



Original Article

# Personality characteristics of juvenile delinquents: Comparison of Minnesota Multiphasic Personality Inventory-Adolescent scale scores in sex offenders and non-sex offenders

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## Abstract

**Introduction:** Sex offences in adolescents are among offences that impose considerable material and social costs. Thus, it is imperative to identify the characteristics of adolescent offenders. The purpose of this study is to compare the validity and clinical scales of the Minnesota Multiphasic Personality Inventory- adolescence (MMPI-A) in sexual and non-sexual juvenile delinquents.

**Materials and Methods:** This causal-comparative study was carried out in the Correction Center of Tehran, Iran, in 2014. Numbers of 86 non-sexual and 20 sexual juvenile delinquents were selected through convenience sampling. Both groups filled out the MMPI-A scale. Multiple analysis of variance (MANOVA) was used to analyze data.

**Results:** The mean scores for all subscales were higher in sexual delinquents; however, this difference was only significant for clinical subscale of depression ( $P=0.03$ ) and validity subscale of in-frequency type 1 ( $P=0.04$ ) subscales.

**Conclusion:** In most of the MMPI-A subscales (those that describe personal characteristics and emotional adjustment) sexual juvenile delinquents were not significantly different from nonsexual juvenile delinquents. However, sexual delinquents scored higher in subscales which show lower overall life satisfaction, hopelessness, and unhappiness. These results can be used in further assessment and treatment of this group of delinquents.

**Keywords:** Juvenile delinquency, MMPI, Personality assessment, Sex offenses

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## Introduction

Considering the age at which it starts, its fast maturation and duration, adolescence bears the greatest effect on the formation of individual's character. One of the great changes experienced in this period can be the commencement of the discordant and disagreeable behaviors in adolescence years that can give rise to the diagnosis of delinquency (1). Concerning statistics exist on the emergence of delinquency in adolescents. According to 2011 statistics of USA, 1,470,000 adolescents

were arrested for different reasons, 13,600 of whom were arrested for prostitution and other sexual offense (2). No valid statistics exist on delinquency in Iran; however, the existing statistics indicate an incremental increase of delinquency in the recent years (3). The prevalence of delinquency among adolescents and their constant commuting to the Correction and Rehabilitation Center pushes the creative and innovative adolescents toward addiction, theft and other types of delinquencies (4).

In the last two decades, researchers and clinicians have shown greater interest in adolescent delinquents with sexual offences. Conducted investigations indicate the prevalence of mental problems in these individuals (5). Adolescence is a very significant growth period for individuals with sexual offences (6).

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Many adult sexual offenders have started committing these offences since their teenage years, and this adds to the significance of this study (7). Even though the results indicate a heterogeneity in this group of adolescents, some common traits and features shared among these adolescents have also been observed: these common traits include masculinity, high probability of committing murder before 13 or 14 years of age, greater level of social isolation and poor relationship with others, greater probability of sexual and physical abuse, educational and learning problems, behavioral and emotional problems, Psychiatric disorders, and belonging to families with dysfunctional family histories (8). This issue imposes considerable costs on society, such as imprisoning, reduced utility of the guilty person and the victim, court session costs, as well as the incalculable cost of social disintegration (7). Considering all above points, it seems beneficial to identify and compare the personality traits, psychiatric symptoms, and behavioral problems of sexual and nonsexual delinquents as two separate groups.

Minnesota Multiple Personality Inventory-adolescents (MMPI-A) is recognized as one of the most applicable tools in this regard. This questionnaire, emphasizing on adolescence years of 14 to 18 and the therapeutic and research areas, was based on MMPI-2 (Minnesota Multiple Personality Inventory - 2<sup>nd</sup> Edition) and was published by James N. Butcher et al. in 1992 (9). MMPI-A was introduced as the most applied objective instrument for studying adolescents (10). Since then, it has been adopted and used by many studies for assessment of delinquents. Murray, Glaser, and Calhoun maintain that MMPI-A is currently the most utilized assessment scale by legal psychologists who deal with delinquents (11). Studies using MMPI and MMPI-A have been conducted to better identify the traits specific to sexual and nonsexual delinquents. Using normalized scores, Truscott compared the MMPI clinical scales of delinquents with sexual offences, physical violence and other poverty-related offences. The Multivariate analysis of variance (MANOVA) did not reveal any significant difference among these groups (6). Herkov, Gynther, and Thomas et al. administered MMPI to 46 delinquents with sexual offences (sexual abuse, rape, and sodomy) and 15 adolescents hospitalized in the mental ward. The obtained results (using the normalized scores for adolescents) indicated that the sodomy group had received greater mental damage in comparison with other groups (12). In another study, MMPI profile differences (the short form) of

