

## Self-Injurious Behaviour: Self Identity, Impulsiveness and Self-Injury in Patients with Borderline Personality Disorders and Bulimia

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### Objectives of the Study and Background

A review of the Literature over the last few years, concerning those epidemiological studies linking sexual abuse with borderline personality disorder and bulimia, emphasized how often victims of sexual abuse matched their bulimic acts, such as the usual rituals of “binge-eating”, vomiting and abuse of laxatives and/or diuretics, with frequent self-injurious behaviours [1-3]. Impulsivity represents a relevant psychopathological aspect of those disorders. In particular, many authors reported the presence of high impulsivity levels among bulimic patients [4,5] together with, in some cases, aggressive behaviours and the so-called self-injurious behaviour [6]. All international classifications emphasize certain clinical criteria such as unstable identity and interpersonal relationships, feelings of emptiness or boredom, and pathological impulsiveness. Self injury is generally considered a display of the loss of impulse control or impulse dyscontrol, an alteration of the driving energies that determine everyone's choices, so frequent in personality disorders such as the borderline disorder [7]. The prevalence is about 2%, with a female-male sex ratio of 2 or 3 to 1. Both adolescents and adults may be affected. There is a high risk of suicide, addictive behaviors, eating disorders, and criminality. These individuals frequently have a history of trauma in early childhood, such as separation, loss, physical or sexual abuse, or affective privation [8]. Although self-injurious behaviours belong to subjects with a vast array of clinical diagnoses, the phenomenon seems to have its symptomatic and psychodynamic specificity in bulimic patients, proving to be a precise indication for a further diagnostic investigation, particularly under a psychodynamic point of view. The following study aims to underline how self injury in the two bulimic patients with borderline personality disorder may express a behaviour that contemplates both dimensions: impulsivity and compulsiveness. Moreover, the grievous harm of one's own body points out the need to find visible identities, recognizable in the real world, to be shown as a support and defence against other people's intrusions.

### Materials and Methods

In this paper we present two cases of bulimic patients with self-injurious behaviours typical of borderline pathologies that, even if they express themselves through a typical bulimic symptomatology, they also symbolize the painful search of a stable identity, of a thinking, reliable figure capable of upholding them in the world [9]. The two women were examined using the Rorschach Test, for the assessment of affect and representation of the self; the Wechsler Adult Intelligence Scale-Revised (Wais-R) for an assessment of the cognitive functioning; the Minnesota Multiphasic Personality Inventory-2 (MMPI-2). The Minnesota Multiphasic Personality Inventory - Second Edition (MMPI-2) is a wide-ranging test created to identify the principal structural attitudes of personality and emotional disorders, one of the most popular and widely acknowledged test to evaluate the personality characteristics in psychodiagnostics [10].

### Participants

#### First clinical case

Orsola is 23 years old and belongs to a family of workers. She

has a middle school certificate and works as a fashion designer in a clothing industry. She is engaged and she reports to have a satisfactory sentimental life. She is a well-groomed person and appears to be motivated in carrying out the tests and in need of telling the story of her disorders. She has suffered from uncontrollable crises of ingestion of huge quantities of food for the last few years, followed by vomiting. Moreover, for some years, she has performed several small self injurious acts like: cutting her nails up to the root, pulling her hair and eyebrows. She usually describes both these acts and the bulimic crises as “an irresistible power”. Such events are not to be significantly correlated with stressful situations or changes of her mood.

#### Second clinical case

Ornella is 26, belongs to a family of professionals and attends the faculty of Law. She is a well-groomed person, willing to talk and curious about the mind reactive test. She has suffered from crises of ingestion of huge quantities of food for the last few years, followed by vomiting. Just like Orsola, she has performed several small self injurious acts like: pulling her hair and eyebrows, voluntary cigarette burns. Her sentimental life is studded with short but intense relationships. In the last months, she passed her last examinations and started working on her graduation thesis.

