



Obsessive compulsive disorder: A review of possible specific internal representations within a broader cognitive theory

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Abstract

Obsessive Compulsive Disorder (OCD) is one of the most incapacitating of anxiety disorders, and is rated as a leading cause of disability by the World Health Organization (1996). Current cognitive models of OCD have focused on beliefs and management strategies involved in the development, maintenance, and exacerbation of OCD. However, despite evidence of their association to psychopathology, few researchers have applied the idea of underlying cognitive-affective structures, such as perceptions about the self and world, as operating in individuals with obsessive-compulsive thoughts and behaviors. This paper critically engages with current cognitive, developmental, and attachment research associated with views about the self and world. It is argued that consideration of such underlying cognitive-affective vulnerabilities may lead to a broader understanding of the development and maintenance of OCD. Consistent with previous theoretical work (e.g. [Guidano, V. F., & Liotti, G. \(1983\). Cognitive processes and emotional disorders. New York: The Guilford Press.](#)), we also argue that early experiences of parenting lead to the development of a dysfunctional self-structure and world-view relevant to OCD. Thus, this paper aims to extend the focus of current OCD research by exploring the possible role of a broader range of underlying vulnerability structures in the development and maintenance of OCD-related dysfunctional beliefs and symptoms.

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1. Introduction

The idea that enduring cognitive-affective structures sensitize individuals to psychopathology is central to cognitive theory. Beck (1976) described the triangle of negative views of self, the world and the future in the dynamic of depression. Young (1990) identified several early maladaptive schemas underlying personality difficulties. Others (Bowlby, 1969, 1973, 1988b; Guidano & Liotti, 1983; Janoff-Bulman, 1991; Kyrios, 1998) invoked terms such as internal working models of self and other and world-view in their explanations of a range of different disorders. However, few researchers have applied the idea of an underlying cognitive-affective vulnerability operating in individuals with obsessive-compulsive thoughts and behaviors (e.g., Bhar & Kyrios, 2000; Guidano & Liotti, 1983; Sookman, Pinard, & Beauchemin, 1994).

Obsessive Compulsive Disorder (OCD) is one of the most incapacitating of the anxiety disorders, having been rated as a leading cause of disability by the World Health Organization (1996). OCD affects all cultural and ethnic groups and, unlike many related disorders, males and females are equally affected (Rasmussen & Eisen, 1992). Further, OCD is associated with high degrees of psychiatric comorbidity, including major depression and other anxiety disorders (American Psychiatric Association, 1994). The central features of OCD comprise obsessions and/or compulsions. Obsessions are defined as persistent unwanted thoughts, images, or impulses that intrude into consciousness and give rise to active resistance. Compulsions are defined as deliberate, repetitive and rigid behaviors or mental acts that a person performs, often in response to obsessions, in order to prevent or reduce anxiety, distress or threat (Rachman & Hodgston, 1980). Recent epidemiological studies suggest that OCD affects more than two per cent of the population, making it the fourth most common psychiatric disorder and more common than severe mental illnesses such as schizophrenia and bipolar disorder (Rasmussen & Eisen, 1992).

Although a range of etiological theories for OCD have been proposed (e.g., neuropsychological, psychological, and biological), cognitive-behavioral models of OCD have generated a large body of empirical support and have led to the development of effective treatments (see Frost & Steketee, 2002). These models suggest that dysfunctional beliefs and maladaptive appraisals underlie unhelpful strategies in the management of intrusive phenomena. Such strategies lead to extreme reactions to specific intrusive thoughts, images, or urges resulting in obsessive and compulsive symptoms (Clark & Purdon, 1993; de Silva & Rachman, 1998; Rachman, 1998a; Salkovskis, 1985).

Recent cognitive-behavioral research by the Obsessive Compulsive Cognitions Working Group (OCCWG, 1997) has focused on six main belief domains that play an important role in the development of obsessions from intrusive thoughts: inflated personal responsibility; over-importance of thought; beliefs about the importance of controlling one's thoughts; overestimation of threat; intolerance for uncertainty; and perfectionism. More recently, the OCCWG (Steketee et al., 2003; Taylor, Kyrios, Thordarson, Steketee, & Frost, 2002) reported not only a high degree of association between the identified belief domains and obsessive-compulsive (OC) symptoms, but also high intercorrelations between scales measuring the six domains. This raises questions about possible higher order cognitive vulnerabilities that may account for such high intercorrelations.

