

Received: 04 April, 2020

Accepted: 19 May, 2020

Published: 20 May, 2020

\*Corresponding author: Dr. Giulio Perrotta, Psychologist sp.ing in psychotherapy with a strategic approach, Forensic Criminologist expert in sectarian cults, esoteric and security profiles, Jurist sp.ed SSPL, International Essayist, Italy; website: [www.giulioperrotta.com](http://www.giulioperrotta.com), E-mail: [giuliosr1984@hotmail.it](mailto:giuliosr1984@hotmail.it)

<https://www.peertechz.com>

Check for updates

## Review Article

# The concept of altered perception in “body dysmorphic disorder”: The subtle border between the abuse of selfies in social networks and cosmetic surgery, between socially accepted dysfunctionality and the pathological condition

**Giulio Perrotta\***

Psychologist sp.ing in psychotherapy with a strategic approach, Forensic Criminologist expert in sectarian cults, esoteric and security profiles, Jurist sp.ed SSPL, International Essayist, Italy

## Abstract

The present work focuses on the general concept of impaired perception in body dysmorphic disorder, to then extend the clinical reflections also on some social phenomena of the last generations such as the massive use of cosmetic surgery practices and the selfie trend (or “selfitis”), shifting the centrality of the discourse on the subtle boundary between the dysfunctionality of socially accepted behavior and the well-known pathological diagnosis.

## Contents of the manuscript

### The general concept of impaired perception [1]

Perception is the psychic process that synthesizes, in forms with meaning, the innumerable sensory data that reach the brain from the environment around us, according to processes of synthesis, selection, integration and evaluation. When it does not happen correctly, we will therefore speak of “impaired perception”, that is, an alteration of the ability to acquire (through the five senses) the sensory data or correctly transform it into perceptual data.

Therefore, if sensation is the product of stimulation and receptor reactivity through the five senses (sight, hearing, smell, touch, taste), we will speak of perception in the presence of the elaboration of the elementary sensation that has reached the sense organ.

Thanks to the studies of Weber (on the differential threshold or threshold of relevance of the perceived stimulus) and Fechner (on the sensation, directly proportional to the logarithm of the intensity of the stimulus), we came to say that:

The thesis that supported “sensation = perception” (so-called naive realism) is incorrect, while the hypothesis that



foresees the analytical difference (so-called critical realism) is correct;

Only the stimuli to which the sense organ is sensitive are perceived (for example the human eye will never be able to perceive ultraviolet light, even if it exists);

The stimulus, to be registered by the sense organ, must be sufficiently intense, in an absolute sense (in practice, the sensory instrument must be calibrated for those particular frequencies, for example the human ear is unable to perceive ultrasound even if it exists).

In the context of “critical realism” there are several theoretical approaches:

1) an *Associationist or Atomistic approach* by Helmholtz (1878), which provided for a perceptive system made up of two relatively separate but communicating systems: elementary sensations (I) and cognitive apperceptive layer (II)

2) *Gestalt approach*, which preferred to pay attention to form and representation. Therefore, several authors contributed:

a) for Metzger, the level of visual perception is not flat but three-dimensional

b) for Rubin, the visual field is differentiated in the background and Figure

c) for Wertheimer, the perceptual field was organized by a series of rules: good shape (the perceived structure is always the simplest); proximity (the elements are grouped according to distances); similarity (tendency to group similar elements based on similarities); proximity (tendency to group similar elements based on close distance); closure (tendency to group similar elements based on known closed forms); continuity (all elements are perceived as belonging to a coherent whole); common destiny (if the elements are moving, those with a coherent movement are grouped); figure-background (all parts can be interpreted both as an object and as a background); intensity (in case the stimuli are ambiguous, the perception will be good based on the information taken from the retina).

3) *Cognitive approach*, which provided for the integration of the models

a) “top-down”, or the processing from top to bottom (guided by the experience that influences the perception)

b) “bottom-up”, i.e. the processing from the bottom up (guided by the sensory data processed then in the cortical way). A typical example is Gibson’s *ecological approach*, which provides for very specific assumptions: the stimulus is described not in terms of retinal projection but in terms of “optical structure” (ie image that reaches the retina); the stimulus is perfect as it is; the set of information given by the context and the movement of the observer is called “environmental optical structure”.