### Results

#### First clinical case

**MMPI-2:** The indexes derived from the fundamental scales (Tables 1 and 2), basic scales (Table 3) and content scales (Table 4) allow a more precise assessment of some personality dimensions. The clinical results seem to be valid: the subject appears to be capable of answering correctly, without showing any particular resistance in telling her emotional problems. Sometimes, she appears to be excessively critical towards herself. She's depressed: she finds difficult to take new initiatives and she works out her unsatisfying life situations in a depressive way. She can have dysphoric variations of her mood, alternating periods of decreased motor activity with periods of increased motor activity.

She also alternates phases of serious indecision and “paralysing” doubt with poorly controlled episodes of aggressiveness, probably as a way to escape from her situation of uncertainty and insecurity. She has

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|  |  |   |
|--|--|---|
| R (responses)  | 25   | Range 15-25: good output  |
| F (form)   | 9 (F+ =7)  |   |
| F/R  | 32%  | Range 20-50 : good strength of the Ego  |
| A% (adaptation difficulties)                                   | 60%  | Range 35-50%  |
| Tmr ( mean answer time)  | 48"  | Range mean 30"  |
| FC : (CF+C)  |  |   |
| (C: impulsive structure;                                       | <1   | normal if ratio is >1   |
| Fc: dependence on the object; Fc': depression and frustration) |  |   |
| Interests and ambitions:                                       |  |   |
| N° R   | 25   | Range 20 – 40   |
| W :M   | 13:4   | Optimum ratio 6:3   |
| Adaptation Indexes:  |  |   |
| A+ Ad / R  | 60%  | Range 35% - 50%: reduced critical abilities   |
| (H+A) : (Hd + Ad)  | 19:3   | (2:1)   |
| Interior resources and instinctual life:                       |  |   |
| M : FM   | 4 : 9  | Optimum 6 : 3   |
| FM+ m>M  | inhibiting tensions, need of immediate gratification |   |
| Organization of affective needs:                               |  |   |
| (FK+Fc) : F =  | 2 : 9  | FK + Fc < ¼ F =<br>traumatic experience – affective needs not integrated in the personality |
| ( Fc +c+C'): (FC+CF+C)   | 4 : 4,5  | 2 : 1 (trauma)<br>1 : 2 (good environmental interaction)                                    |
| Strength of the Ego:   |  |   |
| F/R  | 34,7%  | Range F % 20-50 good strength of the ego  |
| FK+ F+ Fc / R  | 36%  | Neurotic constriction if ratio is > 75  |
| Introversion and extraversion equilibrium:                     | 11: 2  |   |
| Addition of C(□) = FC+2CF+3C /2                                | extraversion                      equilibrium        | 3 M   |
| Emotion control index  |  |   |
| CF + C > FC = Impulsive structure                              | CF + C > FC = Impulsive structure                    | CF + C < FC normal ratio < 1  |
| I Experience formula   |  |   |
| Intimate resonance type (TRI) M : □C                           | M : □C = 4 : 5,5                                     |   |
| Affective Index: III Experience formula                        |  |   |
| N° R plates VIII – IX – X/ R=                                  | 36% = poor control                                   | Range > 40<br>< 30 poor emotional output  |

**Table 1:** Diagnostic Indexes of Orsola's Rorschach Protocol.

very severe doubts about her capabilities, feelings of guilt and low self esteem. Anyway, she may also have moments of uncritical trust in her possibilities.

She tends to have hypochondriac somatizations of her anxiety. She can appear to be strict, not very adaptable, wary and attached to her opinions. Although, she may hide these traits by showing attitudes of formal kindness and seeming passivity. We report a certain tendency to loose her ability to distinguish between inner and outer reality with possible delirious symptoms.

We also report behaviours aimed at obtaining emotional gratifications. A certain reduction in the ability to judge is possible, particularly towards her life and her behaviours; moreover, atypical and unconventional habits may also be present. The ability to control her drives and her protective mechanisms appear to be limited even if they still seem able to avoid a severe disintegration of her personality.

