

## SCHEMA THERAPY MODE MODEL APPLIED TO OCD

Barbara Basile, Katia Tenore, Olga Ines Luppino, Francesco Mancini

### Abstract

**Objective:** Schema Therapy (ST) places particular emphasis on affective experiences, therapeutic relationship and early life experiences. *Ad hoc* ST conceptualizations for specific psychological conditions, mainly focusing on personality disorders, have been suggested in the last decade. The aim of this study was to explore schemas, modes and coping styles in outpatients with Obsessive-Compulsive Disorder (OCD).

**Method:** thirty-four patients with OCD [DSM5 criteria, mean age(SD)=33(8.38) years; 12 females] were recruited. Schemas, modes and coping styles were measured. Indexes of OCD symptoms', guilt and disgust levels were also collected. Descriptive, correlation and multiple regression analyses were performed.

**Results:** OCD symptoms' severity was significantly associated with social isolation, failure, subjugation and punishment schemas, and with the punitive parent mode. A positive relationship was also detected between OCD severity, and avoidance and intra-psychic coping styles and disgust intensity. Regression analyses revealed that the social isolation and punitiveness schemas, the punitive parent mode and behavioral avoidance coping style predicted OCD severity, with behavioral avoidance playing a significant mediation role between dysfunctional schemas and symptoms.

**Conclusions:** Our data confirm previous findings on Schema model applied to OCD. An important limitation of the study is represented by the lack of an Italian control group.

**Key words:** obsessive-compulsive disorder, Schema therapy, early maladaptive schemas, modes, coping strategies

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**Declaration of interest:** none

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### Introduction

Schema therapy (ST, Young et al. 2003) is a third wave CBT approach that combines different models, i.e., gestalt and attachment theories, emotion-focused, cognitive and behavioral strategies. Its' main goal in therapy is to identify patients' unmet core needs and to help them to fulfill such needs in a functional way. Frustration of emotional core needs in early childhood and adolescence leads to the development of early maladaptive schemas (EMSs), which in turn are associated to Coping strategies (CS) that represent childhood survival responses. EMSs (or simply Schemas) are pervasive themes or patterns of memories, bodily sensations, emotions and cognitions about oneself and relationships that developed during childhood/adolescence. CS activate when EMSs are triggered. They involve the typical fight, flight and freeze responses and allow the child to survive in a specific family environment. Later in the model, Modes have been introduced. Schema Modes and Coping Modes refer to the activation, in a specific moment and context, of a specific schema or coping response, respectively. Modes might refer to 1) individuals' emotional parts, called Child modes (i.e., feeling sad, lonely, abused, enraged), 2) to parental introjected voices (i.e., punitive, critical) and 2) to specific coping response. The latter

are defined as coping modes and include Surrender (i.e., acceptance of abusive relationships), Avoidance (i.e., isolation, dissociation, social or behavioral avoidance) and Fight/Overcompensation (i.e., criticizing others, attacking them) CS.

ST is designed to treat long standing emotional problems, who have their origins in childhood and adolescence, and might be particularly useful for patients with Axis I disorders with interpersonal difficulties and for personality disorders (PD). Specific models for depression (Renner and Arntz 2013), Borderline PD (Kellogg and Young 2006), Narcissistic PD (Behary 2009), Cluster C PD (Arntz 2012) and other disorders have already been proposed. Gross et al. (2012) proposed a specific mode formulation for obsessive-compulsive disorder (OCD). Authors suggest that ST might be particularly useful for severe or chronic OCD, for non-responders to traditional CBT and for patients with a severe trauma history or comorbid PD. Some studies investigated the efficacy of ST applied to OCD (Veale et al. 2015, Thiel et al. 2016), but still few has been done to investigate schema mode conceptualization of this disorder. The aim of this study was to further investigate early maladaptive schemas, modes and coping styles in a clinical sample of patients with OCD.

## Methods

### *Participants*

We recruited thirty-four outpatients (mean age=33.0 years old; SD=8.38; 12 females and 22 males) with OCD seeking for help at the Association of Cognitive Psychology (APC) Clinical Center in Rome (Italy). All patients underwent a clinical interview with an expert neuropsychiatrist / cognitive psychotherapist (F.M.) in order to assess for OCD criteria according to DSM5. Almost half of patients showed some comorbid PD (mainly from cluster B). After clinical evaluation, all patients completed different self-reports to assess for OC severity, levels of guilt and disgust, and schemas', modes' and CS' pervasiveness.