4) *Constructivist Approach*, which has its foundation in the following assumption: “perception is an inferential process (ie based on hypotheses), given that the sensory information

coming from the external environment is ambiguous and incomplete, to reach perception it is necessary to intervention of top-down processes”. Therefore, perception:

a) it is an inferential and active process;

b) is the final process of the interaction between stimulus (from below) and experience (from above);

c) is a process that is influenced by various external factors (for example, visual disturbances, psychiatric disorders, incorrect perception, illusion, hallucinations, delusions, suggestion, impossibility of perception due to the sense organ).

Among the major exponents we remember Gregory, who starting from Gibson, says that the starting point is the external stimulus but then we activate the best possible interpretation to explain the complex object, or even Allport which proposes the “perceptual set”, therefore the idea that the field is influenced by subjective motivations, emotions, experiences and expectations, reorganized according to two cognitive operations that we will see later: “generalization” and “categorization”.

5) *Synthetic Approach*, or the schools of thought adhering to neuroscience, which attempt to overcome the top-down / bottom-up relationship, effectively integrating two models. Among the major exponents we mention:

a) **Bruner**: perception depends on one’s needs, expectations, moods, subjective values, emotional meaning and personality characteristics (so-called *New Look School*)

b) **Neisser**: the brain is a computer and perception is nothing more than an analysis by synthesis, the result of a three-stage sequence: I) the selection of the stimulus through an automatic pre-attentional (bottom-up) process; II) the voluntary shift of attention to the stimulus (top-down); III) the final mental representation;

c) **Marr**: perception can be investigated on at least three levels (so-called computational theory): I) computational level (the goal); II) algorithmic level (the means used); III) procedural level (the how). Marr’s approach is strongly “bottom-up” (as it focuses on sensory processing) but includes the intervention of “top-down (ie information previously learned from the world)” factors: <<the chair must have four legs to be able to stand. Thus our knowledge of the world (top-down) acts on sensory input (bottom-up), reaching a perceptual synthesis>>. The analysis of the visual sensory input proceeds through four specific stages: a) description of the gray levels; b) geometric primitive primary sketch; c) sketch in 2 and 1/2 dimensions (e.g. depth); d) 3D representation (three dimensions). However, this model is strongly criticized because it does not take into account an adequate explanation of how the factors at play and there are no functional tests outside the laboratory context.

On these assumptions, perception (to function properly) requires the integrity of cognitive processes such as attention, alertness, memory and emotional state, but also the physical integrity of receptors, nervous pathways, primary sensory areas



and associative ones. Otherwise we would witness the altered transformation of the sensory signals (so-called *perceptual alterations*); based on the error committed, we distinguish the following forms [2].

- 1) **Sensory distortions:** anomalies of perception in which an object is perceived abnormally, in total dystonia with its real physical quantities or technical qualities, or at least in disagreement with the real spatial or temporal form (for example, the increase -peresthesia- or the decrease -attenuation of perception- of the intensity of perceptions and chromatic alterations -discromatopsias / metamorphopsies-, spatial and temporal -in depression there is the feeling that time is slower, while in the manic state there is an acceleration, or even in schizophrenia there is the perception that time stops several times-);
- 2) **false perceptions:** distorted interpretations of an external sensory stimulus or of an internal sensation, determined by dopaminergic hyperactivity in the mesolimbic pathway (neurobiological hypothesis) or by a mental representation capable of projecting external internal parts (cognitive hypothesis) or split parts of one's personality (psychodynamic hypothesis). Examples of false perceptions are illusions (errors of perception of a real stimulus determined by inattention, personal belief or cognitive distortion), hallucinations (sensory perception to which no external stimulus corresponds or perception without real object), pseudo-hallucinations (mental images clear and vivid, not necessarily psychopathological, involuntary but recognized as not real as there is no concreteness of perception, such as the phantom limb, delusional perceptions, distortions of the body image, post-traumatic or dissociative flashbacks, hypnogogic hallucinations and hypnopompic, synaesthesia and the doppelgänger hypothesis) and systematic errors.