For instance, cognitive conceptualizations of OCD have implicated, explicitly or implicitly, the significance of self perceptions in the determination of responses to intrusions. Rachman (1997, 1998b) has argued that “catastrophic misinterpretations” of the personal significance of intrusive thoughts are the main cause of the development and maintenance of obsessions. According to Rachman, intrusive thoughts which are perceived by the individual as endangering their view of self will trigger an

escalation in dysfunctional behaviors, or cause a more intense use of thought-control strategies (e.g., thought-suppression). Rachman (1997, 1998b; Rachman & Hodgson, 1980) further suggested that the specific content of intrusions, such as themes of aggression, sex, and blasphemy, plays an important role in this process by serving as the initial trigger for dysfunctional appraisals. Hence, Rachman emphasizes both the content of the intrusions and the presence of dysfunctional beliefs, including self-appraisals, in the process of intrusions becoming obsessions.

Similarly, Clark & Purdon (1993; Purdon & Clark, 1999) proposed that the appraisal of a thought as inconsistent with an individual's sense of self and/or beliefs and values (i.e., as ego-dystonic) together with higher-order beliefs regarding the importance of thought control (e.g., "I should be able to control my thoughts") are the main contributors to the exacerbation of obsessions. Recent evidence (Rowa & Purdon, 2003) supports the idea that the distress evoked by intrusive thoughts is related to the content of the intrusions and the individual's self-perceptions.

Salkovskis (1985, 1999) proposed that specific intrusions become more frequent, intense, and distressing as a result of a person's inflated sense of personal responsibility. Salkovskis defined an inflated sense of responsibility as a person's tendency to believe that they may be pivotally responsible for causing or failing to prevent harm to themselves or others. According to this view, an inflated sense of responsibility causes one to develop certain patterns of response to specific (rather than all) intrusive thoughts, impulses, or images. Salkovskis, Shafran, Rachman, & Freeston, (1999) also suggested that the development of an inflated sense of personal responsibility may be associated with "a high degree of conscientiousness, marked by dedication to work and an acute sense of social obligation" (Salkovskis et al., 1999, p. 1060). This implies that such individuals are likely to attribute an increased importance to specific domains of self (e.g., self as a moral being) and that this influences their response to specific intrusive thoughts.

While traditional cognitive models have facilitated knowledge and treatment of OCD and theoretical discourse has considered the origins of OCD-related beliefs (Bhar & Kyrios, 2000; Salkovskis et al., 1999), there has been a general neglect of developmental issues, such as early attachment and parenting (Guidano & Liotti, 1983; Safran, 1990), and the role they play in the development and maintenance of dysfunctional beliefs (Bhar & Kyrios, 2000). Traditional cognitive theories of OCD have also neglected some important aspects of Beck's (1976) cognitive triad, most particularly the assumptions regarding the individual's perceptions of the world and others.

It is in the context of identifying enduring cognitive-affective structures that underlie OCD that this article considers an individual's perceptions of the self and their world-view as vulnerability factors for obsessive-compulsive symptoms and cognitions. This paper draws upon recent developments in cognitive (e.g., Clark & Purdon, 1993; Lee & Kwon, 2003; Purdon & Clark, 1993, 1994; Rachman, 1997, 1998b), attachment (e.g., Hazan & Shaver, 1987), self concept (e.g., Harter, 1998), and world-view research (e.g., Janoff-Bulman, 1989, 1991). This paper firstly considers attachment theory and the role of early experiences in the development of perceptions of self and reality. This is followed by a discussion of the role of such perceptions in the psychopathology of OCD. Next, a model of obsessive-compulsive vulnerability is developed, incorporating current understandings of self-concept and world-view into a model of susceptibility to the development of obsessive-compulsive symptoms and cognitions. The role of parent-child interactions in the generation of such vulnerability is then explored before a discussion of future directions for research. Overall, it is argued that consideration of the individual's perception of self and world view may lead to a broader understanding of the development and maintenance of OCD.

2. Attachment and internal working models

A number of theoretical orientations and research directions (e.g., temperament and genetic) may assist in the investigation of socio-emotional development, its continuity during the preschool years and the early determinants of mental health and psychopathology (e.g., Bernstein, Borchardt, & Perwien, 1996). However, attachment theory is widely recognized as providing important theoretical insights into these processes (Main, 1999; Sroufe, Carlson, Levy, & Egeland, 1999) and in providing an important bridge between the biological and the psychological (Balbernie, 2001; Holmes, 1993; Siegel, 2001).

