Research Article

Massive use of tattoos and psychopathological clinical evidence

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Abstract

Purpose: This research aims to identify any recurrent psychopathological profiles in individuals who abuse tattoos and that, for this reason, the tattoo itself could be the manifestation of a specific symptom.

Methods: Clinical interview and administration of the MMPI-II and PICI-1.

Results: The research on a population sample of 444 people has shown a strong psychopathological tendency in the MMPI-II that is confirmed in the PICI-1 (TA version); in fact, the data are even more significant and expressive a precise psychopathological diagnosis of personality. In the male group with a percentage of less than 25%, at least three dysfunctional traits of anxiety, phobic, obsessive, somatic, borderline and antisocial disorder emerged individually. In the male group with a percentage between 26% and 50%, at least four dysfunctional traits of borderline, narcissistic, sadistic and masochistic disorder emerged individually. In the male group with a percentage between 51% and 75%, at least five dysfunctional traits of bipolar, borderline, narcissistic, antisocial, sadistic and masochistic disorder emerged individually. In the male group with a percentage between 76% and 100%, at least six dysfunctional traits of borderline, narcissistic, antisocial, sadistic and masochistic disorder emerged individually. In the female group with a percentage of less than 25%, at least three dysfunctional traits of anxiety, phobic, obsessive, somatic and bipolar disorder emerged individually. In the female group with a percentage between 26% and 50%, at least four dysfunctional traits of borderline, borderline, anxiety, phobic, obsessive, somatic, sadistic and masochistic disorder emerged individually. In the female group with a percentage between 51% and 75%, at least five dysfunctional traits of bipolar, borderline, narcissistic, antisocial, sadistic and masochistic disorder emerged individually. In the female group with a percentage between 76% and 100%, at least six dysfunctional traits of bipolar, borderline, narcissistic, antisocial, sadistic and masochistic disorder emerged individually.

Conclusions: On the basis of these data, it is reasonable to argue that as the percentage of body surface area covered by tattoos increases, so do the dysfunctional traits of a specific main disorder. In particular, the recurrent dysfunctional traits are anxious, phobic, obsessive, somatic and bipolar in subjects with less than 25% of the body surface covered by tattoos, while borderline, narcissistic, antisocial, sadistic and masochistic traits are more frequent in subjects with more than 26% of the body surface covered by tattoos. Comparing the data with the control group we reasonably come to the conclusion that the use of tattoos is not directly related to the presence of one or more psychopathologies, but if the use is massive this is a fairly robust indicator of the likely presence of a significant number of psychopathological traits of the same morbid condition.

Contents of the manuscript

Introduction and background

Tattooing is considered to be a technique of human bodily decoration, while the product of this technique is famously called “tattoo” and consists (in its traditional form) of incising the skin by delaying healing with special substances or of puncturing it by introducing dyes into the wounds. Therapeutic tattoos have been found on the mummy of the ‘Pazyryk man’ in Central Asia with intricate animal tattoos, or that of the Ukok princess (Altai Mummy) dating from around 500 B.C. depicting an imaginary animal (deer and griffin) of a high artistic level. Among the ancient civilisations where tattooing developed was Egypt, but also ancient Rome, where it was banned by Emperor Constantine, following his conversion to Christianity. It should also be noted that, before Christianity became a licit religion and later the state religion, many Christians tattooed religious symbols on their skin to mark their spiritual identity. Tattooing re-emerged from the shadows in the second half of the 19th century and later the 20th

