1. Introduction

The study of vulnerability in the field of mental health allows both to understand the genesis of a mental disorder and to design more effective preventative interventions (Evraire et al. 2015). Vulnerability may be conceptualised as a combination of the distal and proximal causes of a disorder. It has been considered a stable trait over time, present before the onset of the disorder, endogenous, and latent in nature (Ingram and Price 2010). Although some recent studies have argued the involvement of malfunctioning specific cerebral circuitries in individuals with OCD (de Wit et al. 2012, Gillan et al. 2011), taken together with the small to moderate levels of effect sizes seen across domains, neuropsychological factors do not appear to be sound candidates for OCD endophenotypes (Abramovitch et al. 2013). Therefore, in this paper we shall limit our analysis to the pathways leading from particular early experiences to vulnerability to OCD.

Generally speaking, the subjective cognitive evaluation (appraisal) of events is a very significant determinant of emotions and behaviours (Broekens et al. 2008). Thus, appraisal Theories (AT) of OCD are necessary in order to account both for the genesis and the maintenance of obsessive-compulsive symptomatology (Clark 2004, Salkovskis 1985), and personal beliefs and goals can be considered necessary and sufficient proximal determinants of symptoms. There is an ongoing debate on this issue (see for example Anholt and Kalanthroff 2014, Mancini and Barcaccia 2014), regarding not only the genesis of OCD, but also its psychological treatment. Although Exposure with Response Prevention (E/RP) has long been, and still is, the elective treatment for OCD, in more recent years research on cognitive treatment has showed that through cognitive restructuring it is possible to reduce the strength of dysfunctional beliefs, thus reducing OC symptomatology (Woody et al. 2011).

Thus, considering the role that dysfunctional beliefs play in the aetiology and maintenance of the disorder, and the heavy burden of OCD to the individual, family, and society as a whole (Veale 2007), the study of those beliefs and goals seems particularly relevant. Among the most relevant goals implied in OCD there is that of being responsible and thus of preventing guilt. In this article we shall explore how this goal is learned throughout the individual’s developmental path.

2. Vulnerability

As stated by Ingram and Price “... there is no more important goal in psychopathology research than understanding the causes of psychopathology. Although there may be multiple pathways to such an understanding, theory and research on vulnerability are indispensable to this quest for causality” (Ingram and Price 2010, p.3).

The concept of vulnerability, in general, refers to a specific weakness that can lead to an attack from outside.
In psychiatry it indicates the conditions that can induce the development of a mental disease. It is important to distinguish distal factors, present before the problem developed, from proximal factors, present at the onset of symptoms (Abramson et al. 1989). Distal cognitive factors consist in automatic cognitive predispositions leading individuals to cope with stressful situations in a maladaptive way. These factors can be viewed as traits (in the sense that they are stable over time), while proximal cognitions are situational, consisting in specific thoughts or mental processes arising during the symptomatological episode (Riskind and Alloy 2006).

Obsessive Compulsive Cognitions Working Group (OCCWG), (1997) originally stated that six belief domains were central in OCD: Inflated responsibility, overimportance of thoughts, control of thoughts, overestimation of threat, intolerance of uncertainty and perfectionism. Stemming from this conceptualization, the Obsessive Beliefs Questionnaire (OBQ-87, OCCWG 2001, OCCWG 2003) was developed to assess these six belief domains. Subsequently, the observation of high correlations among the OBQ subscales led the OCCWG to the development of the OBQ-44, a revision of the OBQ that reduces the original six dimensions to three belief domains: Responsibility/Threat Estimation, Perfectionism/Certainty and Importance/Control of Thoughts (OCCWG 2005). Although some studies highlighted the possibility that belief domains of the OBQ do not uniquely predict obsessive-compulsive symptomatology, but may also be related to worry or general distress (Anholt et al. 2010, Baptista et al. 2011), the convergent and discriminant validity of the OBQ shows that its content is (a) not overly saturated with nonspecific distress, (b) relevant to OCD beyond the role of distress, and (c) not correlated substantially with related but distinct forms of pathology (Wu and Carter 2008).

