

Tattoo and Personality Traits in Croatian Veterans

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To examine whether tattooed patients, treated for posttraumatic stress disorder (PTSD) caused by war at the Ward for Psycho-trauma of the Clinical Hospital Osijek, differ from non-tattooed patients by certain personality traits.

The study was conducted on one hundred Croatian veterans who were divided into two groups with respect to the presence/absence of tattoo. To assess the symptoms of PTSD, the Clinical Administered PTSD Scale (CAPS-2) was used for all subjects. To assess personality traits the following psychology tests were applied: Purdue non-verbal IQ test, Minnesota Multiphasic Personality Inventory (MMPI-1), and Eysenck's Personality Questionnaire (EPQ/A and EPQ/IVE).

With respect to the examined pre-traumatic variables and PTSD symptoms, the two groups manifested no differences. The non-tattooed group achieved higher scores on the IQ test (IQ=100) than the tattooed group (IQ=95). EPQ test showed results either above or below the norms on all scales that were applied. The tattooed group demonstrated significantly higher levels of impulsiveness, adventurism, empathy and neuroticism than the non-tattooed one ($p < 0.05$).

In the group of 100 Croatian veterans treated for PTSD, 33 had tattoos and 67 did not.

The results indicated more impulsiveness, adventurism / risk behavior, empathy and neuroticism in the tattooed group than in the non-tattooed group, while there was no significant difference in the intensity of the PTSD symptoms.

Key Words: Tattoo, personality traits, PTSD

INTRODUCTION

The tattoo has been a part of human history from the dawn of civilization. Literature often mentions the presence of tattoos in Egyptian mummies dating from the second millennium BC.¹ Biblical texts are certainly among the oldest

written testimonies of the attitudes towards tattoo, where it was associated with the cult of death. Classical Greek and Roman writers described tattooing as a barbarian custom, but in the years following Christ, tattooing was practiced by his followers who used it as a sign of mutual recognition until 787 AD, when tattooing was banned by the Pope's edict. The era of geographical exploration and the discovery of new lands brought Europeans in contact with many cultures which practiced tattooing.²

Most of the attitudes towards tattooing, attested in the course of history, bear negative connotations, and tattooing itself has often been a form of punishment and stigmatizing of criminals, prostitutes and similar social strata. In the recent decades, a plethora of studies have been published where the tattoo is associated with psychiatric disorders and criminal behavior. The results obtained by those studies showed that tattooed persons perform criminal behavior more frequently, have more emotional and psycho-social problems, hurt themselves more often and are more addicted to substance abuse than non-tattooed individuals. Generally speaking, tattooed persons are socially unstable.^{3,4}

However, those studies are mostly dated, so it is justifiable to ask what the results would show today, given that in recent years tattooing has gained ground and has become significantly more popular among the young, and among those who young people regard as their idols.

Many young athletes and show-biz people use tattoos as a means of self-expression; to emphasize their individuality, make political statements, record memories of lost loves or to use them as a source of inspiration.⁵

However, is it really so? Do people who decide

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to get a tattoo differ by certain personality traits from those who do not?

To try to answer this question, the examiners compared some of the personality characteristics in two groups of patients (tattooed and non-tattooed), treated at the Ward for Psycho-trauma of the Clinical Hospital Osijek from Jan 1st 2001 to Nov 15st 2002.

MATERIALS AND METHODS

The study was conducted on a sample of 100 Croatian veterans treated at the Ward for Psycho-trauma of the Clinical Hospital Osijek from Jan 1st 2001 to Nov 15st 2002.

The sample was formed by successive admission of 100 patients all of whom had already been diagnosed as patients with Posttraumatic Stress Disorder (PTSD), caused by war psycho-trauma, during their previous out-patient treatment. At the beginning of the in-patient treatment the diagnosis was verified according to DSM/IV diagnostic criteria (APA, 1994).