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century, with the publication in 1876 of Cesare Lombroso’s essay ‘L’uomo delinquente’ (Criminal Man). Lombroso closely correlates tattoos with the criminal’s innate moral degeneration: the tattooed sign is one of those anatomical anomalies capable of recognising the anthropological type of the criminal. The born criminal shows specific anthropological characteristics that bring him closer to primitive animals and humans, and the act of tattooing by repeat offenders is a sign of regression to the primitive, wild state. Following the spread of Cesare Lombroso’s theories, tattoos were further censored and this is why, unlike in other Western countries, no professional studios or workshops were set up until the end of the 1970s. From the end of the sixties and the beginning of the seventies of the last century, tattoo culture gradually spread, first in young hippy subcultures, in prisons and among motorcyclists, and then slowly conquered every social stratum and age group. Between the end of the 1990s and the early 2000s, tattoos became increasingly popular, driven by the popularity of the public figures who had them on their bodies, and from a simple phenomenon of custom it became a fashion for people of all ages, although there is still a percentage of risk of contraindications, especially if already suffering from skin diseases, predisposition to allergies, photosensitivity, vulnerability to bacterial and viral infections, coagulation disorders, immunosuppressive conditions, serious cardiac abnormalities treated with drugs and pregnancy [1-5]. Tattoo removal has been carried out using different tools throughout the history of tattoos. While tattoos were once considered non-invasive removal of tattoo pigments using Q-switched lasers, which were commercially available in whole or in part. Prior to the development of the laser tattoo removal method, the most common removal techniques included dermabrasion, TCA (trichloroacetic acid, an acid that removes the upper layers of the skin, reaching the layers where the ink resides), salabrasion (rubbing the skin with salt), cryosurgery, and incisions, which are sometimes still used in conjunction with skin grafting for larger tattoos. Some earlier forms of tattoo removal included the injection or application of wine, lemon, vinegar or pigeon droppings. Laser tattoo removal was initially performed with continuous wave lasers, and later with Q-switched lasers, which were commercially available from 1990. Today the words “laser tattoo removal” refer to the non-invasive removal of tattoo pigments using Q-switched lasers and typically black and darker inks are removed more easily [6-10].

Research objectives and Methods

This research aims to identify any recurrent psychopathological profiles in individuals who abuse tattoos and that, for this reason, the tattoo itself could be the manifestation of a specific symptom.

The phases of the research were divided as follows:

1) Selection of the population sample.

2) Individual clinical interview.

3) Administration of the MMPI-II and PICI-1 [11], to each population group.

4) Data processing following administration, in relation to data obtained from clinical interviews and the administration of the MMPI-II and PICI-1 [12,13].

All participants were guaranteed anonymity and respects the ethical, moral and clinical content of the 1964 Declaration of Helsinki.

Setting and participants

The requirements decided for the selection of the sample population are:

1) Age between 18 years and 75 years.

2) Residence or domicile on Italian territory for at least 5 year, regardless of nationality and/or citizenship.

3) Male and female gender.

4) Absence of psychopathological diagnosis before tattooing.

5) Percentage of soiling of the body surface greater than 5%.

To calculate the %, the body should be divided into the following districts (including front and back): head and neck [I], shoulders and chest [II], arms and hands [III], abdomen, groin and buttocks [IV] legs and feet [V]. Each district is equivalent to 20%. The percentage per district is calculated based on the extent of the tattoo, assigning the value of 1%, 2% 5%, 7%, 10%, 15% or 20% based on how much skin is not tattooed. Extensive tattoos exceeding 200 square centimetres in volume or those present in the following anatomical parts automatically equal 20% even if there are (in that district) parts of skin that are not tattooed: face, neck, hands, wrists and areas that the person tends to keep uncovered more frequently. Extensive tattoos exceeding 180 square centimetres in volume, if present in the legs and arms but only on one side, are worth 10%. To calculate the volume of the tattoo, multiply its base by its height (in square centimetres). Let’s take an example. Let’s take a 36 year old adult with 7 tattoos in the following areas: a) Right chest, 25 square centimetres in volume; b) Left deltoid, 9 square centimetres in volume; c) High back, 49 square centimetres in volume; d) Left forearm, 14 square centimetres in volume; e) Right thigh, 225 square centimetres in volume; f) Left foot, 12 square centimetres in volume; g) Right malleolus, 1 square centimetre in volume. By dividing the body into districts it is possible to assign percentages to each tattoo: a) Right chest, 25 square centimetres in volume = II district, 5%; b) Left deltoid, 9 square centimetres of volume = II district, 2%; c) High back, 49 square centimetres of volume = II district, 5%; d) Left forearm, 14 square centimetres of volume = III district, 2%; e) Right thigh, 225 square centimetres of volume = V district, 10%; f) Left foot, 12 square centimetres in volume = V district, 2%; g) Right malleolus, 1 square centimetre of volume = V district, 1%; Summarising by districts: the first is 0/20, the second is 12/20, the third is 2/20, the fourth is 0/20 and the fifth is 13/20, giving an overall total of 27/100 (27%).