These belief domains are critical because they are the lenses through which events are interpreted, including mental events such as thoughts and images. It is important to consider that these beliefs are learnt in the personal history and are linked to the patient’s personal goals and values (Huppert and Zlotnick 2012, Mancini and Barcaccia 2014). In the perspective of appraisal theories, several cognitive models of OCD can be identified, suggesting that two main goals are implied in the symptomatology: first, the prevention of responsibility and therefore of feeling guilty, second, the prevention of coming into contact with disgusting substances (D’Olimpio et al. 2013, Rachman 2002, Reuven, Liberman and Dar 2013, Salkovskis and Forrester 2002, van Oppen and Arntz 1994). All these elements, beliefs and goals, may constitute current vulnerability factors to obsessive stimuli.

3. Current vulnerability

Scientific literature on the current vulnerability factors shows that responsibility, or the threat of being responsible, correlates with the severity of OC symptoms (Myers and Wells 2004, Steketee et al. 1998, Freeston et al. 1992, Freeston et al. 1993, Frost et al. 1994, Rhéaume et al. 1994, Rhéaume et al. 1995a, Rhéaume et al. 1995b, Rachman et al. 1995, Shafran et al. 1996, Wilson and Chambliss 1999, Menzies et al. 2000, Salkovskis et al. 2000). Moreover the scores in the scales measuring OCD-related dysfunctional beliefs are higher in people with OCD compared to clinical and nonclinical controls (Taylor et al. 2012). Also in normal subjects feelings responsible, and therefore potentially guilty, predicts obsessions and compulsions. In other words it can be derived that people with high guilt-trait are more susceptible to develop OCD (Mancini et al. 2001).

Scientific literature in recent years has showed that specific strongly held beliefs might represent candidate endophenotypes for OCD (Taylor et al. 2012). The concept of “endophenotype” has been initially described as a measurable intermediary variable linking genes to a certain disorder, although its application has extended to involve endophenotypes linking environmental and genetic factors to disorders. Empirical data gathered using the OBQ (OCCWG 2005) has given strength to this hypothesis: we know that the scores in the OBQ subscales are correlated to the severity of the symptomatology, resulting higher in OC patients than in other clinical individuals or in community samples (Taylor et al. 2012).

Data also suggest that dysfunctional beliefs as measured by OBQ are causes and not consequences of OCD symptoms: studying the role of obsessive beliefs in the OC symptoms in a large sample of twins, Taylor and Jang (2011) used structural equation modelling to compare 3 models: 1) genetic and environmental factors influence beliefs and obsessive-compulsive symptomatology, and beliefs also influence symptoms; 2) symptoms cause beliefs; and 3) beliefs and OC symptoms are caused by common genetic and environmental factors, and symptoms are not caused by beliefs. The first model was the best fitting one, and the Authors conclude that dysfunctional beliefs play an etiological role in shaping OC symptoms (Taylor and Jang 2011, p.181).

There are, in fact, longitudinal studies on the role of “normal” life stressors, such as having a child (Abramowitz et al. 2007), showing how these natural events increase the likelihood of an obsessive onset or an exacerbation of the symptomatology. OC-related beliefs seem to play a role also in the changes in OC symptoms over time. In a prospective study, Coles and Horng (2006) administered measures of OCD-related beliefs, life events, and OC symptoms to an undergraduate students’ sample. Results showed that both OCD-related beliefs and negative life events significantly predicted residual change in OC symptoms over 6-weeks. This result is confirmed by a further longitudinal study by Coles et al. (2007), showing that obsessive beliefs predict symptoms scores (e.g., 6 months later), also after controlling for symptoms at baseline.