### Clinical profiles of the body dysmorphic disorder and psychological treatments

The distortion of the body image (technically, a pseudo hallucination) is an altered perception at the basis of the "*Dysformic body disorder*". According to the Statistical Diagnostic Manual of Psychiatric Diseases (DSM-5), this particular disorder is part of the spectrum of "Obsessive Compulsive Disorder and Related Disorders" and to be diagnosed the patient must have the following symptoms [2].

Concern with one or more physical defects that are not objectively detectable or negligible by other people;

Adoption of repetitive or ritual behaviors (looking in the mirror, touching the defective part, seeking reassurance etc.) or mental attitudes (obsessive thoughts, constant comparison with others, conviction of being observed and judged etc.), in response to the concern for the physical defect.

Severe stress, anxiety and a drop in mood caused by persistent concern about the physical defect.

physical defect object of concern other than body weight / fat mass (in this case, the presence of a disorder of eating behavior is likely).

The awareness that the alleged defect is actually minimal or non-existent can be null, partial or high, but this does not affect the degree of penetration of obsessive thoughts / behaviors in daily life [2].

In summary, the diagnosis of the disorder focuses on three aspects: concern with one or more physical defects which are negligible or not objectively detectable by other people; repetitive or ritual compulsive behaviors in response to discomfort for the alleged physical defect; emotional distress resulting from these obsessions, with particular mental attitudes ("inactive behaviors" or "distorted thoughts"), and hindrance to normal functioning in daily life [2].

People with this disorder experience significant or, in any case, frankly excessive and unfounded concern with respect to a physical defect that is non-existent or considered negligible by most people, manifesting serious discomfort for this supposed deformity, and often describing their concerns as "intensely painful", "Tormenting" or "devastating". Patients tend to think repeatedly and obsessively about their own defects, real or imagined that they are, throughout the day, also spending many hours a day identifying and implementing systems to remedy them, eliminate them or, at the very least, hide them from others. They live the conviction of always being observed and judged, and that their appearance conditions their value for others. Often, this leads to the development of ritual actions, superimposable by nature and effects to those typical of obsessive-compulsive disorder [2,3].

In fact, repetitive and compulsive behaviors that aim to examine, control, improve or hide the presumed defect on which thought is polarized are common: mask parts of the body (with makeup, hats, taking unusual positions); avoid direct light; excessive checks in the mirror or on reflective surfaces to analyze the defect or tease / remove it or, on the contrary, phobia to support the sight of one's own reflected image, carefully avoiding to linger one's gaze on mirrors and showcases; excessive exercise or excessive body care such as combing or washing repeatedly or numerous changes of clothes and looks; continuous comparisons with the physical appearance of others; seeking reassurance or on the contrary attempting to convince others of their fault; repeated use of medical treatments (dental or dermatological) or plastic surgery [2].

Those who suffer from dysmorphophobia are persecuted by their own imperfection and cannot stop negative thoughts about its appearance: no possible comfort regarding the irrelevance of the problem complained of will be sufficient to appease the anxieties, on the contrary, the lack of recognition of the defect or an attitude of carelessness can generate in the person the idea of not being adequately considered and understood. The pervasive thought of the physical defect, the fear of the judgment of others and the obsessively repeated practices to try to eliminate it, translate into a serious compromise in the



quality of life, interpersonal relationships, performance (and consequent success) in the study or at work. These people may develop anxious states among other people, for fear that they will notice the alleged physical defect, have difficulty leaving the house, having social contacts, going to school or to work. Unfortunately, however, being these obsessive concerns, they are independent of the actual physical appearance and therefore the solutions, however drastic, never lead to improvements in the mental state, indeed attempts to eliminate the defect, the outcome of which is never considered good enough, they generate frustration and anxiety [2-4].