The selected setting, taking into account the protracted
pandemic period (already in progress since the beginning of the present research), is the online platform via Skype and Videocall Whatsapp, both for the clinical interview and for the administration.

The present research work was carried out from June 2020 to December 2020.

The selected population sample is 444 participants, divided into four groups:

| Sex          | Population sample | Total |
|--------------|-------------------|-------|
| Male         | Female            |       |
| 6% - 25%     | 144               | 78    | 222  |
| 26% - 50%    | 102               | 42    | 144  |
| 51% - 75%    | 34                | 22    | 56   |
| 76% - 100%   | 16                | 6     | 22   |
| **Total**    | **296**           | **148**| **444** |

The same reasoning was applied to the selected control group, consisting of 444 participants with the following participation requirements:

1) Age between 18 years and 75 years.

2) Residence or domicile on Italian territory for at least 5 years, regardless of nationality and/or citizenship.

3) Male and female gender.

4) Absence of psychopathological diagnosis.

5) Absence of tattoos on the body and declaration by the participant in the control group not to want the application of a tattoo on his body.

The control group was not subdivided into groups because of the necessity and priority of a comparison with respect to the possible presence of one or more psychopathological disorders; therefore, were subjected exclusively to PICI-1(TA).

Results, limits and possible conflicts of interest

Once the sample of the population that met the requirements had been selected (first stage), the participants were subjected individually to a clinical interview (second stage), aimed at obtaining as complete a personal and family history as possible. The following relevant data emerged from the clinical interview:

The main recurrent reasons for getting tattoos are: personal emotional meaning or overcoming a traumatic event (45.5%, 202/444), aesthetic beauty (40%, 178/444), fashion and social trend (10%, 44/444), mirroring a partner or a familiar or friendly person (4.5%, 20/444). The relationships between the male and female samples are substantially equal and preserved.

17.1% (76/444) regretted having tattooed their body, with a greater tendency among women (55.3%, 42/76).

As the frequency of the percentage of tattoos on the body increases, the borderline, narcissistic and antisocial symptoms worsen.

The clinical interview and anamnestic reconstruction reveal very clear and sharp personality profiles [14-47].

The male gender of the selected sample of the population (296/444) exhibits mood instability, marked instinctiveness and aggression, obsessive and paranoid thoughts, listlessness, boredom and humour decline, marked narcissistic tendency and a strong inclination towards sadistic/ masochistic traits.

The female gender of the selected sample of the population (148/444) exhibits obsessive and paranoid thoughts about their physical appearance, somatic and body dysmorphic symptoms (in some cases even leading to the need for surgery), listlessness, boredom, bipolar, borderline, narcissistic symptoms and and a strong inclination towards sadistic/ masochistic traits.

4) The population sample selected denies having a previous psychopathological diagnosis and/or need for therapeutic intervention, despite the symptoms found and described in the anamnesis.

The third phase is dedicated to the administration of the MMPI-II and the PICI-1 (TA version). [45-47] In the first case, the data emerged confirm what had already been noted during the clinical interview (presence of at least 65 correct points in the following scales, with at least 50% frequency):

The data from the PICI-1 (TA version) [2,3] were administered and analysed, as listed below: The control group, subjected in the last phase to the administration of PICI-1(TA) reported the following values:

The main limitations of the research is one: the PICI-1 is not yet standardised psychometric instruments but are proposed, despite the excellent results obtained and already published in international scientific journals [11-13].

This research has no financial backer, it’s independent and does not present any conflicts of interest.

Conclusions

The research on a population sample of 444 people demonstrated

Very contrasting values emerge from the MMPI–II. Among the clinical scales, the values above the 50% frequency are: for the male gender, 63.2% of the hypomania scale, 67.9% of the schizophrenia scale, 75.3% of the paranoia scale and 82% of the psychopathic deviation scale; for the female gender, 65.5% of the schizophrenia scale, 68.9% of the anxiety scale, 70.6% of the hypomania scale, 73.6% of the depression scale, 80.4% of the hysteria scale, 85.8% of the psychopathic deviance scale and 86.5% of the paranoia scale. On the other hand, in relation to the content scales, if in the male group the anxiety and depression scales are below the threshold, in contrast to the female group, the remaining scales are extremely high: 70.1% of the social discomfort scale, 81.4% of the antisocial behaviour scale, 82.7% of the anger scale and 92.7% of the family problems scale. In particular, in the groups with more than
## Clinical Scale