### *Procedures and measures*

The questionnaires were administered individually. Patients were requested to fill in the following measures in a balanced order:

#### *Yale-Brown Obsessive-Compulsive Scale*

The Yale-Brown Obsessive-Compulsive Scale (Y-BOCS; Goodman 1989) assesses severity of OCD symptoms. It is a self-report measurement that contains a symptom checklist and a severity scale. The symptom checklist includes a list of 40 obsessions and 29 compulsions each categorized according to their content. The severity scale of the Y-BOCS contains 10 items: five for obsessions and five for compulsions. Goodman et al. (1989) have reported satisfactory reliability and validity of the Y-BOCS.

#### *Padua Inventory-Revised*

The Padua Inventory - Revised Version (PI-R; van Oppen et al. 1995) consists of 41 items. Each item is rated on a 5-point scale according to the degree of disturbance caused by the thought or behavior (0= "not at all", 4= "very much"). The PI-R gives a global score, from 0 to 164, indicating the presence of obsessive-compulsive features, and five sub-scale scores measuring for Impulses, Washing, Checking, Rumination and Precision.

#### *Vancouver Obsessive Compulsive Inventory*

The Vancouver Obsessive Compulsive Inventory (VOCI; Thordarson et al. 2004) is a 55-item self-report instrument measuring obsessions, compulsions, avoidance behavior, and personality characteristics related to OCD. The VOCI has a good test-retest reliability and internal consistency, and support has been found for a six-factor solution comprising the following factors: contamination, checking, obsessions, hoarding, just right experiences, and indecisiveness.

#### *Disgust Scale*

The Disgust Scale (DS; Haidt et al. 1994) consists of 32 items measuring attitudes toward seven domains of disgust elicitors: Food, Animals, Body products, Sex, Envelope Violations, Death, and Hygiene, and a further subscale referring to the domain of Magical Thinking (Haidt et al. 1994). The DS gives a total score,

from 0 (minimal disgust sensitivity) to 32 (maximal disgust sensitivity). Disgust plays a significant role in OCD onset and maintenance (Berle and Phillips 2006, Mancini 1998, Perdighe and Mancini 2016), particularly in specific OCD subtypes (i.e., washing and fear of contamination symptoms).

#### *Guilt Inventory*

The Guilt Inventory (GI; Jones et al. 2000, Kugler and Jones 1992) is a self-report scale asking responders to rate their agreement to 45-item on a 5-point Likert-type scale (from a 1 = Strongly disagree to 5 =Strongly agree). It was designed to assess for the following domains: state-guilt, defined as "present guilty feelings based on current or recent transgressions"; trait-guilt, defined as "a continuing sense of guilt beyond immediate circumstances" and moral standards, defined as "subscription to a code of moral principles without reference either to specific behaviors or overly specific beliefs". The GI has good reliability and validity (Kugler and Jones 1992). Like the emotion of disgust, it is highly established that guilt plays a significant role in OCD (Mancini et al. 2016, Shafran 1996).

#### *Young Schema Questionnaire*

The Young Schema Questionnaire long version (YSQ-L3) is a 232-item self-report inventory that assesses the 18 schemas proposed by Young (2003). Each item in the questionnaire is a statement based on a maladaptive belief as defined by schema theory. Respondents are asked to rate the degree to which they agree with the statements on a 6-point Likert scale (1–6). A mean score is calculated for each EMS, a higher score representing a higher endorsement of the EMS in question.

#### *Schema mode inventory*

The schema mode inventory version (SMI, Young et al. 2007) is a 124-item self-report questionnaire designed to assess 14 schema modes. The SMI has been shown to possess adequate psychometric properties (Lobbstaël et al. 2010). Schema modes can be divided into four categories: child modes (including the happy child mode), dysfunctional coping modes, dysfunctional parent modes, and the healthy adult mode (Young et al. 2003).

#### *Schema Coping Inventory*

The Schema Coping Inventory (SCI; Rijkeboer and Lobbstaël 2010) assesses the three schema coping styles: overcompensation, avoidance, and surrender. The inventory consists of 12 items with each coping style represented by four items. Each item is scored on a 7-point Likert-type scale with anchors 'completely disagree' to 'completely agree'. Unpublished data indicate a three-factor structure for this instrument and internal consistency.

#### *Young-Rygh Avoidance Inventory*

The Young-Rygh Avoidance Inventory (YRAI; Young and Rygh 1994) contains 40 items that assess schema avoidance. Each item is rated on a 6 point Likert scale from 1 ("completely untrue of me") to 6

(“describes me perfectly”). The high rated items of this inventory represent the ways that patients used to avoid feeling the emotions which schemas engender (Young 2003). Usually, YRAI items are categorized into 14 subscales, but according to our aim and considering the weak reliability of this test, we extracted only three types of scores within the questionnaire, namely: 1) intrapsychic (i.e., Denial of memories, Excessive rationality and control etc.), 2) behavioral (i.e., Substance abuse, Distraction through activity, Avoidance of upsetting situations, etc.), and 3) dissociative (i.e., Passive blocking of upsetting emotions, passive distraction through fantasy, day-dreaming or television) avoidance coping strategies.