delinquents with sexual offences and normal offences (including crimes against people and property such as breaking in, theft, acquiring stolen properties, beating and insulting) was compared and assessed again those of non-delinquents. In comparison with normal adolescents, delinquents with sexual offences showed higher scores in "Psychopathic Deviate" and "Schizophrenia" scales, even though the average of these scores was within the normal range in both groups (13). Similar results were obtained by Losada-Paisey and the highest scores belonged to "Psychopathic Deviate" and "Schizophrenia" scales (14). In another study, MMPI-A was administered to two groups of delinquents: those with sexual offences and those with non-sexual offences. The results showed that the mean score of "Psychopathic Deviate" clinical scale was in a significant range for non-sexual offenders, while it was not the case for sexual offenders; however, the score difference was not statistically significant. The Chi square analysis then revealed that a greater number of non-sexual offenders were of scores within clinical range in this scale, and the difference was significant (8). Smith, Monastersky, and Deisher administered the MMPI to 362 male delinquents with sexual offenders and divided them into four different groups using Cluster analysis, and each group had different two-point code types (15). In a review article, it was concluded that there is a difference in personality traits and behavioral problems between sexual delinquents and non-sexual delinquents, but discretion is advised for such a conclusion as the papers had adopted different methodologies and the study population was small (16).

As noted, the results obtained by various studies are not matching. There is a rich literature on adolescent and adult offenders' response to MMPI, but that is not the case for MMPI-A and only few studies have adopted this tool. More studies are required to identify the characteristics of this clinical group in comparison with other groups of offenders. These studies can also help specialists identify the treatment and assessment focal point for these individuals (7-8). Also, the standardization sampling of this tool has tended toward schools in Iran and has not included the specific groups such as offenders (17). Considering the significance of this subject as well as the appropriateness of MMPI-A for assessment of these offenders, the present research was conducted to assess the MMPI-A scales in delinquents with sexual and non-sexual offences and residing in a Correction and Rehabilitation Center.

## Materials and Methods

Regarding the objective of the study, the current study belongs to Fundamental-applied studies. With regard to the methodology of the study, it belongs to descriptive (Ex post facto) studies. Male and female delinquents of ages between 14 and 18 residing in Tehran Correction and Rehabilitation Center in 1392 (2013-2014) constituted the study population. 106 delinquents (91 males, and 15 females) were selected according to convenience sampling method and based on the study inclusion and exclusion criteria. The study inclusion criteria included: 1. being between 14 and 18 years of age; 2. Having had at least five years of school education; 3. Having resided in the center for at least 20 days and having at least one referral to the court. The inclusion criteria for sexual offenders included detention for committing sexual offences including: rape, sodomy, prostitution, and illegitimate sexual intercourse. The inclusion criteria for non-sexual offenders included detention for committing non-sexual crimes including theft, keeping and transporting drugs, murder and involuntary manslaughter, and different kinds of violence. Also, as part of the inclusion criteria, the individuals should not have any histories of sexual offence.