Attachment theory comprises a set of propositions that attempt to explain the way in which biological dispositions and early experiences predispose the individual to psychological health or pathology (Bowlby, 1969, 1973; Sroufe et al., 1999). The attachment system is considered to be a basic, inborn, and biologically adaptive motivational system that drives the infant to seek proximity to the primary attachment figure (or caregiver) in cases of danger or need (Bowlby, 1969, 1973). The quality of early attachment is determined by the interactions between the attachment figure and the infant. In particular, the accessibility and responsiveness of the attachment figure to the infant's emotional signals are considered pivotal for the organization and regulation of the infant's emotional experience (Bowlby, 1969). In the psychobiological literature, several processes have been implicated in the mediation of the attachment bond (e.g., Insel, 1997; Schore, 2001b). For instance, Schore (2001a) defined attachment as the regulation of biological synchronicity between organisms within species. Attunement and the interactive mutual training of physiological rhythms within the caregiver–child dyad are conceptualized as fundamental processes that mediate attachment bond formation (Schore, 2001a).

According to Bowlby (1969, 1973), the emotional bond between an infant and their main caregiver affects their later social, psychological and biological capacities through the construction of internal representations or internal working models (IWMs). IWMs are internalized representations of the “self” and “other” based on a child's interactions with their main caregivers. It is hypothesized that these representations contain information about whether the caregiver is perceived as a person who responds to calls for support or protection, and whether the self is worthy of receiving help from anyone, in particular the caregiver. For instance, Bowlby (1969) maintained that a child experiencing their parents as emotionally available, responsive, and supportive will construct a self model as being lovable and competent. Conversely, experiences of rejection, emotional unavailability, and lack of support will lead to the construction of an unlovable, unworthy, and incompetent self model. A number of studies have found the expected relationships between attachment classifications and perceptions of self (e.g., Cassidy, Kirsh, Scolton, & Parke, 1996; Jacobsen & Hofmann, 1997; Verschuere & Marcoen, 1999). Attachment classifications have also been reliably associated with vulnerability or resilience to childhood psychopathology (see Greenberg, 1999).

Thus, IWMs have been conceptualized as a set of conscious or tacit expectations and attitudes with respect to one's attachment figures and oneself. These eventually become the basic components of an individual's self-worth and subsequently regulate the individual's expectation of others, such as teachers and close friends (Bretherton & Munholland, 1999; Guidano & Liotti, 1983; Howes, 1999). Such expectations further contribute to the individual's perception of human nature and the world as being more or less trustworthy and controllable (Bretherton & Munholland, 1999; Catlin & Epstein, 1992). In short, child–caregiver interactions are believed to be fundamental in the development of an individual's view of self, other, and of the world.

Indeed, findings suggest that children who differ in their attachment classifications also interpret their environment differently. For example, differences between secure and anxiously attached children have been found in their reactions to cartoons depicting potential social conflict (Suess, Grossmann, & Sroufe, 1992) and memories of affective-cognitive stimuli (Belsky, Spritz, & Crnic, 1996). Further, research has revealed that attachment classifications are relatively stable over time (Hamilton, 2000; Main & Cassidy, 1988; Verschueren, Buyck, & Marcoen, 2001; Wartner, Grossmann, Fremmer-Bombik, & Suess, 1994; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000) and that children with positive “self” and “other” models display increased self-confidence, develop better social skills, have a more positive view of their peers, and have closer, more supportive friendships than their insecurely attached peers (Cassidy et al., 1996; Jacobsen & Hofmann, 1997; Verschueren & Marcoen, 1999). Attachment related anxiety (i.e., separation anxiety) was also linked with the later development of anxiety disorders, such as panic disorder (de Ruiter & Van Ijzendoorn, 1992; Manicavasagar, Silove, Curtis, & Wagner, 2000; Silove, Manicavasagar, Curtis, & Blaszczynski, 1996; Thomson, 1986). Finally, it has been proposed that early attachment experiences influence early brain development (Schore, 2001a, 2001b).

Thus, early experiences serve as an important and often pivotal influence on an individual’s subsequent development and acquisition of knowledge about self and the social environment.

3. Internal working models and adult functioning

Recent developments in adult attachment research have enabled researchers to make the empirical connections necessary to investigate the influence of internal working models on adult behaviors (e.g., Bartholomew & Horowitz, 1991; Dozier, Stovall, & Albus, 1999; Hazan & Shaver, 1987; Main & Goldwyn, 1984). One of the most researched areas has focused on close, intimate, and romantic relationships (Crowell, Fraley, & Shaver, 1999; Shaver & Mikulincer, 2002). Hazan and Shaver (1987) proposed a model in which early internal representations manifest themselves in adulthood as patterns of interpersonal behavior, particularly in close relationships. This model was later expanded by Bartholomew (1990), who suggested that the degree to which an individual’s sense of self worth is internalized corresponds inversely to the level of need for external validation (i.e., dependent behavior or anxiety related to abandonment). The degree to which the “other” is perceived as available and responsive corresponds inversely to the level of avoidance of emotional intimacy. Subsequent studies supported the two dimensional construct underlying adult attachment styles (e.g., Bartholomew & Horowitz, 1991; Brennan, Clark, & Shaver, 1998; Fraley & Waller, 1998).