The sample was divided into two groups: Group I comprised of 67 patients who were not tattooed, and Group II of 33 tattooed patients.

All tattooed patients had undergone tattooing before the exposure to war trauma.

All the subjects were male, 36 to 38 years old (in Group I $M=36.24 \pm 0.75$ years and $M=38.42 \pm 0.88$ years in Group II), with high school diploma (59%) married (77%), unemployed (82%) and relying on some form of social care (68%) (welfare or retirement). Demographic variables did not differ significantly among the subjects.

All the patients were examined by the same psychiatrist, using the evaluation scale CAPS-2.⁶

The psychological tests used were standardized for the Croatian population and all the patients were tested by the same psychologist.

All patients gave informed, written consent, and the study itself was approved of by the Ethical Committee Board of the Clinical Hospital Osijek.

Instrument description

a) Clinical Administered PTSD Scale (CAPS-2).

In this research we decided to use CAPS-2, as

we wanted to acquire information as precise as possible about the symptoms of the disorder. Caps-2 measures the presence of PTSD symptoms in the last week. For each diagnostic field the average grade was entered with each field assessed by 0 to 8 points. The maximum number of points was 136.

b) Purdue non-verbal IQ test is designed to measure mental capabilities. It is comprised of 48 tasks to draw geometrical shapes. It can be used for subjects older than 16, for groups as well as individuals, and takes 25 minutes. Usage of bubble sheets and norms adjusted to subjects' age make the evaluation objective.⁷

c) MMPI-1 Minnesota Multiphasic Personality Inventory.⁸

MMPI tests the psychopathology of adults. The basic scales are validity and clinical. In our study, we used the variant of the test that features three control scales and eight psychopathology scales (hypochondria, depression, hysteria, psychopathy, paranoia, psychasthenia, schizophrenia and mania). Usage of bubble sheets makes the evaluation objective. For this research we used only the scale of psychopathic traits (Pd).

d) Eysenck's Personality Questionnaire - EPQ/ A and EPQ/IVE.⁹

EPQ/IVE was used to measure impulsiveness, adventurism/risk behavior and empathy. The questionnaire is comprised of 54 cells.

EPQ/A was used to measure introvertedness-extravertedness, neuroticism and psychoticism. The questionnaire is comprised of 106 cells. Usage of bubble sheets and norms adjusted to the sex and age of the subjects make the evaluation objective.

The results obtained from these tests were then statistically processed. We calculated the average values (mean and frequencies), as well as variability (standard deviation). Statistical significance of the differences was tested by chi-square test (X^2 test) and variance analysis. Statistically significant differences were accepted at the level $p < 0.05$. For statistical calculations we used SPSS for Windows.

RESULTS

In Groups I and II, 13 and 10 subjects, respectively, had experienced some sort of psychopathology, such as various neurotic manifestations and wetting the bed, during childhood or puberty. No subjects showed psychotic disorders. With respect to previous psychiatric disorders (before exposure to psycho-trauma), we did not find any statistically significant difference between the two groups we tested.

We assessed a possible identification influence of parental figures on the decision to get a tattoo by counting the tattoos in the parents. Five and 7 subjects in Groups I and II, respectively, had fathers with a tattoo. No subject's mother had a tattoo. These differences were not statistically significant.

To evaluate the intensity of PTSD symptoms and to determine whether there was a difference between the subjects with respect to clinical features of PTSD, we used the evaluation scale CAPS-2.

In Groups I and II, the average values were 61.1 and 63.8 points, respectively. There was no statistically significant difference between the groups with respect to the seriousness of the clinical features of PTSD (Table 1).

The intellectual capabilities of the subjects were measured by Purdue non-verbal IQ test. Even though both groups had an IQ within the average range (90-110), Group I achieved somewhat higher

scores on the test (IQ=100) than Group II did (IQ=95). This difference was statistically significant ($\chi^2=0.73$; $p<0.05$).