As mentioned before, the "Minnesota Multiple Personality Inventory- adolescents" is used in this study as a tool. This questionnaire is comprised of 478 true-false questions, 10 clinical scales, 6 validity indices, 31 Harris Lingoes sub-scales, 15 content scales, 5 personality pathology scales (PSY-5), 3 Social introversion subscales, and 6 Supplementary scales (9). Clinical and validity scales (comprising 350 introductory questions of the questionnaire) were used in this study. MMPI-A clinical scales included Hs (Hypochondriasis), D (Depression), Hy (Hysteria), Pd (Psychopathic Deviate), Mf (Masculinity – femininity), Pa (Paranoia), Pt (Psychasthenia), Sc (Schizophrenia), Ma (Hypomania), and Si (Social Introversion). The validity indices of MMPI-A included (Cannot Say), L (Lie), F, F1, and F2 (Infrequency), K (Defensiveness), VRIN (Variable Response Inconsistency), and TRIN (True Response Inconsistency).

MMPI-A was standardized by Gharraee, Ashouri, and Habibi in Iran. The obtained results indicated that this scale is of satisfactory psychometric properties for Iranian adolescents. The minimum and maximum retest coefficients stood at 0.42 (infrequency) and 0.82 (Social Introversion). The reliability level of all validity indices (except for Variable Response Inconsistency and True

Response Inconsistency) was higher than 0.61. The reliability level of all clinical scales was also higher than 0.69 (except for Hypochondriasis, for which 0.61 was obtained) (18). It was also observed that the cut-off scores equaled  $T=65$  and it was of acceptable sensitivity, optimized quality for distinguishing between the two groups, and clinical application (17).

Having been approved by the research committee of Medical Sciences University of Iran, the questionnaires were filled out by participants in groups of 4 and 5. Also, the participants were assured that their responses to questionnaires would not have any impact on their punishment. Participants had volunteered to take part in the study and their informed consent was obtained before the study commencement. For the purpose of confidentiality, it was explained to the participants that their codes, instead of their names, would be used during data gathering and data analysis. Statistical Package for the Social Science-version 17 (SPSS-17) and Multivariate analysis of variance were employed for data analysis.

## Results

106 questionnaires were statistically analyzed in this study, among which 20 were filled out by sexual offenders and 86 were filled out by non-sexual offenders. The mean age of sexual offenders stood at 16.55 ( $\pm 1.14$ ), and that of non-sexual offenders stood at 16.70 ( $\pm 0.97$ ) ( $P=0.22$ ). 16 of sexual offenders (80%) and 75 of non-sexual offenders (87.2%) were male ( $P=0.4$ ). The other basic variables are presented in table 1. Table 2 also presents the standard deviation and mean of participants' scores (of both groups) in clinical and validity subscales of MMPI-A.

**Table 1.** The comparison of background variables between sexual and non-sexual delinquent's groups

Variable		Sexual delinquents group (n=20)	Non-sexual delinquents group (n=86)	P
Education	Middle school	4 (20%)	27 (31.40%)	0.86
	High school	16 (80%)	59 (61.60%)	
Province	Tehran	15 (75%)	55 (63.96%)	0.96
	Alborz	5 (25%)	18 (20.90%)	
	Other provinces	0 (0%)	13 (15.10%)	

**Table 2.** Mean (standard deviation) of MMPI-A subscales in sexual and non-sexual delinquent groups

Subscales	Sexual delinquents group	Non-sexual delinquents group
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Hypochondriasis	53.59 (10.58)	49.16 (9.26)
Depression	54.10 (7.58)	49.04 (9.58)
Hysteria	53.49 (8.23)	49.18 (9.81)
Psychopathic Deviate	53.19 (8.10)	49.25 (9.86)
Masculinity	51.75 (8.63)	49.58 (9.87)
Femininity	51.00 (8.96)	49.76 (9.82)
Paranoia	50.47 (10.42)	49.89 (9.49)
Psychasthenia	51.86 (8.02)	49.57 (9.97)
Schizophrenia	51.84 (8.76)	49.57 (9.84)
Hypomania	53.43 (8/53)	49.20 (9.74)
Social Introversion	52.61 (8.37)	49.39 (9.86)
Infrequency Type 1	53.91 (10.01)	49.09 (9.34)
Infrequency Type 2	51.80 (11.66)	49.57 (9.09)
Infrequency	52.74 (10.96)	49.36 (9.26)
Lie	51.93 (12.01)	49.56 (8.95)
Defensiveness	53.29 (10.63)	49.23 (9.29)

Through Wilks' Lambda test, the variable effect of sexual and non-sexual groups on the linear composition of clinical subscales of MMPI-A was obtained which indicated the insignificant effect of the group ( $F(11,94)= 1.20, P<0.005, \eta^2=0.12$ ). The same test on the linear composition of validity subscales yielded the same results ( $F(5,100)=1.01, P<0.005, \eta^2=0.04$ ). The Multivariate analysis of variance (MANOVA) test was used to assess the effect of sexual and nonsexual offenders' groups as variables on each subscale (Table 3).