If not treated early with specific therapies, the disorder can lead to a serious deterioration in the quality of life, numerous practical problems at a family and work level, as well as psychiatric complications following possible comorbidities with additional disorders such as depression [5], obsessive compulsive disorder [6], social phobia [4], conduct and impulsivity disorders [4], sleep-wakefulness [7] and/or behavioral [8] or substance dependence [2]. A profound disturbance of the body image, not only perceptive, but linked to the emotional relationship with one's body, is also a central element in the psychopathology of eating disorders [25]. The body represents the support of one's identity and a medium in the relationship with others. It can be hyper-invested and exploited, thus becoming a sketch of identity, a way to regain a space, to express one's needs, to communicate a profound unease. Therefore, the anorexic paradox emerges: the intent to martyr and cancel physicality to affirm the rights of the mind. Initially, there is the fantasy of being able to govern the body and its forms, denying its needs and raping it for its own purposes. However, over time, his language becomes incomprehensible to consciousness, distorted and distorted in meanings; it rebels, escapes control, to be subjected again in a spiral in which body and mind alternate the roles of "tyrant" and "victim": the conflict between willpower and body power occupies the entire anorexic universe, and mediation between both becomes increasingly difficult, sometimes impossible. The anorexic thinking and reasoning processes are characterized by the presence of cognitive distortions, such as hypergeneralization, selective abstraction, arbitrary inference and dichotomous thinking, to name a few; irrational beliefs, magical thinking and maladaptive thinking patterns about the self, weight and body forms, which hinder the individual in the process of adaptation to his environment, instead of facilitating him. The basic premises underlying this type of thinking therefore force the person to formulate exaggerated, hypergeneralized and absolute conclusions and are generally summarized in absolute terms such as "Always" or "Never" and in terms of the imposition "I have to ..." [2].

On the physical level, however, the fury towards defects to be eliminated can expose to serious health risks otherwise avoidable (for example, in the case of invasive cosmetic surgery) or determine really unacceptable results that make the overall situation worse (for example, continuous retouching of the face or body, losing its natural constitution) [2].

Recognizing the existence of the problem from the first signs allows you to undertake effective and safe pharmacological and psychotherapeutic treatments, which allow you to re-establish a balanced relationship with your body and to focus attention on the basic psychological discomfort that led to develop the obsessive attitude towards a nose, mouth, chin or skin that is actually free of any particular aesthetic defects. Psychotherapy in this sense can be very useful to overcome the dysmorphic body disorder and must always be taken into consideration in the presence of any aesthetic intervention that is aimed at a definitive and irreversible modification of the body. The strategies that have proven to be most effective are cognitive-behavioral and strategic therapy, aimed at desensitizing the patient towards the negative stimulus through gradual and calibrated exposure to the stimulus itself, quickly and effectively and with meetings timed over time systematically. Digitized images of the person are also extremely useful. On the other hand, drugs are rarely effective, unless there is comorbidity with major depression, obsessive-compulsive disorder or a disorder of impulsivity and conduct: in these cases antidepressants and mood stabilizers can be prescribed to help patient in the stabilization phase. Particular attention, however, must be paid to understanding the value of the symptom which, sometimes, can represent a secondary advantage or a form of extreme defense against psychotic disorganization. In this case, only dysmorphophobia will not be subject to therapy, but the entire personality of the individual [2].

Body dimorphism differs from symptoms such as hallucinations and delusions, as the latter have a psychotic matrix, while dimorphism is part of the obsessive-compulsive disorder, even if it may evolve or be in comorbidity with a delusional or psychotic disorder. In fact, in the absence of a symptom of this seriousness, the people who manifest dimorphism are simply anxious and distressed because of the belief that some aspects of their appearance are not attractive, but deformed, or in any case "wrong", even if, in reality, the perceived defect is minimal or non-existent. Typically, these concerns stem from low self-esteem, feelings of shame and embarrassment, the feeling of being unworthy and the fear of community rejection. Not surprisingly, almost all subjects affected by this pathology perform repetitive and compulsive behaviors in order to observe and analyze the perceived defect, trying to hide it: however, in most cases, anxiety instead of decreasing increases more and more, resulting in behaviors that continue to maintain the state of unease resulting from concern about one's body image [2].