**Wais-R:** The test (Table 5), faced with a collaborative mood, showed the following psychometric scores: VIQ = 90; VIV (Verbal Internal Variability) = 1,44; PIQ = 85 ; PIV (Performance Verbal Variability) = 1,2; TIQ = 86; TIV (Total Internal Variability) = 1,38;

MD (Mental Deterioration) = 2,9% (expected score according to the age: 4%). Through the analysis of such scores we can estimate a low-intermediate intellectual level, inadequate for the education level, with a clear prevalence of the theoretic-abstract skills upon the practical-concrete ones.

The analysis of the intellectual profile shows average verbal and comprehension levels (both the Vocabulary and Comprehension pondered score is 8). The Picture Arrangement subtest shows intermediate conceptualization skills, it also shows sufficient anticipation and generalization capabilities. Our case does not show any difficulty in passing from the abstract level of conceptualization to the concrete one. We report two more low scores: Block Design and Digit Symbol. These subtests show reduced reproductive and imitative visual-motor coordination.

### Second clinical case

**MMPI-2:** The indexes derived from the fundamental scales (Tables 6 and 7), basic scales (Table 8) and content scales (Table 9) allow a more precise assessment of some personality dimensions. The subject appears to have a conformistic attitude towards the test, with a certain

| Scale                             |   | Orsola's score | Rate and range   |
|-----------------------------------|---|----------------|--|
| FTI (Frustration Tolerance Index) | individual tolerance in situations of frustration: Ma + Pd / Hy + D   | 1,15           | Rate >1 = high tolerance                                   |
| AI (Anxiety Index)                | presence of free anxiety  | 112,73         | Range 35-65  |
| NS (Neurotic Score)               | neurotic score  | 78,00          | Range 35-65  |
| PS (Psychotic Score)              | psychotic score   | 91,00          | Range 35-65  |
| OSI (Organic Sign Index)          | For differential diagnosis between schizophrenic disorder and cerebral organic damage   | 54,00          | schizophrenic disorder >40<br>cerebral organic damage < 40 |
| IP (Index of Psychopathology)     | Psychopathological condition  | 40,00          | score >45: psychotic range                                 |
| DEL (Delinquency Index)           | signs and behaviours of a delinquent attitude, formula is: $0,0695 \times F + 0,0116 \times Hs + 0,0578 \times Pd - 0,0782 \times Mf + 0,0256 \times Sc - 2,0169$ | 8,08           | Score > 6 delinquency range                                |
| DFK (Dissimulation Index)         | discriminates between a defensive approach to the test and a control and defence difficulty, is the ratio between the scales F and K                              | 5              | Range -12 / +8 = normality                                 |
| PAI (Passive-Aggressive Index)    | discriminates among the signs of aggressiveness/passivity according to the formula:<br>$(Hy+100) - (Pd+2Pa)$  | -73,00         | sign (+) = passive trait<br>sign (-) = aggressive trait    |

Table 2: Diagnostic Indexes of Orsola's MMPI-2 Protocol- Fundamental Scales.

|                             |    |
|-----------------------------|----|
| L (Lie)                     | 42 |
| F (Frequency)               | 76 |
| K (Correction)              | 46 |
| Hs (Hypocondriasis)         | 71 |
| D (Depression)              | 78 |
| Hy (Hysteria)               | 67 |
| Pd (Psychopathic deviation) | 91 |
| Mf (Masculinity/Femininity) | 62 |
| Pa (Paranoia)               | 66 |
| Pt (Psychasthenia)          | 61 |
| Sc (Schizophrenia)          | 74 |
| Ma (Hypomania)              | 63 |
| Si (Social Introversion)    | 56 |

Table 3: Diagnostic Indexes of Orsola's MMPI-2 Protocol-Basic Scales.

|                              |    |
|------------------------------|----|
| ANX (Anxiety)                | 79 |
| FRS (Fears)                  | 68 |
| OBS (Obsessiveness)          | 69 |
| DEP (Depression)             | 75 |
| HEA (Health Worries)         | 64 |
| BIZ (Bizarre Ideation)       | 58 |
| ANG (Anger)                  | 48 |
| CYN (Cynicism)               | 56 |
| ASP (Antisocial Personality) | 68 |
| TPA (Type A)                 | 45 |
| LSE (Low Self Esteem)        | 75 |
| SOD (Social Discomfort)      | 51 |
| FAM (Family Problems)        | 69 |
| WRK (Working Difficulties)   | 79 |
| TRT (Treatment Difficulties) | 83 |

Table 4: Diagnostic Indexes of Orsola's MMPI-2 Protocol- Content Scale.

tendency to give conventional answers. We report a remarkable state of depression, although her mood can go through sudden and unjustified variations. She finds difficult to take new initiatives and she works out her unsatisfying life situations in a depressive way. Sometimes she can go through periods of increased motor activity.