In MMPI questionnaire we analyzed the scale that evaluates psychopathy. The subjects in Group I scored 21.98 points, and those in Group II scored 22.37 points. All subjects' results were verging on pathological (norm 23), but there was no statistically significant difference between the groups with respect to the level of psychopathic characteristics.

We used EPQ/IVE questionnaire to measure impulsiveness, adventurism/risk behavior and empathy (Table 2). The examined characteristics were higher than the norms in both groups, but the subjects in Group II had statistically significantly higher values on all scales than Group I subjects did ($p<0.05$).

EPQ/A questionnaire was used to measure psychoticism, extravertedness-introvertedness and neuroticism (Table 2). All subjects showed values that differed from the norms in all the examined variables, but statistically significant difference between the groups was registered only in Group II having more prominent neuroticism than Group I ($\chi^2=0.75$; $p<0.05$).

DISCUSSION

The results of this study showed that 33% of the subjects had a tattoo. This is in accordance with

Table 1. Comparison of Groups I and II with Respect to Age, Previous Psychiatric Disorders, Tattoo of Parents and PTSD Symptoms as Shown on the Clinical Administered PTSD Scale (CAPS)

	Non-tattooed (N=67)	Tattooed (N=33)	df	F	F critical	p
Age	M=36.24 S=0.75	M=38.42 S=0.88	66/32	1.48	1.7	>0.05 NS
Psychiatric disorders in childhood	N=13 D=No	N=10 D=No	2	1.05	5.99	>0.05 NS
Tattoo in parents	N=5 D=No	N=7 D=No	1	1.78	3.84	>0.05 NS
Clinical Administered PTSD Scale	M=61.61 S=0.92	M=63.76 S=1.23	66/32	1.14	1.7	>0.05 NS

Index: M=mean.

S=standard deviation.

D=dominant value.

Table 2. Comparison of Groups I and II with Respect to the Applied Psychological Tests

	Non-tattooed (N=67)	Tattooed (N=33)	df	χ^2	χ^2 critical	<i>p</i>
Intelligence	M=100.19 S=18.52	M=94.96 S=21.62	66/32	0.73	0.61	<0.05 S
MMPI-psychopathy	M=21.98 S=0.63 Norm to 23	M=22.37 S=0.89 Norm to 23	66/32	1.01	1.63	>0.05 NS
Eysenck Personality Questionnaire - IVE						
Impulsiveness	M=10.50 S=4.76 Norm < 7.06	M=11.87 S=0.73 Norm < 7.06	66/32	0.76	0.58	<0.05 S
Adventurism	M=5.87 S=4.41 Norm > 7.25	M=7.56 S=4.26 Norm > 7.25	66/32	0.89	0.58	<0.05 S
Empathy	M=9.62 S=4.20 Norm > 11.87	M=10.52 S=4.37 Norm > 11.87	66/32	0.95	0.58	<0.05 S
Eysenck Personality Questionnaire - A						
Psychoticism	M=10.65 S=0.66 Norm < 6.69	M=11.59 S=1.10 Norm < 6.69	66/32	1.36	1.63	>0.05 NS
Introvertedness	M=6.84 S=0.60 Norm > 11.92	M=6.25 S=0.61 Norm > 11.92	66/32	0.51	0.58	>0.05 NS
Extravertedness						
Neuroticism	M=18.86 S=0.46 Norm < 11.92	M=19.41 S=0.56 Norm < 11.92	66/32	0.75	0.58	<0.05 S

Index: M=mean.

S=standard deviation.

D=dominant value.

the results of Rooks et al. They considered 1999 patients examined at the Emergency Department in 24 hours. In the age group 16-35, they found tattooed subjects were 35%, and in the age group 36-50 they were 28%.¹⁰ Our sample population was definitely not as representative of the general population as that used by Rooks et al., so we cannot use our results to draw conclusions about tattoo gaining ground in the general public.