| SCALE | Hs | D | Hy | Pd | Pa | Sc | Ma |
|-------|----|---|----|----|----|----|----|
| Significance | Hypochondria | Depression | Hysteria | Psychopathic deviation | Paranoia | Schizophrenia | Hypomania |
| Frequency (m) | < 50% | < 50% | < 50% | 243/296 (82%) | 223/296 (75.3%) | 201/296 (67.9%) | 187/296 (63.2%) |
| Frequency (f) | 102/148 (68.9%) | 109/148 (73.6%) | 119/148 (80.4%) | 127/148 (85.8%) | 128/148 (86.5%) | 97/148 (65.5%) | 105/148 (70.9%) |

## Content Scales

| Scale | ANX | DEP | ANG | CYN | ASP | SOD | FAM |
|-------|-----|-----|-----|-----|-----|-----|-----|
| Significance | Anxiety | Depression | Anger | Cynicism | Antisocial behaviour | Social discomfort | Family problems |
| Frequency (m) | < 50% | < 50% | 254/296 (85.8%) | 234/296 (79%) | 227/296 (76.7%) | 211/296 (71.3%) | 271/296 (91.5%) |
| Frequency (f) | 102/148 (68.9%) | 110/148 (74.3%) | 118/148 (79.7%) | 128/148 (86.5%) | 127/148 (85.8%) | 103/148 (69.6%) | 139/148 (93.9%) |

### Population sample

| Sex | Male | Female |
|-----|------|--------|
| List of main personality disorders identified by PICI-1 data from PICI-1 data |
| % of body surface area affected by tattoos |
| 6% - 25% | They individually present at least 3 dysfunctional traits of the disorder anxious, phobic, obsessive, somatic, borderline and antisocial disorder |
| 26% - 50% | They individually present at least 4 dysfunctional traits of bipolar disorder, borderline, narcissistic, sadistic and masochistic |
| 51% - 75% | They individually present at least 5 dysfunctional traits of bipolar disorder, borderline, narcissistic, antisocial, sadistic and masochistic |
| 76% - 100% | They individually present at least 6 dysfunctional traits of bipolar disorder, borderline, narcissistic, antisocial, sadistic and masochistic |

### Control group

| Pathological traits | 4 pathological traits |
|---------------------|------------------------|
| Sex | Male | Female |
| Male | 296/444 | 148/444 |
| 1) | Anxious | 10/296 | 1) | Anxious | 20/148 |
| 2) | Phobic | 3/296 | 2) | Phobic | 7/148 |
| 3) | Avoidant | 1/296 | 3) | Avoidant | 3/148 |
| 4) | Obsessive | 10/296 | 4) | Obsessive | 6/148 |
| 5) | Somatic | 8/296 | 5) | Somatic | 6/148 |
| 6) | Manic | 8/296 | 6) | Manic | 1/148 |
| 7) | Bipolar | 5/296 | 7) | Bipolar | 4/148 |
| 8) | Emo-Behav. | 10/296 | 8) | Emo-Behav. | 3/148 |
| 9) | Dependent | 4/296 | 9) | Dependent | 1/148 |
| 10) | Depressive | 20/296 | 10) | Depressive | 12/148 |
| 11) | Borderline | 20/296 | 11) | Borderline | 16/148 |
| 12) | Histrionic | 5/296 | 12) | Histrionic | 1/148 |
| 13a) | Narciss. Overt | 3/296 | 13a) | Narciss. Overt | 2/148 |
| 13b) | Narciss. Covert | 5/296 | 13b) | Narciss. Covert | 4/148 |
| 14) | Antisocial | 15/296 | 14) | Antisocial | 4/148 |
| 15) | Sadistic | 3/296 | 15) | Sadistic | 1/148 |
| 16) | Masochistic | 4/296 | 16) | Masochistic | 5/148 |