She has conspicuous traits of psychasthenia: indecision, doubts, tendency to anancastic behaviours. Sometimes the subject manages to escape from her uncertainty through aggressive acting outs.

The social relationships seem to be difficult even if they aren't completely avoided. She shows a very low self esteem, with a remarkable tendency to feel guilty; she may sometimes react to this situation by going through temporary phases of uncritical high self esteem. The interaction with other individuals may be characterized by attitudes of courtesy and "adaptation": this is explained by her efforts to fulfil other people's expectations. When this kind of behaviour is present she's inclined to adopt attitudes of passivity and exploitation.

We report a certain tendency to indulge in fantasies with a possible loss of the borders between inner and outer reality. This autistic core can go with a remarkable tendency to anxious somatization and hysterical behaviours. Subjects with this personality profile are generally described to be chronically nervous and anxious. The physical symptomatology, when present, is usually connected with feelings of anxiety and tension.

The adopted mechanisms of defence are generally the regression and obsessive-compulsive behavioural models. The subject appears to be

anxious, with chronic feelings of insecurity, inadequacy, inferiority and decisional inability; they tend to avoid situations of social interactions, assuming behaviours characterized by possible difficulties in starting and keeping mature sentimental relationships. The person is seriously maladjusted. The diagnosis refers to a personality disorder.

**Wais-R:** The test (Table 10), faced with a collaborative mood, showed the following psychometric scores: VIQ=105; VIV (Verbal Internal Variability)=1, 83; PIQ=85; PIV (Performance Verbal Variability)=1,68; TIQ=96; TIV (Total Internal Variability)=2,31; MD (Mental Deterioration)=22% (expected score according to the age: 8%).

Through the analysis of such scores we can estimate an intermediate intellectual level, but the cognitive profile is globally unbalanced. The intelligence is characterized by a clear prevalence of the theoretic-abstract skills upon the practical-concrete ones: the gap between the two areas is 20 points which suggests the possibility of psychotic aspects. Moreover, the analysis of the intellectual profile shows an intermediate verbal level (the Vocabulary subtest pondered score is 11). The Comprehension subtest score shows sufficient conceptualization skills. We report an average memory level, confirmed by the Digit Span subtest score (8 points). The concentration skills are sufficient (the Arithmetic subtest pondered score is 9).

The Picture Arrangement subtest shows poor anticipation skills. This subtest estimates both the capability to acknowledge and visually

| Subtest                                       | Cognitive Area   | Scaled scores |
|---|--|---------------|
| <b>General knowledge &amp; verbal fluency</b> |  |               |
| 1. Information (Area of Weakness)             | Recall of acquired knowledge, long term memory                                 | 7             |
| 3. Vocabulary (Intermediate Area)             | Acquired word knowledge, Verbal expression                                     | 8             |
| 5. Comprehension (Intermediate Area)          | Verbal understanding and expression, social judgement                          | 8             |
| <b>Verbal conceptual</b>                      |  |               |
| 6. Similarities (Intermediate Area)           | Verbal abstract reasoning, verbal understanding and expression                 | 9             |
| 3. Vocabulary (Intermediate Area)             | Acquired word knowledge, verbal expression                                     | 8             |
| <b>Attention &amp; Concentration</b>          |  |               |
| 2. Digit Span (Area of Strength)              | Short term auditory memory   | 13            |
| 4. Arithmetic (Intermediate Area)             | knowledge of math operations, verbal understanding, short term auditory memory | 8             |
| 7. Picture Completion (Intermediate Area)     | Visual attention to detail, visual memory                                      | 11            |
| 8. Picture Arrangement (Intermediate Area)    | Visual analysis, understanding of cause & effect, sequential thinking          | 8             |
| <b>Spatial – visual – motor coordination</b>  |  |               |
| 11. Digit Symbol (Area of Weakness)           | Visual – motor speed, coordination and accuracy; visual memory                 | 5             |
| 9. Block Design (Area of Weakness)            | Nonverbal abstract reasoning, visual motor speed and coordination              | 7             |
| 10. Object Assembly (Intermediate Area)       | Part/Whole visual perception, visual motor organization & speed                | 8             |