### Neurobiological and etiopathological profiles [9,10]

The construction of the body image and its possible alterations derive from a set of neurobiological, psychological and socio-cultural aspects. About the former, the main brain areas that can be connected to the body image are.

The *right hemisphere*, crucial for the regulation of emotions.

The *insula*, the *amygdala* and the *upper gyrus*, which mediate the reactions of disgust and aversion related to visual perceptions.



The dorsal occipital cortex, the right temporo-parieto-occipital junction, the fusiform gyrus, the inferior parietal lobe and the dorso-lateral prefrontal cortex, which if dysfunctional could give rise to distortions in the perception of faces and body and contribute to the inability to correct perceptual distortions generated by other malfunctioning systems.

The ventro-medial prefrontal cortex, which if dysfunctional could give rise to the inability to inhibit reactions of disgust and anxiety deriving from perceived body defects.

The right parahippocampal gyrus, which if dysfunctional could give rise to incongruous self-assessments regarding its appearance, negative interpretative distortions and reference ideas.

The fronto-striatum, which if with anomalies, could contribute to executive dysfunction and the intrusive nature of obsessive thoughts and compulsive behaviors.

The exact causes of the body dysmorphic disorder are not known, however, and a multifactorial profile is always suspected. Certainly, among the mechanisms involved, the existence of an alteration in the transduction / processing of visual stimuli was hypothesized, which would lead to incorrectly assessing one's appearance regardless of the interference of psychological factors. This relationship remains, however, to be verified. Brain imaging studies have also highlighted activation anomalies in the brain areas responsible for verbal and non-verbal memory processing and transmission defects of nerve stimuli between these areas and the prefrontal cerebral cortex, similar to those found in obsessive compulsive disorder. That the disorder has a biological basis and that it is related to obsessive compulsive disorder also on this front and not only on that of clinical manifestations is demonstrated by the fact that the body dysmorphic disorder tends to recur in multiple members of the same family (which it also emphasizes heredity) and in families where one or more people with obsessive compulsive disorder are present. Furthermore, a key role of the serotonergic system in the onset and chronicity of the disease is believed to be almost certain. The details of this report, however, remain to be clarified.

### Selfies and psychological correlates

Recently, some scientific research [11-20] has really made people discuss about the possible correlation between the incidence of cases of body dysformism and the "selfie" craze, a social trend that has spread in recent years thanks also to the social media that consists of in photographing (precisely self-portrait) through the smartphone and then inserting the image on social networks. With these shots, you usually photograph the close-up of the face or a detail that you want to show, at any time, condition and anywhere. It is implied that in this mode the photos are not taken as professional shots and in addition we are framed in the worst conditions that highlight the defects and alter the proportions of some body parts. Seeing oneself in those photos can lead the person to not be satisfied with himself, because most of the time it happens that the real image does not correspond to the ideal one, that is, to what one

has in mind; consequently, instead of blaming the typology of the photos in large part, we tend to blame it on our own defects and imperfections. The pitiless confrontation then with the stars of cinema and jetset does not help at all.

Beyond some speculations and clinical hypotheses that have never been demonstrated, the direct correlation, as much as the possible contributing cause to the dysmorphic phenomenon, is evident. The altered perception of the subject [11], with evident low self-esteem [21] or narcissistic traits [22], leads him to exacerbate the image captured in the selfie, often taking excessively pronounced positions of the erogenous zones (breasts, buttocks, hips) and completely unnatural and non-harmonious facial expressions (lips forcibly pronounced, squeezed or twisted on the sides, to imitate the effect of the surgical retouching of movie and fashion stars). This method, depopulated on the web from the middle of the first decade of the 21st century, completely colonized the socio-anthropological scene, making future generations, especially those in pre-adolescent age, enslaved by this fashion; these same people, victims of this dysfunctional modality, if they are already affected by psychopathologies such as depressive disorder, obsessive-compulsive disorder or personality disorders (especially those of cluster B), can easily increase dysfunctionality by aggravating their starting psychopathological condition. And what is even more serious is the ease with which this fashion affects entire generations, from pre-teenagers to adults.