Responsibility is involved in the symptomatic fluctuations over time, particularly when specific life events occur, raising the level of perceived responsibility, such as in childbirth, marriage, and postpartum. Abramowitz et al. (2006) evaluated prospectively the influence of obsessive cognitions on OCD symptoms in a non-clinical sample of future parents of a first child, making two assessments, one at the prenatal phase, the second at postpartum. The study confirmed that obsessive dysfunctional beliefs predict the development of OCD symptoms at postpartum in checking, washing, and in obsesing but not in the dimensions of neutralizing, ordering, or hoarding. In another study Abramowitz et al. (2007) tried to extend these findings by investigating how obsessive beliefs lead to OC symptoms. The study focuses on unwanted intrusive infant-related thoughts and demonstrates that the negative interpretation of these thoughts during the period of the 3rd-4th week of postpartum mediated the relationship between obsessive beliefs and late postpartum (12 weeks) OC symptoms.
3.1. Historical Vulnerability

Unspecific factors

Adverse life events and maladaptive attachment styles (Kessler et al. 2010) may lead to the development of mental disorders. In other words, severe adverse experiences in childhood are considered a general risk factor, common to a large set of mental disorders. Traumatization, emotional neglect and psychological abuse are significantly associated with many negative experiences in childhood. The relationship between childhood experiences and anxious/depressive disorders in adulthood shows that early traumas are important risk factors for the development of depressive and anxiety disorders in adulthood, even though an exclusive predictive relationship between specific types of childhood trauma and specific psychiatric disorders was not found (Hovens et al. 2010).

In a large survey, Kessler et al. (2010) assessed the association between childhood adversities and adult psychopathology. The study, conducted on community samples from many countries, focused on the relation between a wide set of life experiences (familial, social, economical, traumatic, medical) and the occurrence in adulthood of different mental illnesses. Data show that there is no relation between a specific early childhood experience and a specific mental disease, i.e. the pathways leading from adverse experience to psychopathology are not mental illness-specific. Often different adversities co-occur and when they are associated with a maladaptive familiar functioning, the risk of psychopathology increases (Kessler et al. 2010).

Analysing the early experiences, one of the most considered psychological factor is attachment. Also in this case, dysfunctional attachment is considered a generic risk factor for the development of psychopathology, although studies aimed at analysing the specific link between the avoidant pattern of attachment and future externalizing problems and ambivalent pattern and internalizing problems failed to reach conclusive evidence (Deklyen and Greenberg 2008).

Specific factors: Inflated Responsibility, Childhood Experiences, Parental Style, Social Moralization and Criticism

In this paragraph, we shall illustrate the specific factors involved in the development, maintenance and relapse of OCD, such as early experiences, familial atmosphere and parental rearing styles. A few data are now available on the origin of this cognitive vulnerability. As suggested by Salkovskis et al. (1999) “The cognitive theory of the development of obsessional disorder...suggests that, as a result of prior experience, the individual develops particular assumptions” (p.1057).

The environmental context in which an individual is raised plays an important role. In fact, particular learning experiences may give rise to specific dysfunctional beliefs, which are relevant for the development of obsessive-compulsive symptomatology, when particular stressors are encountered later in life.

Beliefs regarding an exaggerated sense of responsibility and perfectionism have been proposed to develop in response to early familial experiences. Regarding perfectionism, a family emotional atmosphere characterized by parental overcontrol and criticism, high expectations and performance standards, and the influence of perfectionistic parents who model perfectionistic attitudes and behaviours, could contribute to the development of perfectionistic beliefs in offspring (Waters and Barrett 2000, van Noppen and Steketee 2009).

Concerning inflated responsibility, Salkovskis et al. (1999) identified early familial experiences contributing to maladaptive beliefs in offspring: 1) significant figures promoting an early developed sense of responsibility during childhood, 2) strict codes of conduct, or 3) being shielded from responsibility during childhood and subsequently feels incompetent to cope with risk/danger. These dysfunctional beliefs may interact later on with a significant life event, particularly those triggering sense of responsibility and the idea of causing harm, giving rise to obsessive-compulsive symptoms.

Thus, the role of inflated responsibility could be learned, due to parental practices in the rearing process that lead to particular self and world perceptions. Specific patterns of parenting, e.g. systematically pinpointing to the child the possible negative consequences of his/her actions/omissions, or blaming him/her disproportionately for little naughtiness, may lead to a stable sense of guilt for behaving irresponsibly (Mancini and Gangemi 2004, Mancini and Gangemi 2006).