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|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| 17) | Psychopathic | 1/296 | 17) | Psychopathic | 1/148 |
| 18) | Schizophrenic | 0/296 | 18) | Schizophrenic | 0/148 |
| 19) | Schizoid | 0/296 | 19) | Schizoid | 0/148 |
| 20) | Schizotypal | 0/296 | 20) | Schizotypal | 0/148 |
| 21) | Schizoaffective | 0/296 | 21) | Schizoaffective | 1/148 |
| 22) | Delusional | 7/296 | 22) | Delusional | 2/148 |
| 23) | Paranoid | 11/296 | 23) | Paranoid | 3/148 |
| 24) | Dissociative | 2/296 | 24) | Dissociative | 1/148 |
|   |   |   |   |   |   |   |
| 1) | Anxious | 2/296 | 1) | Anxious | 3/148 |
| 2) | Phobic | 1/296 | 2) | Phobic | 1/148 |
| 3) | Avoidant | 1/296 | 3) | Avoidant | 1/148 |
| 4) | Obsessive | 3/296 | 4) | Obsessive | 1/148 |
| 5) | Somatic | 0/296 | 5) | Somatic | 1/148 |
| 6) | Manic | 1/296 | 6) | Manic | 1/148 |
| 7) | Bipolar | 3/296 | 7) | Bipolar | 2/148 |
| 8) | Emo-Behav. | 0/296 | 8) | Emo-Behav. | 0/148 |
| 9) | Dependent | 0/296 | 9) | Dependent | 0/148 |
| 10) | Depressive | 2/296 | 10) | Depressive | 0/148 |
| 11) | Borderline | 3/296 | 11) | Borderline | 0/148 |
| 12) | Histrionic | 0/296 | 12) | Histrionic | 0/148 |
| 13a) | Narciss. Overt | 1/296 | 13a) | Narciss. Overt | 0/148 |
| 13b) | Narciss. Covert | 0/296 | 13b) | Narciss. Covert | 0/148 |
| 14) | Antisocial | 1/296 | 14) | Antisocial | 0/148 |
| 15) | Sadistic | 0/296 | 15) | Sadistic | 0/148 |
| 16) | Masochistic | 0/296 | 16) | Masochistic | 0/148 |
| 17) | Psychopathic | 0/296 | 17) | Psychopathic | 0/148 |
| 18) | Schizophrenic | 0/296 | 18) | Schizophrenic | 0/148 |
| 19) | Schizoid | 0/296 | 19) | Schizoid | 0/148 |
| 20) | Schizotypal | 0/296 | 20) | Schizotypal | 0/148 |
| 21) | Schizoaffective | 0/296 | 21) | Schizoaffective | 0/148 |
| 22) | Delusional | 0/296 | 22) | Delusional | 0/148 |
| 23) | Paranoid | 1/296 | 23) | Paranoid | 1/148 |
| 24) | Dissociative | 0/296 | 24) | Dissociative | 0/148 |
|   |   |   |   |   |   |   |
| 1) | Anxious | 1/296 | 1) | Anxious | 1/148 |
| 2) | Phobic | 0/296 | 2) | Phobic | 0/148 |
| 3) | Avoidant | 0/296 | 3) | Avoidant | 0/148 |
| 4) | Obsessive | 0/296 | 4) | Obsessive | 1/148 |
| 5) | Somatic | 0/296 | 5) | Somatic | 0/148 |
| 6) | Manic | 0/296 | 6) | Manic | 0/148 |
| 7) | Bipolar | 0/296 | 7) | Bipolar | 0/148 |
| 8) | Emo-Behav. | 0/296 | 8) | Emo-Behav. | 0/148 |
| 9) | Dependent | 0/296 | 9) | Dependent | 0/148 |
| 10) | Depressive | 0/296 | 10) | Depressive | 0/148 |
| 11) | Borderline | 1/296 | 11) | Borderline | 1/148 |
| 12) | Histrionic | 0/296 | 12) | Histrionic | 0/148 |
| 13a) | Narciss. Overt | 0/296 | 13a) | Narciss. Overt | 0/148 |
| 13b) | Narciss. Covert | 0/296 | 13b) | Narciss. Covert | 0/148 |
| 14) | Antisocial | 0/296 | 14) | Antisocial | 0/148 |
50% of the body surface tattooed, we find the highest values of the clinical scales of paranoia and psychopathic deviance, as well as the highest values of the content scales of cynicism, antisocial behaviour and family problems.