### Data Analyses

Data were analyzed using SPSS version 20.0 software (SPSS Inc., Chicago, IL). Beyond initial descriptive analyses, we performed correlation, multiple regression and mediation analyses.

### Results

Overall, all clinical OCD measures scored higher than clinical cut off, confirming OCD diagnoses (See **table 1**). Fourteen patients, on 34, reported comorbid PD diagnosis.

**Table 1.** Means and standard deviations of demographic, symptomatic and disgust and guilt measures

| OCD N=34      | Mean  | SD    |
|---------------|-------|-------|
| Age           | 33.0  | 8.38  |
| Y-BOCS        | 20.68 | 7.14  |
| PI-R          | 43.77 | 23.27 |
| VOCI          | 52.28 | 32.17 |
| Disgust Scale | 18.50 | 5.58  |
| Guilt State   | 29.66 | 9.27  |
| Guilt Trait   | 55.38 | 17.99 |
| Moral Guilt   | 45.38 | 14.08 |

Means and standard deviations for all EMSs, modes and CS are reported in **table 2**. One sample t-test analyses were performed to explore differences between OCD patients’ and healthy controls (recruited from previous studies by Voderholzer et al. 2014 and Alfasfos 2009, see **table 2** on the next page). Overall, patients reported significantly more severe EMSs and modes, as compared against an age-matched (N=141) German healthy control group (see, Voderholzer et al. 2014), and a younger (N=200) Palestinian sample (see, Alfasfos 2009). When considering EMSs, social isolation, vulnerability to harm, failure, subjugation, pessimism/negativism, unrelenting standards, abuse/mistrust, dependence, abandonment, emotional deprivation and inhibition and defectiveness/shame schemas were significantly higher in OCD patients (vs healthy controls, HC). As well, almost all dysfunctional modes showed significantly higher scores in patients, while both the happy child and the healthy adult modes were poorer than in the German group. With regard to CS, no comparison against HC was performed,

as previous studies did not use these measures and a clinical cut-off score has not been identified.

Pearson correlation analyses showed significant positive associations between symptoms’ severity (i.e., PI-R and VOCI total scores) and the social isolation, failure, subjugation and punitiveness EMSs; and with the punitive parent mode and the behavioral avoidance CS (See **table 3**). Additional significant positive associations were observed between OCD severity and trait guilt (GI;  $r = .36, p = 0.04$ ) and guilt state (GI;  $r = .35, p = 0.05$ ). Further, trait guilt was positively associated with abandonment ( $r = .48, p = 0.02$ ), defectiveness/shame ( $r = .46, p = 0.02$ ) and dependence ( $r = .51, p = 0.02$ ) schemas. A strong positive association was detected between the PI-R and VOCI total scores ( $r = .92, p = 0.000$ ), although, surprisingly, no significant correlation was found with the Y-BOCS. As well, the latter measure did not show any significant positive

**Table 3.** Pearson correlation analyses. Associations between OCD measures and YSQ, SMI and CS scores are reported. \* Statistically significant correlation. Abbreviations: PI-R= Padua Inventory-Revised; VOCI=Vancouver Obsessive Compulsive Inventory

| EMSs/ Mode/ CS                         | PI-R | p    | VOCI | p   |
|--|------|------|------|-----|
| Social Isolation Schema                | .62* | .007 | .57* | .03 |
| Failure Schema                         | .52* | .03  | .48  | .07 |
| Subjugation Schema                     | .54* | .02  | .50  | .06 |
| Punitiveness Schema                    | .52* | .03  | .53* | .05 |
| Punitive Parent Mode                   | .54* | .01  | .52* | .04 |
| Behavioral avoidance Coping strategies | .70* | .004 | .59* | .04 |

association with ST measurements.

Multiple regression analysis was used to test for specific EMSs, modes and CS predicting OCD severity. The VOCI and the PI-R total scores were used as dependent variables.

Results showed that the punitive schema, the critical/punitive parent mode and behavioral avoidance CS significantly explained for OC severity ( $R^2 = 69.2\%$ ,  $F(2,10) = 11.208, p < .003$ , with PI-R as dependent variable; and  $R^2 = 85.2\%$ ,  $F(2,7) = 20.167, p < .001$ , with VOCI as dependent variable).