In his seminal work on the role of responsibility in OCD, Salkovskis and colleagues (Salkovskis et al. 1999) illustrated five pathways leading from early experiences to the development of OCD:

1) The first refers to “an early developed and broad sense of responsibility that is deliberately or implicitly encouraged or promoted during childhood” (Salkovskis et al. 1999 p. 1060). This is the case of those individuals who, during childhood, have taken on an inappropriate role for their age within the family context. Very often in case of inadequate parenting a child is forced to take care of siblings or parents too. This kind of upbringing leads to the development of a very high sense of responsibility that is often generalized to other areas of life. When they do not succeed in meeting their standard of conscientiousness, e.g. when the demands increase, they may experience a sense of failure and guilt.

2) The second pathway refers to “Rigid and extreme codes of conduct and duty” (Salkovskis et al. 1999, p. 1061), in which children interiorize strict rules and high standards of conduct and thinking. Although the family is the major source of influence, other sources may sometimes be implied, such as the teachers and the religious representatives. A religious upbringing may be sometimes associated with ossessional religious beliefs, such as the “sin by thought” and the moral thought-action fusion (TAF), i.e. the belief that thinking something is tantamount to actually carrying out that action.

3) The third pathway refers to “Childhood experiences where sensitivity to ideas of responsibility develops as a result of never being confronted by it” (Salkovskis et al. 1999, p.1062). In certain families worries are prominent, since parents are fearful and anxious, and almost constantly communicate the idea that danger is everywhere. Therefore, they are too protective of the child, preventing him/her from trying out new experiences or confronting with danger. Prevention is considered the best way to face any situation and in some cases parents are very indulgent to the child, shielding him/her from any responsibility.

4) According to the fourth pathway, there might have been ”An incident in which one's actions or inactions actually contributed in a significant way to a serious misfortune which affects oneself or others” (Salkovskis et al. 1999, p.1063). The development of inflated responsibility may be related to a real incident in which the individual’s role has been determinant in
causing the negative outcome.

5) The last pathway is related to “An incident in which it appeared that one’s thoughts and/or actions or inactions contributed to a serious misfortune” (Salkovskis et al. 1999, p.1064). The sense of inflated responsibility may increase when by coincidence a thought comes true (e.g. a child is angry with his teacher and he wishes her to disappear, and then the teacher is taken seriously ill). Thought-action fusion is very much involved in this pathway and may predispose to the onset of OCD.

Basing on the theory of Salkovskis and colleagues (1999), Coles and Schofield (2008) created the Pathways to Inflated Responsibility Beliefs Scale (PIRBS). The validation of this instrument showed that pathways 3 and 4 loaded on the same factor and that a four-factor solution was preferable. The psychometric properties of the scale were also analysed by a subsequent study, which supports the mediating role of inflated responsibility between childhood experiences and OCD symptoms (Smári et al. 2010).

In a retrospective study, Adams (2012) found that people who had gone through these experiences, particularly responsibility in childhood and real or imaginary damage, tended to regard themselves as being responsible (and presumably guilty), and thus had an obsessive symptom. In other words, the tendency to consider oneself responsible mediates the relationship between sensitizing experiences connected to responsibility and obsessive symptoms. Careau et al. (2012) analysed the links between childhood experiences and obsessive beliefs, trying to highlight the specific connections. The experiences that have been taken into account refer to Inconsistencies in reinforcement where an inappropriate response follows an act, or a child’s expression. According to the authors this kind of experience would be related to the subscale Tolerance of uncertainty of the OBQ-87. The second type of experience taken into account is that of Responsibility, characterized by a hyper accountability of the child in caring or ensuring the welfare of other individuals. The belief connected to this type of experience is that of Responsibility.

The third type of experience is Sociotropy, which is the lack of expression of one’s needs or, giving up one’s desires and objectives for another’s. The belief in the corresponding OBQ scale is that of Perfectionism. The fourth type of experience is Perception of threat, in which the parental communicative style creates a family atmosphere characterised by ongoing induction of fear. This type of childhood experience corresponds to the Overestimation of threat subscale of the OBQ. Superstition is the last considered experience related to the idea of being able to control events through special gestures and thoughts. The belief connected to this type of experience is that of Sociotropy.