From PICI–1 (TA version), the data are even more significant and express a precise psychopathological diagnosis of personality. In the male group with a percentage of less than 25%, at least three dysfunctional traits of anxiety, phobic, obsessive, somatic, borderline and antisocial disorder emerged individually. In the male group with a percentage between 26% and 50%, at least four dysfunctional traits of borderline, narcissistic, sadistic and masochistic disorder emerged individually. In the male group with a percentage between 51% and 75%, at least 5 dysfunctional traits of bipolar, borderline, narcissistic, antisocial, sadistic and masochistic disorder emerged individually. In the female group with a percentage between 76% and 100%, at least 6 dysfunctional traits of borderline, narcissistic, antisocial, sadistic and masochistic disorder emerged individually. In the female group with a percentage of less than 25%, at least three dysfunctional traits of anxiety, phobic, obsessive, somatic, borderline and bipolar disorder emerged individually. In the female group with a percentage between 26% and 50%, at least four dysfunctional traits of borderline, borderline, anxiety, phobic, obsessive, somatic, sadistic and masochistic disorder emerged individually. In the female group with a percentage between 51% and 75%, at least five dysfunctional traits of bipolar, borderline, narcissistic, antisocial, sadistic and masochistic disorder emerged individually. In the female group with a percentage between 76% and 100%, at least 6 dysfunctional traits of bipolar, borderline, narcissistic, antisocial, sadistic and masochistic disorder emerged individually. In the female group with a percentage of less than 25%, at least three dysfunctional traits of anxiety, phobic, obsessive, somatic, borderline and bipolar disorder emerged individually. On the other hand, the control group scored, with regard to 4 dysfunctional traits, 159/296 for the male group and 100/148 for the female group; with regard to 5 dysfunctional traits, 19/296 for the male group and 11/148 for the female group; with regard to 6 or more dysfunctional traits, 3/296 for the male group and 4/148 for the female group. Overall, in the control group, the following results were obtained: 61.15% of the male group presented at least 4 psychopathological traits, while 77.7% of the female group presented at least 4 psychopathological traits.

Based on these data, recurrent dysfunctional traits are anxious, phobic, obsessive, somatic and bipolar in subjects with less than 25% of body surface covered by tattoos, while borderline, narcissistic, antisocial, sadistic and masochistic traits are more frequent in subjects with more than 26% of body surface covered by tattoos. Comparing the data with the control group we reasonably come to the conclusion that the use of tattoos is not directly related to the presence of one or more psychopathologies, but if the use is massive this is a fairly robust indicator of the likely presence of a significant number of psychopathological traits of the same morbid condition.

In the light of the significant results of this research, it seems consequential to suggest to provide psychological support [48,49] to all subjects presenting at least 3 dysfunctional traits of a specific disorder, starting from the meaning of tattoos on the patient’s body in order to tap into all those unconscious information about the patient and the deep reasons of his discomfort.

References
1. Palmeri A (2011) Tatuaggio. Dalle origini ai giorni nostri, Massa, Eclettica.
2. Feretto G, Feretto N (2008) Messaggi sulla pelle. Tatuaggio e antichi simboli, Chiaviari, Internos.
3. Carella AL (2011) Il fuoco sulla pelle. L’arte del tatuaggio tradizionale giapponese, Roma, Castelvecchi.
4. Armstrong ML (2008) Motivation for contemporary tattoo removal: a shift in identity. Arch Dermatol 144: 879-884. Link: https://bit.ly/3uZ5nHO
5. Sadick NS, Krueger N (2014) Advances in cosmetic dermatology, an issue of dermatologic clinics. Philadelphia, Elsevier Saunders. Link: https://bit.ly/3zUuJoI
6. Sardana K, Ranjan R, Ghunawat S (2015) Optimising laser tattoo removal. J Cutan Aesthet Surg 8: 16-24. Link: https://bit.ly/3z5gcP3
7. De Cuypere C, Cotapos ML (2009) Dermatologic complications with body art: tattoos, piercings and permanent make-up. Berlin. Link: https://bit.ly/34MOkR9
8. Kent KM, Graber EM (2012) Laser Tattoo Removal: A Review. Dermatol Surg 38: 1-13. Link: https://bit.ly/3vVklp9
9. Kirby W, Desai A, Desai T, Kartono F, Geeta P (2016) The Kirby-Desai Scale: A Proposed Scale to Assess Tattoo-removal Treatments. J Clin Aesthet Dermatol 2: 32-37. Link: https://bit.ly/34MkQI6
10. Murphy MJ (2014) A novel, simple and efficacious technique for tattoo removal resulting in less pain using the Q-switched Nd: YAG laser. Lasers Med Sci 29: 1445-1447. Link: https://bit.ly/3pnQ0jW
11. Perrotta G (2020) Perrotta Integrative Clinical Interview (PICI-1), LK Ed.
12. Perrotta G (2020) The structural and functional concepts of personality: The new Integrative Psychodynamic Model (IPM), the new Psychodiagnostic Investigation Model (PIM) and the two clinical interviews for the analysis of...
personality disorders (Perrotta Integrative Clinical Interview or PICI) for adults and teenagers (1TA version) and children (1C version), Psychiatry Peertechz, E-book.

