings in this area. Some studies have found a positive relationship between these two variables (1, 19, 21) while one study reported a negative relationship (15). This finding of the present study is unique in this field. As can be seen, there is no consistency in previous findings of this matter. The presence of such a difference in researchers' findings may also be due to research in different areas that again suggests the findings of other fields of study are not applicable to other fields or situations. This matter can justify more research in diverse settings. It should be noted that in favor of the present study, Cleckley (1941, 1976) mentioned the lack of explicit neuroticism as one of the traits of psychopathic individuals. It is obvious that reaching a scientific agreement in this matter requires further research.

The findings of this study also showed a negative relationship between the psychopathic trait and openness in male prisoners, but the relationship was positive in female prisoners. However, it should be noted that some studies

failed to show a relationship between openness and psychopathy (19, 21) and some others showed a negative relationship between the two variables (1, 15). It is in agreement with the findings of the present study in male prisoners. In fact, it makes it clear that male psychopathic prisoners are less likely than other prisoners to be cooperative, kind, sympathetic, sociable, and less trustable. As Hare (9) points out, the attention of these people toward others is only a tool to exploit them for achieving their goals. People with psychopathic personality disorder due to their lack of sympathy, impulsivity, and shallow emotional response are less popular. However, as mentioned earlier, there was a positive relationship between psychopathy and openness in female prisoners that is consistent with other findings in this domain (1, 15, 19, 21); however, the findings of this study in female prisoners are different from the findings in male prisoners. As mentioned earlier in this study and in some preliminary studies in this domain, personality dimensions are different between males and females (26) and this difference in gender in the big five personality traits could have affected our findings. It should be noted that, as mentioned above, some of the studies carried out in this field did not find any relationship between the two variables, and the results of earlier research do not fit the agreeableness trait, for instance.

Statistical analysis of the results showed that male psychopathic prisoners had a lower level of openness, agreeableness, and conscientiousness than normal prisoners. The findings of this study are consistent with most studies carried out in this field. As noted, according to the study by Harpur et al. (2002), the big five personality traits provide a broad view in individuals with psychopathic disorder identified with openness, agreeableness, and low-level conscientiousness (20). According to the description made by Miller et al. (19), psychopaths are generally characterized by lower scores on agreeableness and conscientiousness. In addition, in a meta-analysis of studies conducted on the relationship between these two variables, it was found that all five main traits were related to psychopathy. Therefore, there is a weak negative relationship between openness and psychopathy and a strong negative relationship between agreeableness/conscientiousness and psychopathy (1).

In female prisoners, the present study showed only a significant difference in conscientiousness between psychopathic prisoners and non-psychopathic prisoners, which is supported by previous studies. It was also found that psychopathic prisoners had less conscientiousness and no significant difference was found in other traits. The reasons behind this difference appeared in the discussion section of the first and third hypotheses and repeating the same is avoided here.

Overall, we found a significant difference between the

three groups of psychopathic prisoners, non-psychopathic prisoners, and non-psychopathic non-prisoners in conscientiousness, agreement, and openness traits. In other words, psychopathic prisoners had lower levels of agreeableness, conscientiousness, and openness than non-psychopathic prisoners and non-psychopathic non-prisoners while the non-psychopathic prisoners and non-psychopathic non-prisoners were the same in these traits. In addition, psychopathic prisoners had lower levels of extraversion and neuroticism than non-psychopathic non-prisoners. The findings of this study about extraversion are not consistent with the findings of most studies in this area (15, 19, 21). Of course, they are in line with a study carried out by Lynam and Derefinko (1). Moreover, the findings of this study about neuroticism contradict some studies in this area (19, 21). However, they corroborate the findings by Miller et al. (19). The findings of the present study and other studies about neuroticism are not consistent with a classical description (1941) about psychopathic individuals (not being nervous or having neuroticism) although the findings of the present study about the lower level of this trait in psychopathic individuals confirm this idea. Due to the complex structure of psychopathic disorder, this kind of contradiction can be partially explained by the variety types of classifications found in psychopaths. Walker and McCabe (30) from a historical perspective identified three separate concepts with psychopathy. First, psychopathy involves all the people who show psychopathology. Second, it includes those who show one form of trauma that is not referable to psychos (such as Schizophrenia). Finally, this term is used to describe all individuals who commit acts of illegal conduct (30). The pluralistic description of this disorder can largely be a response to the contradiction in research findings on this trait and other aspects of the big five personality traits. In fact, we can put people with a psychopathic personality disorder of different personality traits in different groups.

Footnotes

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