**Table 3.** Summary of multivariate analysis of variance test on the scores of clinical and validity subscales of MMPI-A in sexual and non-sexual delinquents

Source of changes	Dependent variable	Degree of freedom	Mean of squares	F	Significance level	Degree of effect
Group	Hypochondriasis	1-104	318.34	3.51	0.06	0.03
	Depression	1-104	414.24	4.61	0.03	0.04
	Hysteria	1-104	300.41	3.29	0.07	0.03
	Psychopathic deviate	1-104	251.58	2.74	0.10	0.02
	Masculinity	1-104	76.32	0.81	0.36	0.00
	Femininity	1-104	24.78	0.26	0.60	0.00
	Paranoia	1-104	5.39	0.05	0.81	0.00
	Psychasthenia	1-104	85.16	0.91	0.34	0.00
	Schizophrenia	1-104	83.84	0.90	0.34	0.00
	Hypomania	1-104	291.04	3.20	0.07	0.03
	Social Introversion	1-104	168.13	1.82	0.18	0.01
	Infrequency Type 1	1-104	376.47	4.19	0.04	0.03
	Infrequency Type 2	1-104	81.06	0.87	0.35	0.00
	Infrequency	1-104	184.84	2.00	0.16	0.01
	Lie	1-104	90.57	0.98	0.32	0.00
	Defensiveness	1-104	267.66	2.93	0.09	0.02

As observed in the above table, there is a significant difference between the two groups only in Depression ( $P=0.03$ ) and Infrequency 1 ( $P=0.04$ ) subscales.

## Discussion

The results obtained by this study showed that there was a significant difference between the two groups of delinquents (sexual offenders and nonsexual offenders) residing in the Correction and Rehabilitation Center of Tehran in the clinical subscale of depression and validity subscale of infrequency 1 of MMPI-A, and that sexual offenders' scores were higher in these subscales.

A high score in depression subscale indicates dissatisfaction, hopelessness, unhappiness, apathy, and lack of interest in activities, feeling guilty, feeling ashamed and self-criticizing, lack of self-confidence, seclusion, and social disintegration (9). The contents of this scale include hopelessness, lack of interest, high sensitivity, and psychomotor retardation (18). The infrequency subscale (F) of MMPI-A includes the items that have been confirmed by less than 20% of the standardized population. F1 is directly derived from F; this subscale is of 33 items, 24 of which exist in F. In general, these subscales indicate the validity of participants' responses (9). The higher F1 scores in sexual offenders indicate that they are showing more Pathological symptoms (7).

The results of this study do not conform to those obtained by Freeman, Dexter-Mazza, and Hoffman. In their study, the difference between all subscales was statistically insignificant in both groups of sexual and non-sexual offenders; however, the difference was clinically significant only in Psychosocial deviation subscale (8). In the study conducted by Jacobs, Kennedy, and Meyer also, no difference was observed between the both groups' clinical scales of MMPI, but the difference between F subscale scores was significant and was higher in sexual offenders group (7). This piece of finding conforms to the results of this study. Also, in the studies conducted by Valliant, Bergeron, and Losada-Paisey, the groups showed differences in "Psychopathic Deviate" and "Schizophrenia" subscales; this was against the findings of the present study (13-14). The study carried out by Truscott, that showed no differences between the sexual and non-sexual offender groups, did not completely conform to the results of this study (6). There are some justifications for such a discrepancy existing between the results of this study and those of others': 1) the population of this study, especially those belonging to the sexual offenders group, was fewer than that of other studies, and this number of participants might not be enough for obtaining such differences; 2) it may also be justified by the presence of female adolescents among the population of the present study, while the other

studies had focused merely on male adolescents. Several studies have shown that female and male sexual offenders are of different qualities; for instance, female adolescents tend to harbor more anger toward themselves and have greater tendency toward self-destructive behaviors (19); 3) in the aforementioned studies that have been conducted in other countries, prostitution is not considered as a sexual offence, while it is considered as a crime in Iran, and individuals are punished with imprisonment for prostitution. In general, considering the focus of Iranian law on religious issues and aspects, sexual offences are of greater variety and heterogeneity, and this might affect the study results.