13. Perrotta G (2020) First revision of the Psychodiagnostic Investigation Model (PIM-1R) and elaboration proposal of a clinical interview for the analysis of personality disorders (Perrotta Integrative Clinical Interview or PICI-1) for adults, teenagers and children, Psychiatry Peertechz, E-book.

14. Perrotta G (2019) Psicologia generale, Luxco Ed., 1st ed.

15. Perrotta G (2019) Psicologia dinamica, Luxco Ed., 1th ed.

16. Perrotta G (2019) Psicologia clinica, Luxco Ed., 1th ed.

17. Domjan M (2003) The Principles of Learning and Behavior, Fifth Edition, Belmont, CA: Thomson/Wadsworth.

18. APA (2013) DSM-V, Washington.

19. Perrotta G (2020) Neonatal and infantile abuse in a family setting, Journal of Pediatrics and Child Health. Open J Pediatr Child Health 5: 034-042. Link: https://bit.ly/2kApQo

20. Perrotta G (2019) Attention Deficit Hyperactivity Disorder: definition, contexts, neural correlates and clinical strategies. J Addi Adol Behav 2. Link: https://bit.ly/3aQyWU

21. Perrotta G (2019) Tic disorder: definition, clinical contexts, differential diagnosis, neural correlates and therapeutic approaches. J Neuosci Rehab 1-6. Link: https://bit.ly/3EaQgM

22. Perrotta G (2019) Anxiety disorders: definitions, contexts, neural correlates and strategic therapy. J Neur Neurosci 6: 046. Link: https://bit.ly/2WSMiAT

23. Perrotta G (2019) Neural correlates in eating disorders: Definition, contexts and clinical strategies. J Pub Health Catalog 2: 137-148. Link: https://bit.ly/3mWmnFs

24. Perrotta G (2019) The reality plan and the subjective construction of one's perception: the strategic theoretical model among sensations, perceptions, defense mechanisms, needs, personal constructs, beliefs system, social influences and systematic errors. J Clinical Research and Reports 1. Link: https://bit.ly/3b34baH

25. Perrotta G (2020) Psychological trauma: definition, clinical contexts, neural correlates and therapeutic approaches. Curr Res Psychiatry Brain Disord: CRPBD-10006. Link: https://bit.ly/37UD3b2

26. Perrotta G (2020) Human mechanisms of psychological defence: definition, historical and psychodynamic contexts, classifications and clinical profiles. Int J Neurorehabilitation Eng 7: 1. Link: https://bit.ly/2L0iSdJ

27. Perrotta G (2020) The concept of altered perception in “body dysmorphic disorder”: the subtle border between the abuse of selves in social networks and cosmetic surgery, between socially accepted dysfunctionality and the pathological condition. J Neurol Neurosci Disord 6: 001-007. Link: https://bit.ly/3aAqCj1

28. Perrotta G (2019) Panic disorder: definitions, contexts, neural correlates and clinical strategies. Current Trends in Clinical & Medical Sciences 1. Link: https://bit.ly/3B6G6D5

29. Perrotta G (2019) Obsessive-Compulsive Disorder: definition, contexts, neural correlates and clinical strategies. Scientific Journal of Neurology 1: 08-16. Link: https://bit.ly/3pxBnNu

30. Perrotta G (2019) Behavioral addiction disorder: definition, classifications, clinical contexts, neural correlates and clinical strategies. J Addi Adol Beh 2. Link: https://bit.ly/3AT9lp

31. Perrotta G (2019) Delusions, paranoia and hallucinations: definitions, differences, clinical contexts and therapeutic approaches. Scientific Journal of Neurology (CJNE) 1: 22-28.