To test for the mediation role of specific modes and CS in the association between EMSs and OCD severity, we performed some mediation analyses using Hayes’s PROCESS procedure (for SPSS, 2013). The technique has the benefit of allowing for multiple mediators to be added to the same model, thus allowing for comparisons to be made between mediators. We examined specific hypotheses in order to investigate the possible mediating role of modes and CS. Each EMS at the time was introduced as independent variable and the PI-R and VOCI total scores were used, in separate analyses, as dependent variables. We first tested for the mediating role of the critical/punitive parent mode, in the association between schemas and OCD, but

**Table 2.** Means and Standard Deviations of EMSs, modes and CS. One-sample *t* tests *p* values are also reported considering the German and Palestinian healthy subjects as controls (see main text for details). \* Statistically significant differences. Abbreviations: SD= standard deviation; EMSs= early maladaptive schema; HC= healthy controls; CS= coping styles; YRAI= Young-Rygh Avoidance Inventory; SCI= Schema Coping Inventory; ns= not significant

| EMSs                               | Mean   | SD   | p    | Modes                                     | Mean   | SD   | p    |
|------------------------------------|--------|------|------|---|--------|------|------|
| <b>Abuse/mistrust OCD</b>          | 2.41 * | 0.93 |      | <b>Vulnerable child</b>                   | 2.63 * | 1.01 |      |
| German HC                          | 2.13   | 0.84 | ns   | German HC                                 | 1.56   | 0.54 | .000 |
| Palestinian HC                     | 1.77   | 0.85 | .001 |   |        |      |      |
| <b>Abandonment</b>                 | 2.59 * | 0.79 |      | <b>Enraged child</b>                      | 1.86 * | 0.81 |      |
| German HC                          | 2.25   | 0.82 | .02  | German HC                                 | 1.22   | 0.29 | .000 |
| Palestinian HC                     | 2.45   | 0.71 | ns   |   |        |      |      |
| <b>Emotional deprivation</b>       | 2.90 * | 1.07 |      | <b>Angry child</b>                        | 2.38   | 0.99 |      |
| German HC                          | 1.52   | 0.68 | .000 | German HC                                 | 2.01   | 0.59 | ns   |
| Palestinian HC                     | 2.93   | 0.74 | ns   |   |        |      |      |
| <b>Defectiveness/shame</b>         | 2.23 * | 1.10 |      | <b>Impulsive child</b>                    | 2.24   | 0.88 |      |
| German HC                          | 1.37   | 0.54 | .000 | German HC                                 | 2.35   | 0.58 | ns   |
| Palestinian HC                     | 2.36   | 0.90 | ns   |   |        |      |      |
| <b>Social isolation</b>            | 2.56 * | 1.36 |      | <b>Undisciplined child</b>                | 3.17 * | 1.54 |      |
| German HC                          | 1.72   | 0.68 | .004 | German HC                                 | 2.27   | 0.58 | .005 |
| Palestinian HC                     | 2.40   | 0.84 | ns   |   |        |      |      |
| <b>Dependency</b>                  | 2.13 * | 0.89 |      | <b>Happy child</b>                        | 3.10 * | 0.67 |      |
| German HC                          | 1.44   | 0.49 | .000 | German HC                                 | 4.97   | 0.64 | .000 |
| Palestinian HC                     | 2.06   | 0.69 | ns   |   |        |      |      |
| <b>Vulnerability to harm</b>       | 2.64 * | 1.04 |      | <b>Compliant surrender coping mode</b>    | 2.58   | 0.94 |      |
| German HC                          | 1.81   | 0.74 | .000 | German HC                                 | 2.57   | 0.63 | ns   |
| Palestinian HC                     | 2.57   | 0.91 | ns   |   |        |      |      |