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The study (Careau et al. 2012) shows that childhood experiences characterized by inconsistency in the reinforcement correlate with high levels of responsibility but not with intolerance to uncertainty as hypothesised by the authors. Childhood experiences of responsibility correlate with the dimension of responsibility in the OBQ and turn out to be the most powerful predictor of OBQ-R (Responsibility subscale).

Experiences of Sociotropy correlate with the Perfectionism subscale of the OBQ and are its most powerful predictor. The experiences of Sociotropy and Perception of threat both predict intolerance to uncertainty and the latter is the best predictor of the Overestimation of Threat in the OBQ. As for Superstition, it has emerged that these experiences are not more related to the OBQ subscale Importance of thoughts when compared to the other childhood experiences, thus resulting as only the fourth predictor.

There are also several correlational studies analysing those rearing practices more related to the development of obsessive symptoms (Réháume et al. 1995b, Waters and Barrett 2000). Even though causal links cannot be inferred from these studies, correlational data on this topic indicate the existence of specific associations. A study by Rector et al. (2009) showed that the family members of OC patients hold obsessive beliefs, in particular related to inflated responsibility and overestimation of threat, more than control subjects. Moreover the study shows that in family members of patients with early onset OCD this effect is larger and there are also more obsessive beliefs related to perfectionism and intolerance of uncertainty. First-degree relatives of OC patients did not differ from controls with respect to the OBQ-44 domain of Importance/Control of thoughts, suggesting that this belief is causally less relevant when compared to the other domains, and is formed later on in response to intrusions. These data provide evidence of a familiar cognitive vulnerability to OCD.

Albert et al. (2015) recently replicated Rector’s findings, showing that patients with OCD, as expected, had significantly more dysfunctional beliefs compared to controls in the responsibility/threat estimation. Moreover, first-degree relatives (FDRs) of OCD patients scored significantly higher than both controls and FDRs of bipolar patients on the OBQ total score. This pattern of associations supports the notion of a cognitive vulnerability (as measured with the OBQ) in families of patients with OCD, suggesting that dysfunctional beliefs, and responsibility/threat estimation in particular, could be candidate endophenotypes for OCD.

OC patients tend to define their parents’ rearing style as authoritarian, which is particularly related to both obsessive symptoms and obsessive beliefs (Timpano et al. 2010). While the authoritarian style is positively related to obsessive symptoms, the authoritative style, characterized by high warmth and behavioural control, is negatively correlated to the assessment of responsibility or threat and to the importance attributed to thoughts or their controllability.

Another feature that seems to characterize parents of children with OCD is the construct ofExpressed Emotion (EE), which refers to “the feelings displayed by a relative towards a patient with psychological difficulties” (Pace et al. 2011, p.364). Compared to parents of non-psychiatric controls, parents of children with OCD exhibited higher levels of EE (Hibbs et al. 1993). These data are further confirmed by other studies showing that parents of OC children are very often high in EE, a finding reported in different cultures and in different parts of the world (Hibbs et al. 1991, Shamugiah et al. 2002).

One study (Mariaskin 2010), exploring the roles of parenting, obsessive beliefs, mutual socialization and OC symptoms, showed that obsessive beliefs play a role of mediator between parenting and the levels of obsessive symptoms. Data show that individuals high on obsessive beliefs report a relationship-centred discipline, in which their parents tended to punish them by threatening the child-parent relation (the latter was used as a mean to punish the child, such as when a parent withdraws displays of affection, or stops answering to the child’s questions and requests for longs and without explanation). These strategies, which use the disruption of the relationship with the parent as a form
of punishment, lead to high levels of self-conscious emotions and provide a breeding ground for obsessive beliefs. According to the Author “Relationship-harming disciplinary techniques could support specific obsessive beliefs in children by substantially increasing one’s awareness of his or her influence on others, an outcome that is consistent with the harm prevention outlook of inflated responsibility” (Mariaskin 2009, p. 107). Moreover, this type of rearing style involves the belief of a conditional acceptance, so the affection is conditioned to the child’s behaviour.