**Table 5:** Orsola's Wechsler Adult Intelligence Scale – Revised (WAIS-R).

|  |   |  |
|--|---|--|
| R (responses)  | 23  | Range 15-25: good output   |
| F (form)   | 8 ( F+ =7)  |  |
| F/R  | 34%   | Range 20-50 : good strength of the Ego   |
| A% (adaptation difficulties)   | 50%   | Range 35-50%   |
| Mat ( mean answer time)  | 40"   | Range mean 30"   |
| FC : (CF+C)<br>(C: impulsive structure;<br>Fc: dependence on the object; Fc': depression and frustration)              | <1  | normal if ratio is >1  |
| Interests and ambitions:<br>N° R<br>W :M   | 23<br>13:4  | Range 20 – 40<br>Optimum ratio 6:3   |
| Adaptation Indexes:<br>A+ Ad / R<br>(H+A) : (Hd + Ad)  | 60%<br>19:3 > 0,5   | Range 35% - 50%: reduced critical abilities<br>(rate < 0,50 )  |
| Interior resources and instinctual life:<br>M : FM<br>FM+ m>M  | 2,5 : 5<br>inhibiting tensions, need of immediate gratification | Optimum 5 : 3  |
| Organization of affective needs:<br>(FK+Fc) : F =<br>FK + Fc < ¼ F =<br>(k+K+C) : (FK+Fc) =<br>( Fc +c+C') : (FC+CF+C) | 2 : 9<br>4 : 2<br>4 : 4,5                                       | Range 0,25 – 0,75<br>affective needs denial<br>Range <1<br>Rate 0,50; if >1 traumatic experience – affective needs not integrated in the personality |
| Strength of the Ego:<br>F/R<br>FK+ F+ Fc / R   | 34,7%<br>45,6%  | Range F % 20-50 good strength of the ego<br>Neurotic constriction if ratio is > 75   |
| Introversion and extraversion equilibrium:<br>Addition of C(Σ) = FC+2CF+3C /2  | 11: 2<br>extraversion equilibrium                               |  |
| Emotion control index (normal ratio > 1)<br>If CF + C > FC = Impulsive structure                                       | CF + C > FC = Impulsive structure                               | CF + C < FC normal ratio < 1   |
| I Experience formula<br>Intimate resonance type (TRI) M : ΣC   | M : □C = 2,5 : 5,5  |  |
| Affective Index: III Experience formula<br>N° R plates VIII – IX – X/ R=   | 0,28<br>Poor control  | Range 0,55 – 0,75; poor control < 0,55; good control > 0,75  |

**Table 6:** Diagnostic Indexes of Ormella's Rorschach Protocol.

organize some data and the capability to understand a situation in its completeness, by performing a sequential planning of a series of graphically shown events. This performance requires anticipation and generalization skills. In our case the passing from that abstract conceptualization to the concrete one is particularly difficult.

The cognitive profile shows low scores at the visual-motor coordination subtest area. We report poor performances at the Digit

Symbol subtest and Design which give us information about the imitative and reproductive visual-motor coordination. In our case these are indicators of maladjustment.