| <b>Enmeshment/undeveloped self</b> | 2.12 * | 1.03 |      | <b>Detached protector coping mode</b>     | 2.47 * | 0.83 |      |
| German HC                          | 1.65   | 0.73 | .02  | German HC                                 | 1.52   | 0.44 | .000 |
| Palestinian HC                     | 2.64   | 1.03 | .01  |   |        |      |      |
| <b>Failure</b>                     | 2.49 * | 1.35 |      | <b>Detached self-soother coping mode</b>  | 3.11 * | 0.89 |      |
| German HC                          | 1.91   | 0.81 | .03  | German HC                                 | 2.37   | 0.96 | .000 |
| Palestinian HC                     | 2.20   | 0.79 | ns   |   |        |      |      |
| <b>Entitlement/grandiosity</b>     | 2.73 * | 0.96 |      | <b>Self-aggrandizer coping mode</b>       | 2.61   | 0.83 |      |
| German HC                          | 2.36   | 0.69 | ns   | German HC                                 | 2.21   | 0.56 | ns   |
| Palestinian HC                     | 2.27   | 0.61 | .01  |   |        |      |      |
| <b>Insufficient self-control</b>   | 2.51   | 0.58 |      | <b>Bully/attack coping mode</b>           | 2.14 * | 0.81 |      |
| German HC                          | 2.36   | 0.77 | ns   | German HC                                 | 1.58   | 0.45 | .001 |
| Palestinian HC                     | 2.86   | 0.84 | ns   |   |        |      |      |
| <b>Self-sacrifice</b>              | 2.84   | 0.88 |      | <b>Punitive/critical Parent</b>           | 2.50 * | 0.83 |      |
| German HC                          | 2.95   | 0.90 | ns   | German HC                                 | 1.40   | 0.36 | .000 |
| Palestinian HC                     | 2.92   | 1.04 | ns   |   |        |      |      |
| <b>Subjugation</b>                 | 2.41 * | 0.94 |      | <b>Demanding Parent</b>                   | 3.90 * | 0.87 |      |
| German HC                          | 2.01   | 0.80 | .03  | German HC                                 | 3.00   | 0.76 | .000 |
| Palestinian HC                     | 2.80   | 1.13 | .03  |   |        |      |      |
| <b>Approval seeking</b>            | 2.57   | 1.18 |      | <b>Healthy adult</b>                      | 3.72 * | 0.60 |      |
| German HC                          | 2.81   | 0.82 | ns   | German HC                                 | 5.04   | 0.62 | .000 |
| Palestinian HC                     | 2.76   | 0.76 | ns   |   |        |      |      |
| <b>Pessimism/negativism</b>        | 2.83 * | 0.86 |      | Coping styles                             | Mean   | SD   |      |
| German HC                          | 1.97   | 0.76 | .000 |   |        |      |      |
| Palestinian HC                     | 3.39   | 1.03 | .002 |   |        |      |      |
| <b>Emotional inhibition</b>        | 2.76 * | 1.14 |      | <b>Intra-psychoic avoidance CS (YRAI)</b> | 2.63   | 1.01 |      |
| German HC                          | 2.06   | 0.85 | .04  | <b>Behavioral avoidance CS (YRAI)</b>     | 2.38   | 0.99 |      |
| Palestinian HC                     | 1.69   | 0.75 | .000 |   |        |      |      |
| <b>Unrelenting standards</b>       | 2.95 * | 0.79 |      | <b>Dissociation avoidance CS (YRAI)</b>   | 2.24   | 0.88 |      |
| German HC                          | 3.10   | 1.01 | ns   | <b>Submissive/surrender CS (SCI)</b>      | 8.67   | 6.68 |      |
| Palestinian HC                     | 1.70   | 0.65 | .000 |   |        |      |      |
| <b>Punitiveness</b>                | 2.73   | 0.82 |      | <b>Avoidance CS (SCI)</b>                 | 10.11  | 5.98 |      |
| German HC                          | 2.66   | 0.74 | ns   | <b>Overcompensation/attack CS (SCI)</b>   | 10.78  | 8.72 |      |
| Palestinian HC                     | 2.55   | 0.84 | ns   |   |        |      |      |