Page and colleagues (2011) have analysed how criticism impacts on OCD. The results of their work show that criticism can play different roles in OCD. Past experiences of criticism are a vulnerability factor in the development of OCD. According to the Authors, an individual exposed to systematic or meaningful criticism in childhood experiences a high level of distress and, fearing future criticism, may plan strategies to prevent this painful experience. Obsessive beliefs can develop in response to criticism and OCD behaviours can work as strategies to prevent future criticism. Furthermore, although it is not possible inferring a link of causality, perception of criticism predicts worse treatment outcomes.

It seems that at least some of these experiences, e.g., parental socialization, hypervulnerabilisation, criticism, parent’s authoritarian style along with high levels of Expressed Emotion, dating back to childhood (Beck 1979, young et al. 2003) starting in childhood (Castelfranchi et al. 2002), according to which behaviours are the result of goals and beliefs, it is possible to affirm that obsessive symptoms are regulated by those very elements. In particular, the objective regulating obsessive activity is preventing the feeling of guilt, associated with the belief that being guilty is catastrophic (Mancini and Gangemi 2006, Mancini and Saliani 2013).

The acquisition of beliefs, in general, takes place in childhood (Beck 1979, Young et al. 2003) starting from experiences in which family members fail to meet some of the basic needs of the child. In the case of parents of future obsessive patients, they seem to fail in conveying an appropriate sense of responsibility, which would swing from too little to too much. It would appear, in fact, that the pathways leading to the development of obsessive symptoms derive from hyper-vulnerabilisation and hypo-responsibilisation (Salkovskis et al. 1999), resulting in both the belief that making mistakes is catastrophic and in intolerance to guilt stemming from having made a mistake.

Clinical experience shows that, within the families of OC patients, there is a tendency to dramatize guilt. Following an event that results in an error or damage, family members tend to look for the responsible party and point out their guilt, even before looking for possible solutions. The purpose of this search, in some cases, is to unload personal responsibilities, because the attribution of blame towards others involves the feeling of one’s innocence (Castelfranchi et al. 2002). The recurrence of this kind of attitude builds intolerance towards the possibility of making mistakes. The rejection of this possibility, and the consequent increased experience of guilt, leads to a search for impeccability. This search is even more necessary if, besides the objective of not being guilty, it is threatened also the relationship with a significant other. Thus, the child will try in every way to prevent a possible mistake, because if a child feels that the relationship with his/her attachment figure is thwarted, he/she will form the expectation to be unforgivable.

The frequent and systematic use of reproach by parents sensitizes to guilt. The experience of guilt is generally disagreeable, but for obsessive individuals it is intolerable. On the other hand, “normal” individuals consider mistakes as part of the human nature, and, although distressing, can bear the experience of having made a mistake (Mancini and Saliani 2013).

Beliefs about the self and the others, particularly concerning responsibility and guilt, constitute pivotal psychological factors both in the genesis and in the maintenance of OCD, which need to be addressed in psychotherapy also for the relapse prevention. Along these lines, a promising treatment seems to be Imagery Rescripting (ImRs) (Arntz and Weertman 1999). ImRs addresses aversive memories, in order to modify one’s core pathological assumptions and beliefs, stemming from those negative experiences, including parental style and family atmosphere. In a recent study on ImRs with OC patients, all of whom had had aversive memories of being physically bullied/humiliated, or of threat of being abandoned, or of responsibility for having caused harm, Veale et al. (2015) conclude: We would therefore cautiously recommend the use of ImRs as a brief intervention at the beginning of therapy in those clients who experience intrusive images that are emotionally linked with an aversive memory.

Even though a wide range of scientific literature on the treatment of Obsessive-Compulsive Disorder is available (Himle and Franklin 2009), few studies have instead focused on the history of vulnerabilities (Mancini et al. 2006). Along these lines, besides the already available treatments, it would be advantageous to design protocols aimed at not only reappraising meanings associated with specific early experiences, but also at developing a more general compassionate and forgiving stance towards oneself (Mancini and Saliani 2013, Petrocchi et al. 2013).

References


Mancini F, Barcaccia B (2014). Do we need a Cognitive Theory for Obsessive-Compulsive Disorder? Yes, we do. *Clinical Neuropsychiatry* 11, 6, 197-203.


Early childhood experiences shaping vulnerability to Obsessive-Compulsive Disorder

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