**Rorschach test (a comparative discussion):** In both subjects, the Rorschach test (Tables 1 and 6) highlighted an impulsive structure of personality (FC<CF+C) [11]. Subjects suffering from food ingestion disorders and self-injurious behaviors seem to express the symptomatic

| Scale                             |  | Orsola's score | Rate and range   |
|-----------------------------------|--|----------------|--|
| FTI (Frustration Tolerance Index) | individual tolerance in situations of frustration: Ma + Pd / Hy + D  | 0,93           | Rate >1 = high tolerance                                   |
| AI (Anxiety Index)                | presence of free anxiety   | 100,41         | Range 35-65  |
| NS (Neurotic Score)               | neurotic score   | 78,67          | Range 35-65  |
| PS (Psychotic Score)              | psychotic score  | 82,67          | Range 35-65  |
| OSI (Organic Sign Index)          | For differential diagnosis between schizophrenic disorder and cerebral organic damage  | 71,00          | schizophrenic disorder >40<br>cerebral organic damage < 40 |
| IP (Index of Psychopathology)     | Psychopathological condition   | 53,00          | Score > 45: psychotic range                                |
| DEL (Delinquency Index)           | signs and behaviours of a delinquent attitude, formula is:<br>$0,0695xF + 0,0116xHs + 0,0578xPd - 0,0782xMf + 0,0256xSc - 2,0169$    | 6,99           | Score > 6 delinquency range                                |
| DFK (Dissimulation Index)         | discriminates between a defensive approach to the test and a control and defence difficulty, is the ratio between the scales F and K | 3              | Range -12 / +8 = normality                                 |
| PAI (Passive-Aggressive Index)    | discriminates among the signs of aggressiveness/passivity according to the formula:<br>$(Hy+100) - (Pd+2Pa)$                         | -37,00         | sign (+) = passive trait<br>sign (-) = aggressive trait    |

**Table 7:** Diagnostic Indexes of Ornella's MMPI-2 Protocol - Fundamental Scale.

|                               |    |
|-------------------------------|----|
| L (Lie)                       | 61 |
| F (Frequency)                 | 61 |
| K (Correction)                | 49 |
| Hs (Hypocondriasis)           | 68 |
| D (Depression)                | 78 |
| Hy (Hysteria)                 | 69 |
| Pd (Psychopathic deviation) T | 66 |
| Mf (Masculinity/Femininity)   | 43 |
| Pa (Paranoia)                 | 61 |
| Pt (Psychasthenia)            | 70 |
| Sc (Schizophrenia)            | 67 |
| Ma (Hypomania)                | 55 |
| Si (Social Introversion)      | 58 |

**Table 8:** Diagnostic Indexes of Ornella's MMPI-2 Protocol - Basic Scales.

|                              |    |
|------------------------------|----|
| ANX (Anxiety)                | 69 |
| FRS (Fears)                  | 48 |
| OBS (Obsessiveness)          | 54 |
| DEP (Depression)             | 65 |
| HEA (Health Worries)         | 51 |
| BIZ (Bizarre Ideation)       | 58 |
| ANG (Anger)                  | 48 |
| CYN (Cynicism)               | 56 |
| ASP (Antisocial Personality) | 53 |
| TPA (Type A)                 | 53 |
| LSE (Low Self Esteem)        | 55 |
| SOD (Social Discomfort)      | 54 |
| FAM (Family Problems)        | 59 |
| WRK (Working Difficulties)   | 65 |
| TRT (Treatment Difficulties) | 58 |