Although the variety of self-report measures used in an attempt to tap these two dimensions led to some confusion among researchers (Brennan et al., 1998), several valid and reliable measures have been recently developed (see Crowell et al., 1999 for review). For example, Brennan et al. (1998) developed a 36-item scale based on factor analyses of numerous previous measures. This measure has shown internal-consistency, test–retest reliability and high construct, predictive, and discriminate validity (Crowell et al., 1999).

Bartholomew (1990) also argued that an individual’s positioning on the self and other dimension-scales can be used to categorize four prototypical “peer” or “close relationship” attachment patterns in adulthood: preoccupied, dismissive, fearful, and secure. These four categories correspond with Ainsworth, Blehar, Waters, & Hall’s, (1978) infant categorizations (Brennan et al., 1998).

Indeed, similar individual differences in the expression of attachment-pattern behaviors were shown in infants and adults. For instance, adults were found to exhibit signs of distress when they perceived the attachment figure as inaccessible, to show desire for proximity to the attachment figure in times of stress, and experience increased comfort in the presence of the attachment figure (Shaver, Hazan, & Bradshaw, 1988; Weiss, 1991). Further, research with adult attachment measures indicates that IWMs play an important role in psychopathology (Crowell et al., 1999; Williams & Riskind, 2004b). Negative attachment representations have been linked with depression (Carnelley, Pietromonaco, & Jaffe, 1994), anxiety (Bartholomew, 1990; Riskind et al., 2004; Safford, Alloy, Crossfield, Morocco, & Wang, 2004; Williams & Riskind, 2004a), eating disorders (Friedberg and Lyddon, 1996), and low self-esteem (Brennan & Morris, 1997; Collins & Read, 1994; Feeney & Noller, 1990). Conversely, a large body of evidence has demonstrated that a secure adult attachment style may buffer the effects of other risk factors (see Crowell et al., 1999; Thompson, 1999). For instance, self-reports of attachment security are associated with increased perceptions of self efficacy, positive affect regulation strategies and reliance on problem-solving for coping with personal and interpersonal stressors (e.g. Birbaum, Orr, Mikulincer, & Florian, 1997; Collins & Read, 1990; Lussier, Sabourin, & Turgeon, 1997; Mikulincer, 1998; Mikulincer & Florian, 1998). These findings support Ainsworth's suggestion that attachment relationships in adulthood provide feelings of security and belonging, which facilitate functioning in the wider network of social relations (Ainsworth & Bowlby, 1991).

Thus, internal representations of attachment relationships seem to have a significant bearing on adult behavior, including the development and maintenance of psychological dysfunction. The following sections will explore the role of IWMs of self and world-view as vulnerability factors in OCD.

4. Internal working models and OCD

4.1. Perceptions of self

According to traditional cognitive behavioral theories (e.g., Clark & Purdon, 1993; Rachman, 1998a; Salkovskis, 1985), obsessions and compulsions are responses to specific intrusive thoughts, images, or impulses. It is proposed in this paper and implied in traditional cognitive theories that individuals will respond to intrusions that undermine their perceptions of self. In a study investigating the role of self vulnerability in OCD, Rowa and Purdon (2003) randomly allocated students into two groups. In one group, participants were asked to report on their most upsetting intrusive thought. In the second group, participants were asked to report on their least upsetting intrusive thought. They found that participants in the former group reported that their thoughts contradicted valued aspects of self to a greater degree than participants in the latter group. Rowa and Purdon (2003) argued that these findings provide evidence of the importance of the specific content of intrusive thoughts in the phenomenology of OC symptoms. More specifically, the degree to which the content of the intrusion contradicts specific aspects of the self influences the distress caused by it. Thus, the intrusion's valence and importance is judged with reference to perceptions of self.

Additional evidence for the role of self-evaluation in OCD comes from a recent study by Lee and Kwon (2003). Using the Revised Obsessive Intrusions Inventory (ROII, Clark & Purdon, 1993; Purdon & Clark, 1994) with a student sample, these authors identified two subtypes of obsessions that were distinguished by their content, degree of ego-dystonicity, triggers, and type of management and response

strategies used. The first of these subtypes (autogenous obsessions) included repugnant intrusive thoughts such as unwanted sexual, aggressive, and immoral thoughts or impulses. Autogenous obsessions were evoked by stimuli that are relatively harder to identify and are more abrupt and ego-dystonic than reactive obsessions. The second subtype (reactive obsessions) was found to be associated with thoughts about contamination, mistakes, accidents, asymmetry, and loss. Reactive obsessions have identifiable triggers, are relatively realistic, and are related in a “rational” way to the neutralizing behavior. These elicit overt neutralizing behaviors, such as compulsive checking and cleaning. Lee and Kwon’s (2003) results suggest that the extent of the inconsistency with an individual’s sense of self and the content domain of the intrusion influences the degree of distress caused by the intrusion and the management strategies used.