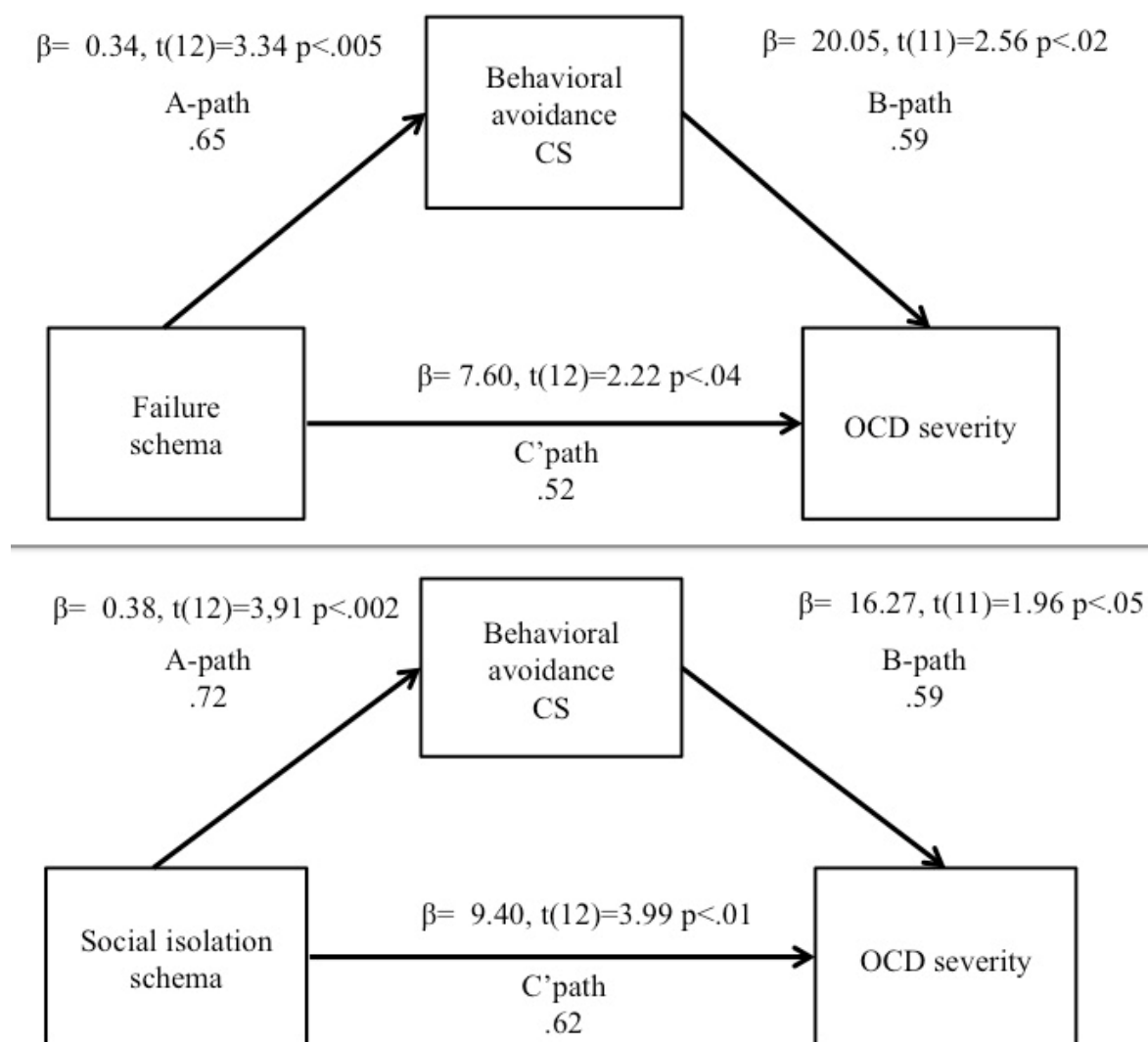


found no significant mediation effect. In our second hypothesis we tested for the mediating role of behavioral avoidance CS, in the relation between EMSs and OC symptoms. This time we found a significant mediating effect of this variable in the relationship between social isolation and failure schemas, and OCD severity. **Figure 1** illustrates the significant relationship we tested, where A path represents the effect of the independent variable (i.e., EMSs) on the mediating variable (i.e., CS), while B path represents the effect of the latter on the dependent variable (i.e., OC symptoms). C' path is the total effect of schemas on OC symptoms, via the mediating variable. Significances and values are reported in **figure 1**.

OC symptoms' severity and the social isolation, failure, subjugation and punitiveness schemas, and with the critical/punitive parent mode. More in detail, punitiveness (in terms both of schema and parental mode) and behavioral avoidance CS accounted for obsessive symptoms' gravity, with avoidant CS mediating between failure and social isolation EMSs, and OCD severity.

Our findings are in line with previous studies investigating schemas in OCD: Atalay (2008) found higher scores (with different levels of significance) in the social isolation, vulnerability to harm, failure, negativism/pessimism, subjugation, emotional

**Figure 1.** Mediation model with the OCD severity index as dependent variable, EMSs were put into the equation as predictor variables, whilst Behavioral CS was introduced as mediation variable. The model shows the significant role of behavioral avoidance CS in mediating the effect of failure (upper panel) and social isolation (lower panel) schemas on OC symptoms. a\*b Indirect effect upper and lower CI do not include 0



## Discussion

In this study we investigated schemas, modes and coping styles in a sample of patients with OCD. Overall, patients reported significantly higher scores in almost all EMSs and dysfunctional modes, compared against an age-matched German healthy population. Specific positive associations were detected between

deprivation, defectiveness/shame, enmeshment/undeveloped self, unrelenting standards, entitlement, and approval-seeking EMSs in patients vs healthy controls. In Voderholzer and colleagues' study (2014) a group of patients with mixed diagnoses (OCD, eating disorders and chronic pain disorder) showed, all together, higher vulnerability to harm, abandonment, defectiveness/shame, dependence, emotional inhibition and insufficient self-control EMSs, compared against

a healthy control group. Within the same study, when considering modes, the main effect of patients' group was significant for the vulnerable and angry child modes, the detached protector and self-soother coping modes, and the punishing and demanding parent modes. More in detail, when the OCD group was compared against the eating disorders and chronic pain disorder clinical groups, again higher scores in the vulnerable and angry child modes and in the punishing and demanding parent modes were detected. Finally, a couple of studies investigated the predicting role of EMSs and modes on CBT efficacy in OCD. In the first research, Thiel et al. (2014) demonstrated that higher scores on the failure and emotional inhibition schemas at pre-treatment were significantly related to poor outcome, and explained OC symptoms at post-treatment. In a second research (Haaland et al. 2011) higher scores on the abandonment and self-sacrifice schemas at pre-treatment were related to good outcome at post-treatment. As well, during psychotherapy, only changes in the failure schema were significantly related to good outcome and explained 18% of the variance in OCD symptoms at post-treatment. To sum, social isolation, vulnerability to harm, failure and negativism/pessimism seem to be the most characteristic schemas in OCD, together with the critical/punishing and the demanding parent modes and behavioral avoidant coping strategies.