**Table 9:** Diagnostic Indexes of Ornella's MMPI-2 Protocol - Content Scales.

| Subtest                                       | Cognitive Area   | Scaled scores |
|---|--|---------------|
| <b>General knowledge &amp; verbal fluency</b> |  |               |
| 1.Information (Intermediate Area)             | Recall of acquired knowledge, long term memory                                 | 8             |
| 3. Vocabulary (Intermediate Area)             | Acquired word knowledge, Verbal expression                                     | 11            |
| 5.Comprehension (Intermediate Area)           | Verbal understanding and expression, social judgement                          | 12            |
| <b>Verbal conceptual</b>                      |  |               |
| 6. Similarities (Area of Strength)            | Verbal abstract reasoning, verbal understanding and expression                 | 13            |
| 3. Vocabulary (Intermediate Area)             | Acquired word knowledge, verbal expression                                     | 11            |
| <b>Attention &amp; Concentration</b>          |  |               |
| 2. Digit Span (Intermediate Area)             | Short term auditory memory   | 8             |
| 4. Arithmetic (Intermediate Area)             | Knowledge of math operations, verbal understanding, short term auditory memory | 9             |
| 7. Picture Completion (Area Weakness)         | Visual attention to detail, visual memory                                      | 7             |
| 8. Picture Arrangement (Area Weakness)        | Visual analysis, understanding of cause & effect, sequential thinking          | 5             |
| <b>Spatial – visual – motor coordination</b>  |  |               |
| 11. Digit Symbol (Area of Weakness)           | Visual – motor speed, coordination and accuracy; visual memory                 | 5             |
| 9. Block Design (Area of Weakness)            | Nonverbal abstract reasoning, visual motor speed and coordination              | 6             |
| 10. Object Assembly (Intermediate Area)       | Part/Whole visual perception, visual motor organization & speed                | 10            |

**Table 10:** Ornella's Wechsler Adult Intelligence Scale – Revised (WAIS – R).

elaboration of traumas in a way that emphasizes the loss of control and impulsivity, rather than the dissociative symptoms. Our two cases show a remarkable symmetry of the Rorschach profiles, in particular, our attention was caught by the striking similitude of the colour answers elaboration (C sym) at the plate IX. Orsola answered: "Blue is

perfection, pink is the normal life which is imperfect, white is purity"; Ornella answered: "Colours make me think about the emotions; red is passion, green is apathy, white is purity, innocence. May be green is not only apathy, but also some kind of wild mood swings". Both patients show high driving energies and emotional tensions that force



them to curb their affections in a permanent and unceasing way, sometimes through original symbolic procedures, but almost in the field of an unreal thought [12,13]. The structural fragility undermines the organizing ability and produces a distortion in the borders of the imaginary representation of the body. Both patients show how the receptive oral aggressive tendency represents a structural element and, at the same time, a primary organization of one's own personality that shows, on a symptomatic level, a violation of one's own body, where historical truth and psychic realities get mixed up. Among the expiatory rituals of purging and vomiting one need to feel the borders of a burnt, cut and wounded body.

## Discussion

A significant relationship, already reported in the literature for several years, is the one that links borderline personality disorders and eating disorders. The comorbidity is common especially for the nervous bulimia and anorexia, two disorders characterized by binge-eating and purging [14,15]. According to the Literature, impulsivity represents a relevant psychopathological aspect of those disorders. In particular, many authors reported the presence of high impulsivity levels among bulimic patients [4,5] together with, in some cases, aggressive behaviours and the so-called self-injurious behaviour [6]. Childhood neglect is a significant predictor of an increase in BPD symptoms, while childhood abuse is a significant predictor of an increase in ASPD symptoms. Moreover, abuse and neglect acted as moderators of the relationship between temperament dimensions and increase in BPD and ASPD symptoms, respectively. Abuse was associated with an increase in BPD symptoms for children with low Affiliation, while neglect was associated with an increase in ASPD symptoms for children with low Effortful Control [16]. A comparison between personality profile of women with BPD and regular and their performance in MMPI-2 test, showed that individuals with BPD in MMPI-2 test and its validity and clinical indexes had a significant difference: the patients with BPD are experiencing corresponding and specific distress in MMPI-2; the corresponding distresses of clinical scales of Hs, Hy, Pd, Pt, Sc is considered as other diagnostic symptoms of this disorder. With regard to the evaluating factors of these scales and clinical diagnostic concepts based on DSMIV-TR, there is also a noticeable overlapping [17]. The borderline personality disorder resulted significantly associated with the multi-impulsivity of bulimic patients [18]. In the clinical psychiatric practice, self injury is generally considered a display of the loss of impulse control or impulse dyscontrol, an alteration of the driving energies that determine everyone's choices, so frequent in personality disorders such as the borderline disorder [7]; this kind of behaviour appears to be difficult to explain, but it is remarkably instantaneous, leading to immediate actions that are dangerous for oneself and other people. The psychiatric bio-psycho-social model takes into account multiple pathogenic factors, such as trauma during early development, temperamental instability and other emotional disorders, as well as psychosocial, neurobiological (5HT etc.) and genetic vulnerabilities [8].