Of course, it is necessary to distinguish case by case. Taking occasional selfies is not pathological in itself nor should the action be demonized. It begins to become "suspicious" when unnatural positions are taken in the self-timer, the frequency of the shots is medium-high and spread over the day, graphic filters are constantly used to alter the shapes and colors and these actions are not aimed at advertising or economic propaganda. These signals are highly indicative for a psychological response and therefore it would be appropriate to evaluate the subject's profile, in a psychosymptomatic key, before it becomes something more serious.

Following some parodies and speculative attempts, a group of Indian and English researchers [11] decided to investigate the psychopathological hypothesis (the so-called "selfitis") on a sample of 400 subjects, also trying to draw up a rating scale 1-100 out of three distinct classifications (acute, chronic, borderline), to measure the severity of the pathological condition. The test to be performed consisted of ten questions, where if you answer 1 you disagree, if you answer 5 you totally identify yourself:

- 1) I publish my selfies to create a healthy contest with my friends and colleagues.
- 2) Selfies attract a lot of attention in social media.
- 3) My stress level decreases when I take selfies.
- 4) I feel more confident when I take selfies.
- 5) I am more accepted within a group when I publish selfies in social media.



- 6) I feel more capable of expressing myself in the social environment by sharing selfies.
- 7) Taking selfies with different poses increases my social status.
- 8) I feel more accepted and popular when I publish my selfies.
- 9) Taking many selfies improves my mood and makes me happier.
- 10) Selfies encourage my self-esteem.

However, these data should then be analyzed in a systematic key, also interviewing family members and friends, to have an objective and external point of view of the patient's behavior, who interested in the first person could underestimate the frequency and importance of their actions related to the 'selfie'.

### The socially accepted extreme remedy: cosmetic surgery and the need for «retouching». Conclusions

The strong social pressure to adhere to well-defined canons of beauty and the evolution of increasingly advanced and minimally invasive techniques in the dermatological and cosmetic surgery fields, accompanied by a relative reduction in costs for the most common treatments, has led to a considerable increase the number of people who choose to correct physical defects of various types and relevance that nature has "imposed" on a genetic basis or occurred following the physiological aging process [23].

In principle, there is nothing wrong with exploiting the "reparative" or corrective potential that biology and medical science have made available to eliminate a little loved physical detail, to like yourself more and to feel comfortable in relationships interpersonal and professional. However, when you feel oriented towards a choice of this type, you should honestly evaluate the real need for the surgery you intend to undergo and try to understand if it is really the disturbing curve of the nose that is really disturbing, the lip a little wrinkled or the eyelid devoid of tone or rather some deeper psychological discomfort. It is not a useless analysis. If the second hypothesis is true, in fact, the risk that the treatment is at the origin of a dissatisfaction with one's own appearance even greater than the initial one is decidedly high. And the fault, usually, will not be attributed to the poor ability of the dermatologist or cosmetic surgeon on duty, but for having focused attention on the wrong problem.

This type of evaluation is particularly important when a teenager or young adult is looking for an aesthetic intervention who can be driven to want to change one or more details of his face or body on the wave of fashion or a discomfort related to unresolved problems in self-acceptance, in the construction of the personality or in the ways of interacting with the external way. For years there has been talk of the collective run-up to beauty and youth by dint of facial retouching, liposuction, rino and blepharoplasty, breast augmentation and surgical and non-lifting additives, and so on. A remade breast or face is now

more envy than news, and the sculpted abdominal, or anti-gravity gluteus, impose itself on the mass as a standard to be reached by any means.

On the other hand, the psychological and psychopathological implications of aesthetic medicine are less well known and less discussed, even if they present themselves with increasing evidence in the most diverse forms. For example, the number of "beautified" patients who are dissatisfied with the result and require further operation increases; the proportion of people who after a first intervention trigger a real escalation of retouches, additions or plastic reductions grows proportionally. Finally, others vote for the scalpel for life, forced to the unpredictable or poorly calculated eventuality of adapting or renewing their obsolescent prostheses. This ostentatious and sparkling beauty is in many cases the icy reflection of a psychological disorder, such as anorexia, bulimia or depression.