Our findings mostly fit with Gross et al. (2012) mode model for OCD. In their model, authors proposed specific predominant modes to be explicative of obsessive symptoms and related personality features. More in detail, Gross conceptualized a vulnerable and angry child mode, and a critical/punitive and/or demanding parent mode, representing introjected parental messages. Further, OCD symptoms can be explained as compensatory modes, such as the Perfectionistic Overcontroller, or as avoidant coping modes, mainly involving the Detached Protector mode. Compared to this model, in our OCD sample we found high vulnerable, undisciplined and enraged child modes, and a pervasive punitive and demanding parent mode. The critical/punitive parent mode refers to the parental introjected rules on being punished for possible mistakes, and together with its corresponding mode, it explained patients' OCD severity. Further, this parental mode is commonly associated to the Subjugation, Mistrust/Abuse and Defectiveness EMSs, which were all significantly higher in our clinical sample, compared against healthy subjects. The demanding parent mode reflects the internalized parental voices related to pressure to achieve unrealistically high expectations, and it is usually associated to the Unrelenting Standard, Failure and Self-Sacrifice schemas. Further, the vulnerable child mode refers to negative emotions such as sadness, loneliness, guilt, shame and others that might arise in response to a sense of failure, isolation, emotional neglect or punitive and critical messages toward oneself for having made some mistakes or not having achieved certain standards. In order to survive to early negative experiences and to overall protect one-self from such negative messages or situations, patients learn to get detached and to avoid contact with their emotions and their associated needs. These survival strategies are defined as the detached protector mode, which includes social isolation, emotional and behavioral withdrawal, and self-soothing strategies. In fact, all these coping modes were reported by our OCD patients, and were included in Gross's model. Another way to cope with early, and present, negative experiences is to counter-attack and compensate for possible mistakes and negative feelings getting

extremely over-controlling and perfectionistic. The over-compensatory coping mode is designed to create as much distance as possible from feelings of vulnerability, through cultivating a sense of being 'in control'. This process takes place through perfectionism, rituals, rumination, superstitious thinking and focusing on rules and regulations at the expense of health, happiness and human connection. Our findings indeed confirm the significant role of avoidant and detaching strategies in mediating the effect between failure and isolation and OCD symptoms' severity. Within our sample we also found some evidence of the attack/compensating coping mode, but this aspect played a less significant role, compared with withdrawal. We suggest this finding might be less evident as the tools we used to measure overcompensation CS might not be adequate enough to assess for this variable.