Hollander, Roses and Wong [19,20] suggested several dimensional psychopathological models in which impulsivity and compulsiveness belong to a "spectrum", representing the extremes of a continuum that goes from a reduced perception of dangerousness and a certain attitude to seek dangers on one hand, and the tendency to overestimate dangers and avoid risks on the other hand.

Our study aims to underline how self injury in the two bulimic patients with borderline personality disorder may express a behaviour that contemplates both dimensions: impulsivity and compulsiveness.

Compulsiveness is a phenomenological behaviour that is necessary and indispensable to control anxiety and anguish, often aimed to manipulate one's own body in order to manipulate the relationships with other people. It's a deliberate behaviour characterised by rituals. Impulsivity, instead, is induced by an inner strength, distant, almost foreign to a person who is the victim of such behaviour. It forces a person to look for risks in order to reach pleasure, even with painful consequences. The potential role of self-inflicted pain as a means of affect regulation in patients with BPD, was investigated and showed as patients with borderline personality disorder (BPD) experience intense emotions and often show a deficiency of emotion regulation skills. Moreover, they display high prevalence rates of self-injurious behavior. Patients report engaging in self-injurious behaviour due to its immediate relief effects of emotional tension. Pain in BPD has further been observed to lead to a reduction in neural activity in the amygdala and anterior cingulate cortex, which may be attributed to patients' perception of relaxation and suggest that pain stimuli in BPD are processed differently depending on the arousal status [21].

The two psychopathological dimensions, compulsiveness and impulsivity, share the same characteristic: the incapability to delay or restrain repetitive behaviours. The subjects we examined show the incapacity to modulate their emotional reactions and their behaviours, with a very unclear distinction between compulsiveness and impulsivity. In 1994 McElroy, Philips and Keck underlined how compulsive symptoms, generally egodystonic, and impulsive symptoms, considered to be egosyntonic, have several common elements: anxiety reduction, the presence of persisting reactions that interfere with the achievement of goals and the contemporary presence of both egodystonic and egosyntonic elements. In addition, patients present profound disturbances in affect regulation and impulse control which could reflect a reduction in the amplitude of feedback-related negative of BPD patients which is a neurophysiological index of the impact of negative feedback in reward-related tasks which compromise the capacity to build positive expectations of future and decision making [22].

Moreover, both disorders seem to respond to serotonin reuptake inhibitors, probably, through the presynaptic stimulation of serotonergic neurons (in the impulsive disorders) and through the postsynaptic desensitization of serotonergic neurons (in the compulsive disorders) [23]. The serotonergic system, which has an inhibiting function on behaviour, seems to be the main responsible for these traits. Several experimental evidences suggest a link between a reduced functionality of the serotonergic system and impulsivity/aggressiveness against oneself or other people [24].

Therefore, we can conclude, in agreement with the hypothesis of our work that the self-injurious behaviour of the two bulimic patients with borderline personality disorder we managed to observe, belong to the "impulsivity-compulsiveness" spectrum; the chance to consider both impulsivity and compulsiveness as psychopathological dimensions, could result in a different approach in the fields of relationship, diagnosis and therapy.

In the end, we would like to underline another element coming from the assessment of the patients' cognitive functions. In both cases the Wais-R shows low scores to the visual-motor coordination subtests: Digit Symbol and Block Design. Digit Symbol assesses visual-motor speed, coordination and accuracy and visual memory [25]. The highest level of conceptualization and visual-spatial coordination is represented by the understanding of problems at first sight and the immediate execution of tasks, so impulsive patients tend to have low

scores to these subtests. These finding should suggest, in accord with literature , that domains of executive functioning are differentially affected in BPD, indeed BPD patients solved tasks with accuracies comparable to those of nonpatients with the only exception task, for which working memory is required; however, these did not influence executive functioning [26]. In our cases, a compromised perceptive organization is associated with the difficulty to control emotions.

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