With regard to the high scores of depression subscale in sexual offenders, the results of this study conform to those obtained by Becker, Kaplan, Tenke et al. in which the "Beck Depression Inventory" score higher than the mean score, equivalent to medium depression, in sexual offenders. Also, the adolescents who themselves had reported sexual abuse gained significantly higher scores in this scale; this issue is noteworthy and further studies should be conducted to determine whether this depression is caused by the punishments pursuing these criminal acts, or the reason for sexual abuse has already been there in them. This study concludes that these adolescents' treatment should be based upon depression pathology (20). The studies also indicate that, in comparison with non-sexual offenders, sexual offenders prove to be more assaultive, introverted, and resentful, and they express their anger less directly, and are of fewer thought disorders. These individuals are reclusive and are with internalized assaultive tendencies. Their reclusiveness may rise from their poor social skills (13). The results of a meta-analysis conducted on the differences between sexual and non-sexual offenders showed that sexual offenders had a history of sexual abuse, neglect, social isolation, and poor self-esteem (21).

Different theories have been mentioned to justify the higher level of depression in sexual offenders. Some studies show that affective dysregulation can explain such crimes committed by adolescent and adult sexual offenders. The level of Serotonin in brain is related with an individual's mood, sexual behavior, and aggression, and any defects in the serotonergic system of the brain can be the underlying reason for any irregularities in the above mentioned aspects. Treatment with Selective serotonin reuptake inhibitors (SSRIs) can decrease sexual drive (21). Other studies also mentioned that

depression is the result of individual's condition and is not concerned with individual's past. High levels of depression can benefit from treatment, but lower levels of depression are resolved over time (22). Another justification that can be mentioned for absence of any difference in MMPI-A scales between the two groups of sexual and nonsexual offenders is that these two groups differ slightly with respect to their behavioral and emotional performance and are of similar basic etiological factors (8). The reason why some tend toward sexual offences and why some tend toward other types of offence is a complicated matter which demands further research. It is also possible that MMPI-A is not enough to fully identify the differences between these two groups, and other proper tools are required for this task.

The results of the present study can be used in Correction and Rehabilitation Centers for helping and treating these individuals. Identification, assessment and treatment of sexual offenders is of prime importance as ignoring them will most likely end in reoccurrence of these crimes in the future. Considering the similarities existing between sexual and nonsexual offenders, it seems that their treatment requirements are also alike; however, greater attention should be paid to the treatment of depression, dislike, hopelessness, social isolation, and especially the poor social skills of sexual offenders and enough social skills should be taught to them for facing these symptoms.

Exclusion of offenders with any type of sexual abuse histories can be considered as one of the constraints of the present study, and its significance demands research into this issue by future studies. As mentioned previously, the sexual offender group was a heterogeneous one, and it is better for the future studies to focus on various subcategories of offences. The other limitation was the small volume of study population, especially the number of female participants, and this should be taken into consideration for any generalizations.

### Conclusion

The present research aimed to compare the MMPI-A scores obtained by sexual and nonsexual offenders, and the obtained results showed that there is a significant difference in scores obtained in the clinical scale of depression and validity scale of infrequency type 1; it was also shown that sexual offenders gained higher scores in these subscales. There was no significant difference between the two groups in other subscales. A comparison between the results obtained by this study and those obtained

by other previous studies show that, despite some differences in one or two subscales of MMPI-A in the two groups of sexual and nonsexual offenders,

the difference in other areas have been quite small (at least when MMPI-A was employed).

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