And in this frankly bleak picture there are more or less successful attempts to speculate on the manias and fears of people to feed a market, that of plastic surgery, which is always growing, to the detriment of patients who should first of all face a serious psychotherapeutic path and structured [24-26], thus distinguishing from the necessary interventions those which are the consequence of a primarily emotional and psychological discomfort.

Future research should focus on the analysis of the relationships between the pathology analyzed here and the use of technology (with reference to selfies) and the use of cosmetic surgery (not aimed at reconstructing body parts attacked by traumatic events such as road accidents, defects physiological and oncological processes), on a representative statistical sample.

### References

1. Perrotta G (2019) *Psicologia generale*. Luxco ed. I ed.
2. Perrotta G (2019) *Psicologia generale*. Luxco ed. I ed.
3. Vaughn DA, Kerr WT, Moody TD, Cheng GK, Morfini F, et al. (2019) Differentiating weight-restored anorexia nervosa and body dysmorphic disorder using neuroimaging and psychometric markers. *PLoS One* 14: e0213974. [Link: https://bit.ly/3e4LIIZ](https://bit.ly/3e4LIIZ)
4. Perrotta G (2019) *Psicologia generale*. Luxco ed. I ed.
5. Perrotta G (2019) Depressive disorders: Definitions, contexts, differential diagnosis, neural correlates and clinical strategies. *Archives of Depression and Anxiety* 5: 009-033. [Link: https://bit.ly/2AJvKpd](https://bit.ly/2AJvKpd)
6. Perrotta G (2019) Obsessive-Compulsive Disorder: definition, contexts, neural correlates and clinical strategies. *Cientific Journal of Neurology* 08-16.
7. Perrotta G (2019) Sleep-wake disorders: Definition, contexts and neural correlations, Review article, Author, *Journal of Neurology and Psychology*, *J Neurol Psychol* 7: 09.
8. Perrotta G (2019) Behavioral addiction disorder: definition, classifications, clinical contexts, neural correlates and clinical strategies. *Journal of Addiction Research and Adolescent Behavior* 2.
9. Purves D, Augustine GJ (2018) *Neuroscience*. VI ed., Ed.
10. Kandel ER (2014) *Principi di Neuroscienze*. IV ed. IT, Casa Editrice Ambrosiana