32. Perrotta G (2019) Post-traumatic stress disorder: Definition, contexts, neural correlations and cognitive-behavioral therapy. J Pub Health Catalog 2: 40-47. Link: https://bit.ly/3rVaCc6

33. Perrotta G (2019) Sleep-wake disorders: Definition, contexts and neural corrections. J Neurol Psychol 7: 09. Link: https://bit.ly/3h6BiGo

34. Perrotta G (2019) Depressive disorders: Definitions, contexts, differential diagnosis, neural correlates and clinical strategies. Arch Depress Anxiety 5: 009-033. Link: https://bit.ly/2KADvDm

35. Perrotta G (2019) Paraphilic disorder: definition, contexts and clinical strategies. J Neuro Research 1: 4.

36. Perrotta G (2019) Internet gaming disorder in young people and adolescents: a narrative review. J Addi Adol Behav 2.

37. Perrotta G (2019) Bipolar disorder: definition, differential diagnosis, clinical contexts and therapeutic approaches. J Neuroscience and Neurological Surgery 5. Link: https://bit.ly/345oC67

38. Perrotta G (2020) Suicidal risk: definition, contexts, differential diagnosis, neural correlates and clinical strategies. J Neuroscience and Neurological Surgery 6: 114. Link: https://bit.ly/3aMcQup

39. Perrotta G (2020) Pathological gambling in adolescents and adults: definition, clinical contexts, differential diagnosis, neural correlates and therapeutic approaches. ES J Neurol 1: 1004. Link: https://bit.ly/34mnlUj

40. Perrotta G (2020) Dysfunctional attachment and psychopathological outcomes in childhood and adulthood. Open J Trauma 4: 012-021. Link: https://bit.ly/2M2ThB

41. Perrotta G (2020) Pedophilia: definition, classifications, criminological and neurobiological profiles and clinical treatments. A complete review. Open J Pediatr Child Health 5: 019-026. Link: https://bit.ly/38Jzggz

42. Perrotta G (2020) Sexual orientations: a critical review of psychological, clinical and neurobiological profiles. Clinical hypothesis of homosexual and bisexual positions. Int J Sex Reprod Health Care 3: 027-041. Link: https://bit.ly/38DEvA

43. Perrotta G (2020) Cuckolding and Troilism: definitions, relational and clinical contexts, emotional and sexual aspects and neurobiological profiles. A complete review and investigation into the borderline forms of the relationship: Open Couples, Polygamy, Polyamory. Ann Psychiatry Treatm 4: 037-056. Link: https://bit.ly/33mVRoZP

44. Perrotta G (2020) Borderline Personality Disorder: definition, differential diagnosis, clinical contexts and therapeutic approaches. Ann Psychiatry Treapm 4: 043-056. Link: https://bit.ly/3hxzB1N

45. Perrotta G (2020) Narcissism and psychopathological profiles: definitions, clinical contexts, neurobiological aspects and clinical treatments. J Clin Cases Rep 4: 12-25.

46. Perrotta G (2020) Dysfunctional sexual behaviors: definition, clinical contexts, neurobiological profiles and treatments. Int J Sex Reprod Health Care 3: 061-069. Link: https://bit.ly/3hxz4aJ

47. Perrotta G (2020) Bisexuality: definition, humanistic profiles, neural correlates and clinical hypotheses. J Neuroscience and Neurological Surgery 6. Link: https://bit.ly/2L6VXmA

48. Perrotta G (2020) The strategic clinical model in psychotherapy: theoretical and practical profiles. J Addi Adol Behav 3. 5. Link: https://bit.ly/3aFmAx9X

49. Perrotta G (2020) Accepting “change” in psychotherapy: from consciousness to awareness. Journal of Addiction Research and Adolescent Behaviour 3.