Bhar (Bhar, 2004; Bhar & Kyrios, 2000) also investigated the relationship between OCD and the perception of self; specifically, they investigated the ambivalent sense of self (i.e., the degree of uncertainty in, dichotomy in and preoccupation about one’s self-worth). They found that individuals suffering from OCD score significantly higher on the Self Ambivalence Measure (SAM) than non-clinical university students and community controls, although the SAM did not discriminate between individuals with OCD and those presenting with other anxiety disorders. Furthermore, when the presence of depressive symptoms and other anxiety symptoms was accounted for, self-ambivalence maintained a significant association with OC symptoms. These findings support the notion that an ambivalent sense of self is related to OC symptoms, but may not be specific to OCD. However, substantial research have demonstrated that the self is a multi-dimensional construct (Eccles et al., 1989; Harter, 1990; Marsh, 1990). The SAM fails to distinguish between perceptions of the self in different domains. It is possible that ambivalence in specific domains (e.g., the morality domain) is more particularly related to OCD while overall ambivalence of self is related to a range of anxiety disorders. In order to establish a clearer understanding of the relationship between self perceptions and OCD, one may need to account for the multifaceted nature of the self and the relationship of specific facets of self to obsessive or compulsive symptoms. The following section further explores this notion.

4.2. The self as a multi-dimensional construct and OCD

A number of models supported by substantial research has demonstrated that the self is a multi-dimensional construct (Eccles et al., 1989; Harter, 1990; Marsh, 1990). One model of self proposed by Harter (1982, 1996) has been particularly influential in the multi-dimensional conceptualization of self. Harter proposed a hierarchical model where self-evaluations of competencies in specific self-domains (e.g., morality, personal appearance, and job performance) are integrated into an overall self-evaluation. Individual differences are found in the importance attributed to each domain and the individual’s evaluation of their own competence in each of these domains. According to this model, an individual’s perceived competence in valued domains is strongly related to their feelings of self worth (i.e., global self-esteem). Interestingly, Harter’s model (1982, 1996) is consistent with Bowlby’s (1969, 1973) suggestion that attachment experiences result in the construction of a self representations as being lovable and competent. Harter’s model (1982, 1996) further specifies a particular self structure associating perceptions of competence and general self worth.

Research has shown that an individual will value some domains of self more highly than others and that competence in domains of particular personal importance is more highly correlated with feelings of self worth than competence in domains judged to be less important (Harter, 1998; Messer & Harter,

1986; Neemann & Harter, 1986). The discrepancy between evaluations of competence and significance in self domains was found to be negatively related to self-worth (Harter, 1998; Messer & Harter, 1986; Neemann & Harter, 1986).

Bhar (2004) examined the relationship between evaluations in specific self-domains and global self-esteem in students scoring either high or low on an obsessionality scale (PI-R Burns, Keortge, Formea, & Sternberger, 1996). Evaluation of self-domains was made using a revised version of the Self Attributes Questionnaire (Pelham, 1991) where items assessing ethical/moral standards and acceptance by other people were added in order to rate domains considered relevant to OC phenomena. Self-esteem in the high-obsessional student group was associated with a different number and pattern of self-domains than in the low-obsessional student group. Specifically, students in the low-obsessional group associated their self-worth with academic achievements, athletic gains, physical attractiveness, social skills, and acceptance. In contrast, students in the high-obsessional group related self-worth to moral standing, social skills, social acceptance, and physical attraction. Thus, vulnerability to OC symptoms may be associated with a specific pattern in self structure.

Although evaluation of an individual's self worth is believed to be relatively stable, it has also been shown to be 'context' sensitive. For instance, Markus and Kunda (1986) showed that individuals adjusted and regulated their self evaluations in response to an experimental manipulation of their sense of uniqueness and similarity to others. Marcus and Kunda invoked the construct of the "working self-concept" (WSC) to explain these variations, suggesting that individuals possess both a stable self-concept and a temporary one. The WSC form a subset of one's self-conceptions. It is affected by situational factors and influences feelings of self-worth at any given point in time. That is, situational variables lead to short-term changes in self-evaluation (Markus & Wurf, 1987). Interestingly, the working self-concept is consistent with attachment theories, which emphasize that the attachment system is triggered in specific situations associated with stress or anxiety (Bowlby, 1969, 1973, 1988a) and implicate self-vulnerability in the dynamic of anxiety reactions. Thus, there is a significant overlap between the fixed and contextual view of the self, which suggests a less reductive attitude to how we should evaluate individual self-worth.