11. Khanna A, Sharma MK (2017) Selfie use: The implications for psychopathology expression of body dysmorphic disorder. *Ind Psychiatry J* 26: 106-109. [Link: https://bit.ly/3dYnH6g](https://bit.ly/3dYnH6g)
12. Mills JS, Musto S, Williams L, Tiggemann M (2018) "Selfie" harm: Effects on mood and body image in young women. *Body Image* 27: 86-92. [Link: https://bit.ly/2LizTMC](https://bit.ly/2LizTMC)
13. Boursier V, Manna V (2018) Selfie Expectancies Among Adolescents: Construction and Validation of an Instrument to Assess Expectancies Toward Selfies Among Boys and Girls. *Front Psychol* 9: 839. [Link: https://bit.ly/2ZpvygC](https://bit.ly/2ZpvygC)
14. Cristel RT, Dayan SH, Akinosun M, Russell PT (2020) Evaluation of Selfies and Filtered Selfies and Effects on First Impressions. *Aesthet Surg J* pii: sjz362. [Link: https://bit.ly/36dFZO8](https://bit.ly/36dFZO8)
15. Yang J, Fardouly J, Wang Y, Shi W (2020) Selfie-Viewing and Facial Dissatisfaction among Emerging Adults: A Moderated Mediation Model of Appearance Comparisons and Self-Objectification. *Int J Environ Res Public Health* 7: pii: E672. [Link: https://bit.ly/3dXJtqK](https://bit.ly/3dXJtqK)
16. Modica CA (2020) The Associations Between Instagram Use, Selfie Activities, Appearance Comparison, and Body Dissatisfaction in Adult Men. *Cyberpsychol Behav Soc Netw* 23: 90-99. [Link: https://bit.ly/3bRoqow](https://bit.ly/3bRoqow)
17. Shome D, Vadera S, Male SR, Kapoor R (2019) Does taking selfies lead to increased desire to undergo cosmetic surgery. *J Cosmet Dermatol*. [Link: https://bit.ly/2LI4Wbi](https://bit.ly/2LI4Wbi)
18. Nash K, Johansson A, Yogeewaran K (2019) Social Media Approval Reduces Emotional Arousal for People High in Narcissism: Electrophysiological Evidence. *Front Hum Neurosci* 13: 292. [Link: https://bit.ly/2Tob8cG](https://bit.ly/2Tob8cG)
19. Tiggemann M, Zinoviev K (2019) The effect of #enhancement-free Instagram images and hashtags on women's body image. *Body Image*. 2019 Dec;31:131-138. [Link: https://bit.ly/2ThYqMA](https://bit.ly/2ThYqMA)
20. Pollice R, Bianchini V, Giuliani M, Zoccali G, Tomassini A, et al. (2009) Early diagnosis of dysmorphophobia and others dysmorphic disorders: a possible operative model. *Clin Ter* 160: 5-10. [Link: https://bit.ly/2XpngeL](https://bit.ly/2XpngeL)
21. Gaddala A, Hari Kumar KJ, Pusphalatha C (2017) A study on various effects of internet and selfie dependence among undergraduate medical students. *Journal of Contemporary Medicine and Dentistry* 5: 29-32. [Link: https://bit.ly/3cNQnP9](https://bit.ly/3cNQnP9)
22. Kar S, Vig D (2016) Selfie and mental health issues: An overview. *Indian Journal of Health and Wellbeing* 7: 1149-1152. [Link: https://bit.ly/2Wlb2yo](https://bit.ly/2Wlb2yo)
23. Griffiths D, Mullock A (2018) Cosmetic surgery: regulatory challenges in a global beauty market. *Health Care Anal* 26: 220-234. [Link: https://bit.ly/3cLqm31](https://bit.ly/3cLqm31)
24. Perrotta G (2020) The strategic clinical model in psychotherapy: theoretical and practical profiles. *Journal of Addiction and Adolescent Behaviour* 3: 5 pages. [Link: https://bit.ly/2LTCWI7](https://bit.ly/2LTCWI7)
25. Sanavio E (2016) *Manuale di psicopatologia e psicodiagnostica*. Il Mulino Manuali, Bologna, I ed.
26. Balakrishnan J, Griffiths MD (2018) An Exploratory Study of "Selfitis" and the Development of the Selfitis Behavior Scale. *Int J Ment Health* 722-736. [Link: https://bit.ly/2AAeaUr](https://bit.ly/2AAeaUr)

### Discover a bigger Impact and Visibility of your article publication with Peertechz Publications

#### Highlights

- ❖ Signatory publisher of ORCID
- ❖ Signatory Publisher of DORA (San Francisco Declaration on Research Assessment)
- ❖ Articles archived in worlds' renowned service providers such as Portico, CNKI, AGRIS, TDNet, Base (Bielefeld University Library), CrossRef, Scilit, J-Gate etc.
- ❖ Journals indexed in ICMJE, SHERPA/ROMEO, Google Scholar etc.
- ❖ OAI-PMH (Open Archives Initiative Protocol for Metadata Harvesting)
- ❖ Dedicated Editorial Board for every journal
- ❖ Accurate and rapid peer-review process
- ❖ Increased citations of published articles through promotions
- ❖ Reduced timeline for article publication

**Submit your articles and experience a new surge in publication services**  
(<https://www.peertechz.com/submit>).

*Peertechz journals wishes everlasting success in your every endeavours.*

**Copyright:** © 2020 Perrotta G. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

**Citation:** Perrotta G (2020) The concept of altered perception in "body dysmorphic disorder": The subtle border between the abuse of selfies in social networks and cosmetic surgery, between socially accepted dysfunctionality and the pathological condition. *J Neurol Neurol Sci Disord* 6(1): 001-007.  
DOI: <https://dx.doi.org/10.17352/jnnsd.000036>