A methodological objection to our research might be the presence of psycho-pathology among the groups we examined. Perhaps it would be more useful to examine a population that is not involved with health care; such as subjects whose contact with the psychiatry ward is unknown, and determine whether there are differences between the tattooed and non-tattooed and compare the

percentage of the tattooed in the general population with that in a psychiatrically treated population. Such research would, however, probably involve grave difficulties, not the least of which is the issue of funding.

With respect to the examined characteristics, such as the presence of psycho-pathology, tattooed parents, and CAPS results, the examined groups were equal. However, the subjects in both of the groups had some form of pre-traumatic psychopathology, which is in accordance with the general opinion that the development of PTSD greatly depends on certain predispositions.

Despite the fact that a statistically significant difference was found in IQ between the two groups, the values of both groups were within average values, and it is therefore hard to draw

significant conclusions about the connection between tattooing and intelligence. It would have been more realistic to expect a somewhat lower level of intelligence in both groups, since some research has shown that lower IQ is one of the risk factors in exposure to psycho-trauma and PTSD development.¹¹

We decided to analyze the MMPI cell that assesses the level of psychopathy, since much research has indicated a strong connection between tattoo and personality disorders.¹²⁻¹⁴ The norm for this scale is up to 23 points. According to our results, MMPI did not reveal any difference between the examined groups with respect to assessment of psychopathic deviation. The results of both groups were at the higher limit, but this can be partially explained through the interfering effect of PTSD symptoms, especially those that refer to increased excitability and difficulties in aggression control. Contrary to our results, Kim applied MMPI to 2,178 tattooed young men, aged 19-24, and found high values on psychopathy scales.¹⁵ Based on his results, he claimed that persons with tattoo are impulsive, and prone to violence and delinquent behavior.¹⁵

We used EPQ/IVE questionnaire to examine the following personality traits: impulsiveness, adventurism/risk behavior and empathy. The results indicated a higher level of impulsiveness, which can be explained by the effect of PTSD symptoms, and a lower level of adventurism/risk behavior, which could also be accounted for by the need for this behavior having already been satisfied through taking part in the war. Significantly higher values in the tattooed subjects do indicate more prominent personality pathology in this group, and such results are in line with similar research.¹²⁻¹⁴

Despite the fact that EPQ is widely applicable in clinical psychiatry, in the databases that were accessible to us we did not manage to find any data about possible studies of the tattoo phenomenon in which EPQ had been used. In the field of psycho-trauma, this instrument was used to measure neuroticism and extravertedness-introvertedness, as a means to determine which psychological profiles might manifest a more prominent tendency to be exposed to trauma and to develop PTSD. Schnurr and Vielhauer showed

that neuroticism is the most consistent factor in the development of PTSD.¹⁶ Breslau et al. determined that retrospectively registered neuroticism and extravertedness prospectively influence a greater tendency to exposure to psycho-traumatic events.¹⁷ This fact might be useful in clinical practice, especially in choosing people for different professions which involve a high probability of exposure to psycho-traumatic experiences, such as military, fire-fighting, Emergency Rescue etc. Given the above mentioned studies, and with tattooed patients showing more prominent neuroticism than non-tattooed, this might be additional guidance, or at least a warning, for choosing people for high-risk professions.^{16,17}

In a group of 100 Croatian veterans, treated for posttraumatic stress disorder (PTSD), 33 had tattoos and 67 did not.

There were no statistically significant differences between the tattooed and non-tattooed subjects according to age, psychiatric disorder during childhood or existing parent tattoos.

The results of the applied psychological tests indicated more impulsiveness, adventurism / risk behavior, empathy and neuroticism in the tattooed group than in the non-tattooed group.

Despite the differences mentioned above, there was no significant difference in the intensity of the PTSD symptoms.

The results are a good starting point for conducting new research in this area which should include a non-psychiatric population as well.

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