Overall, self-concept can be defined as comprising several domains of competence. Perceived competence in domains that are attributed greater importance have greater influence on an individual's perception of self-worth (Harter, 1998). In addition, self-worth is sensitive to situational variables through the working self-concept (Markus & Wurf, 1987). Thus, individuals with large discrepancies between their perceived competence and the importance they attribute to specific domains may be vulnerable to stimuli threatening their feelings of competence in these domains ("sensitive" domains). Moreover, relatively fewer domains being valued may compound sensitivity to stimuli "endangering" these self-domains. That is, an individual's feelings of self-worth will be over-reliant on perceptions of competence in a limited number of domains.

Following from this, it could be argued that a self-concept comprising relatively few domains that are "sensitive" underlies self-vulnerability in OCD. Intrusive thoughts relating to failure in these "sensitive" domains or to the appraisals associated with them (e.g., "If I have such thoughts, I am immoral, unworthy, and will be abandoned") endanger the individual's sense of self-worth, triggering extreme anxiety. This leads to maladaptive appraisals and management of intrusions, which in turn exacerbates their effects. In summation, individuals suffering from OC symptoms may be vulnerable to intrusive thoughts that trigger their insecurity regarding their competence in domains they value highly.

While this hypothesis may indicate why particular intrusive thoughts become obsessional, vulnerability of the self does not fully explain the repetitious pattern of behavior associated with OCD. Nor does it fully explain the specific nature of OC symptoms. In the following sections, we will argue that a specific “world-view” may help in assessing how particular symptoms of OCD, including compulsive and repetitive behaviors, manifest themselves in susceptible individuals with a vulnerable sense of self.

4.3. *World-view, cognitive vulnerability, and OCD*

The significant role of world-view in the development of OCD has been suggested by several cognitive authors (e.g., [Guidano & Liotti, 1983](#); [Menzies, Harris, Cumming, & Einstein, 2000](#); [Riskind, Abreu, Strauss, & Holt, 1997](#); [Salkovskis et al., 1999](#)). The Obsessive Compulsive Cognition Working Group (OCCWG, 1997, 2003) has found that exaggerated evaluation of probability and cost of aversive events (i.e., overestimation of threat) is one of the core beliefs associated with OCD. [Riskind et al. \(1997\)](#) found a higher degree of dynamic threat perception to spreading contamination (i.e., sense of looming vulnerability) in an undergraduate subclinical obsessional group than for those in a control group. These findings illustrate the importance of specific aspects of world view in obsessive compulsive phenomenon. These findings also raise the question of more general world view assumptions and their relationship with such specific cognitive vulnerabilities. [Guidano and Liotti \(1983\)](#) argued that a perception of the world as being threatening but controllable translates into active attempts to control the environment in individuals suffering from OCD. According to [Guidano and Liotti \(1983\)](#), such world perceptions stem from early attachment experiences.

Others have also related the individual’s sense of security in the world to early attachment experiences (e.g., [Ainsworth et al., 1978](#); [Bowlby, 1973, 1988](#); [Janoff-Bulman, 1989, 1991](#)). According to attachment theory ([Ainsworth et al., 1978](#); [Bowlby, 1973, 1988b](#)), the individual develops a sense of security in the world based on the perception of having a secure-base to return to in case of need (“secure-base” phenomena). This sense of security is a reflection of the individual’s experience of being nurtured (i.e., perceived degree of feeling loved by the main caregiver and perceived degree of availability and responsiveness of the main caregiver) and later influences the individual’s perceptions of the world and of human nature ([Bretherton & Munholland, 1999](#)).