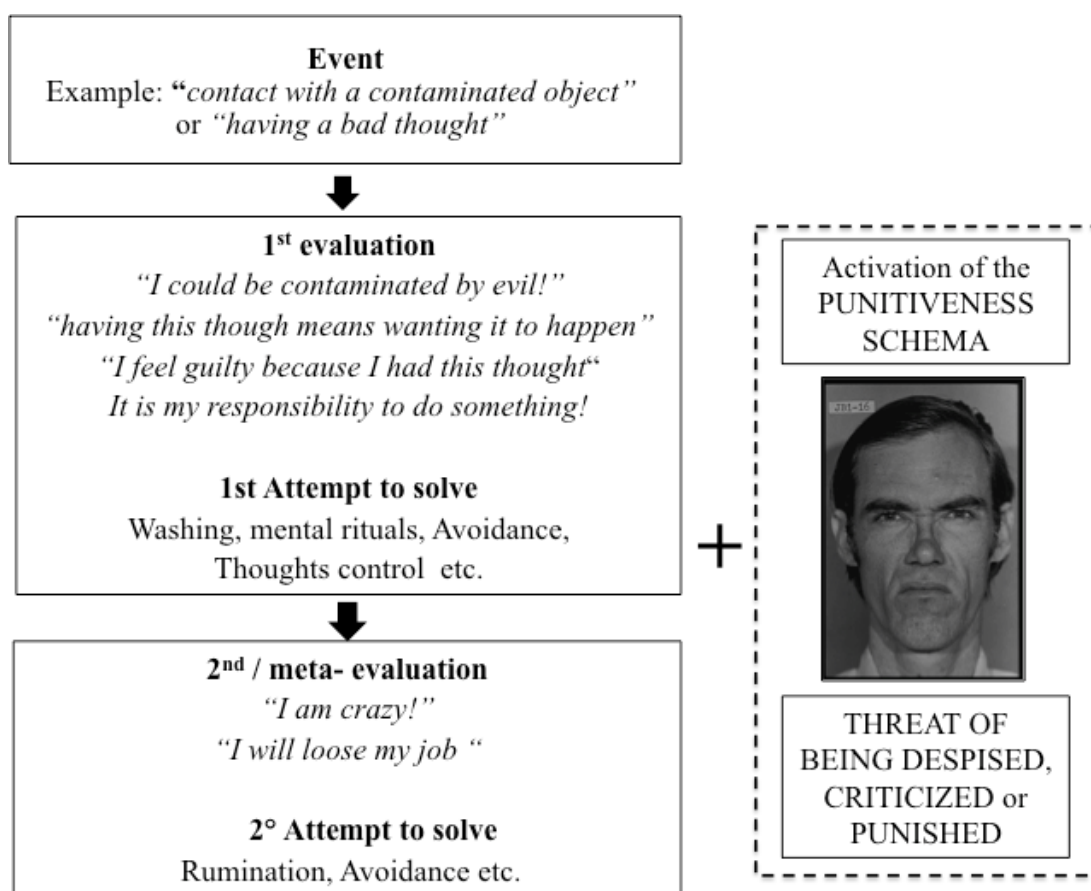
The undisciplined and enraged child modes might be associated with some aspects related to the impulsiveness observed in some compulsive behaviors. More in detail, the enraged child refers to intense feelings of anger that result in hurting or damaging people or objects. The displayed anger is out of control and might turn into the undisciplined child mode. This mode is associated with the inability to control one's own emotions and impulses, leading to self-injurious or dangerous compulsive behaviors.

In Mancini's cognitive model of OCD (2016; See **figure 2** for a graphical representation of this model) there is a trigger event, such as getting in contact with a contaminated object or having a bad thought, such as killing a loved one, this might be interpreted as a possible threat/mistake, for which one feels responsible for. In turn these 1<sup>st</sup> evaluation leads to washing or mental rituals or behavioral avoidance, which triggers self-criticism (like fear of becoming crazy) and blame toward oneself ("it is my fault", "I could have done something not to make this bad thing happen" etc.). These thoughts and emotions might intensify further dysfunctional behaviors like avoidance, thoughts' control, rumination and so on. In this contextual framework the ST model might give an important contribution in understanding and explaining how OCD develops and is maintained in patient's life. The model explains how early negative experiences might shape child's sensitivity toward specific cognitive and emotional contents related to OCD. It is quite common that OCD patients report early negative experiences with their caregivers (Tenore 2016) have been particularly punitive and critical, showing scornful and angry facial expressions. These early experiences might contribute to patients' sensitivity towards punishments and high expectations associated with mistakes and achieving excessively elevated standards, leading, in turn, to guilty feelings, a sense of inflated responsibility (Salkovskis 1985, 1989; Mancini and Gangemi 2016) and fear of failure. We suggest that these early experiences might contribute to the development of dysfunctional schemas such as punitiveness, failure, defectiveness, high standards, pessimism and vulnerability to harm (with an extreme fear for an unavoidable catastrophe to happen and an extreme need to control in order to avoid bad things from happening).

Integrating ST with traditional cognitive-behavioral treatment (CBT) might be particularly useful for severe or chronic OCD, and for patients with a severe trauma history or comorbid personality disorders (PD). As well, ST might be used when CBT does not succeed in symptoms' reduction.

Our study has several caveats. First of all, we did not recruit a healthy Italian control group, although we

Figure 2. Mancini's cognitive model of OCD (2016)



compared our patients to a healthy age-matched German (for schemas and modes) and a younger Palestinian (for schemas alone) group. Further, sample size was quite small and this did not allow us to investigate for eventual schemas or modes differences considering specific OCD subtypes (i.e., checking, washing etc.). According to the potential benefits of applying ST in severe OCD cases and in comorbidities with PD, our sample did not display an extremely severe obsessive symptomatology (Y-BOCS mean score 20), nor all patients showed an additional PD. Considering the latter point, as almost half of our patients presented additional dysfunctional personality traits (mainly from cluster B), we compared against each other the two sub-groups (with and without PD) and did not find any significant difference in terms of schemas, modes or CS pervasiveness.

To conclude, the application of ST, coupled with traditional CBT, might be a powerful model to use for OCD in order to get a deeper understating of symptoms' etiology and development.

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