[Janoff-Bulman \(1989, 1991\)](#) further proposed a useful model whereby feelings of safety or vulnerability in the world are strongly influenced by early experiences such as attachment relationships. Janoff-Bulman argued that an individual’s sense of security in the world is reflected in two “world view” categories (i.e., perceived benevolence and perceived meaningfulness of the world) and a worthiness-of-self category. Perceived benevolence of the world reflects the degree that the individual judges the world as a positive versus a negative place. This category includes two main assumptions: (a) perceived benevolence of human nature (i.e., whether people are perceived as generally kind or malevolent) and (b) perceived benevolence of the impersonal world (i.e., whether the world is perceived as a generally a positive or negative place). The perceived meaningfulness category involves three main assumptions: justice, controllability and chance assumptions. These three assumptions express the individual’s understanding of ‘who gets what’ in the world. For instance, some individuals may assume that their precautionary behavior or actions will determine what will happen to them in the world (controllability-outcome assumption). Others may believe that misfortune is least likely to strike “good people” (justice-outcome assumption). Others may believe that there is

no way to achieve control in the world (chance-outcome assumption). While the above two assumptions refer to what individuals should expect in the world (i.e., what the world is generally like), the worthiness-of-self category refers to the individual's personal evaluation of what they deserve in the world. This category includes three assumptions that correspond with the three meaningfulness assumptions. For example, individuals that perceive themselves competent in their actions for preventing misfortune and associate themselves with the controllability-outcome assumption will have higher perception of worthiness-of-self than individuals holding the same outcome beliefs and perceiving themselves as incompetent in their actions for preventing misfortunes. Similarly, individuals believing in their worth as moral beings will feel more secure in a world where 'good things happen to good people' than people believing in the same outcome principle, but perceiving themselves as immoral beings.

Janoff-Bulman's multi dimensional world-view model is similar to Harter's (1982, 1996) model of self worth in that competencies in specific domains and the degree of importance attributed to these domains play an important role in a self evaluative process. Harter suggests that the individual's self evaluation of valued self-domains determines their feelings of self-worth. Janoff-Bulman suggests that the individual's self evaluation process of valued world-view assumptions determines the degree of their feelings of vulnerability in the world.

Examination of differences in world perceptions may have important ramifications for the understanding of OCD etiology and maintenance. While overestimation of threat has been found to be associated with OC symptoms (Jones & Menzies, 1998; OCCWG, 1997), the underlying personal theory or world-view of threat perception is yet to be fully understood. Individual differences in world-view may influence both vulnerability to specific types of intrusions and reactions to such intrusions. For instance, it could be argued that individuals who rely on their own behaviors to increase their sense of control in the world will be more threatened by "preventable" intrusions, such as those involving contamination and accidents. In the same vein, these individuals will tend to use overt neutralizing behaviors, such as compulsive cleaning, to regain their sense of control. Conversely, individuals who associate outcomes in the world with "being a good person" may be more likely to be threatened by ego-dystonic repugnant intrusive thoughts such as sexual, aggressive, and immoral thoughts. These individuals will be more inclined to use covert neutralizing behaviors such as thought-stopping and thought-suppression in order to reduce the threat to their perception of self (e.g., as a moral and/or social being). Hence, the differentiation of OC symptom subtypes (e.g., washers versus obsessionals) or distinct OC symptoms (e.g., autogenous versus reactive obsessions) may be particularly useful in considering such individual differences.

It could be further argued that any attempt by an individual to control outcomes in the world relies on the basic assumption that the world is, at least partly, controllable (Guidano & Liotti, 1983). An individual may not feel responsible (Salkovskis, 1985, 1999) for the consequences of their actions (e.g., harm to self or others) and may not be likely to attribute exaggerated importance to controlling their thoughts (Clark & Purdon, 1993; Purdon, 1999) without assuming some control over them. In addition, it is argued that the need to achieve control is exacerbated in a socially and physically threatening world (Guidano & Liotti, 1983). This is because an individual's sense of security is likely to be influenced by perceived perceptions of others (Janoff-Bulman, 1989, 1991) and the likelihood that negative events will occur (OCCWG, 1997).

We have argued that a wider examination of the individual's world view assumptions will lead to a better understanding of both their general vulnerability to obsessive compulsive symptoms and

their vulnerability to specific OC symptom dimensions or OCD subtypes. In particular, cognitive vulnerability to specific presentations of OCD will be exacerbated by an individual's assumptions about the malevolence of the world and the particular nature of their symptoms will be influenced by their adherence to beliefs about the justice-outcome principle or the behavior-outcome principle. While self-vulnerability and world-view may be a key to understanding an individual's vulnerability to the development of OC symptoms and cognitions, the origin of such internal representations is not well understood. Epidemiological data (e.g., Johnson, Cohen, Kasen, Smailes, & Brook, 2001) and a developmental perspective implicate early parenting experiences which we discuss in the next section.

4.4. Parent–child interaction and OCD vulnerability

Perceived parent–child interactions have been long linked with anxiety difficulties (e.g., Arrindell, Emmelkamp, Monsma, & Brilman, 1983); however, research into the specific role of parenting in OCD is scarce and results have been largely equivocal. Ehiobuche (1988) found that students with high scores on an obsessiveness scale reported their parents to be more rejecting, more overprotective, and less emotionally warm compared with student with low obsessional scores. However, the presence of depressive symptoms and other anxiety symptoms was not accounted for in this study. Cavedo and Parker (1994) found a small but significant correlation between parental overprotection and obsessional symptoms in a student sample. These relationships were generally maintained when statistically controlling for levels of depression and anxiety. In another student sample, Trautmann (1994) reported correlations in the small to moderate range between OC symptoms and parental overprotectiveness and both anxious and avoidant attachment. In an outpatient adult cohort, Nordahl and Stiles (1997) reported that obsessive compulsive personality disorder was associated with higher levels of parental overprotection and lower levels of parental care. However, Parker et al. (1997) found that OCD and Generalized Anxiety Disorder were not significantly associated with abnormal patterns of parenting, whereas Panic Disorder and Social Phobia were generally associated with higher levels of protection and control. Others (e.g., Merkel, Pollard, Wiener, & Staebler, 1993; Turgeon, O'Connor, Marchand, & Freeston, 2002; Vogel, Stiles, & Nordahl, 1997) have also found little evidence of specificity in perceived parenting variables in OCD patients compared with other anxiety disorders and depression.

Further to the methodological limitations of retrospectivity and the possible consequent contamination of results by recall biases (reviewed in Gerlsma, Emmelkamp, & Arrindell, 1990), most studies of the relationship between parenting and OCD fraught with additional measurement issues. Specifically, parenting measures may lack the relevant focus that is important to OCD. While Guidano and Liotti (1983) propose that individuals who experience confusing and ambivalent patterns of attachments with their parents maintain a risk for the development of obsessional problems, such notions are not generally assessed by existing parenting measures.

According to Guidano and Liotti (1983), ambivalent attachments are characterised as insecure parent–child transactions, where children are uncertain of the degree to which they are loved, wanted or worthy. According to this theory, such attachment contexts lead to the concurrent experience of both validation and rejection, and result in difficulties integrating opposing self-perceptions as wanted/lovable or unwanted/unlovable. The insecure or ambivalent self worth further results in chronic self-monitoring and ruminations about one's relation to others. Perfectionism and compulsive behaviours emerge as means

for securing approval and unifying one's self-perceptions as a worthy and lovable individual. Hence, sensitivity to the development of OC symptoms may be associated with specific parenting variables, not generally evaluated by existing parenting measures, which lead to particular perceptions of self and the environment.

Like [Guidano and Liotti \(1983\)](#), we propose that self-perceptions are influenced by early attachment experiences, whereby impaired early child–caregiver interactions lead to the development of impaired representations of the self and the world that hamper the later assimilation of new experiences into self-knowledge. Such dysfunctional representations result in stereotyped and repetitious interactions with reality. Parenting variables that lead to an individual's over-reliance of certain aspects of self (i.e., a self-concept comprising relatively few domains that are “sensitive”) coinciding with the belief that the world is controllable but threatening may be unique to OCD. However, there has been little empirical support for such suppositions. Initial results with a student sample from an ongoing research program, using measures sensitive to the parenting styles identified by [Guidano and Liotti \(1983\)](#), have supported the role of ambivalent parenting styles and attachment in OC symptoms [Bhar, Kyrios, Hordern, & Frost \(2001\)](#). Support with clinical cohorts has yet to emerge.

5. The nature of vulnerability in OCD: summary and some directions for future research

While other etiological models of OCD have been proposed (e.g., [Greisberg & McKay, 2003](#)), cognitive conceptualizations of OCD have generated a large body of empirical support and have led to the development of effective treatments. However, cognitive research has focused on factors (e.g., beliefs and management strategies) involved in the maintenance and exacerbation of the disorder rather than the underlying vulnerability to this disorder from a developmental perspective. Drawing on cognitive, developmental, and attachment research, findings suggest that enduring cognitive-affective structures, such as internal representation of self and the world, may be important determinants of cognitive vulnerability to OCD. Further, both research findings and theory suggest a strong link between such internal representations and early parent–child interactions. For example, findings clearly show that early attachment experiences are related to the later development of self-concept.

Following from this, we have argued that a distinctive self-structure, comprising limited domains that are “sensitive” and perceptions of the world as dangerous but controllable, underlie vulnerability in OCD. Intrusions relating to failure in ‘sensitive’ self-domains and/or to the cognitions associated with them (e.g., “I will be abandoned”) “endanger” an individual's sense of self-worth, triggering extreme anxiety. Specific beliefs regarding the nature of the world (e.g., how control over the environment can be achieved) further facilitate the development of OC symptoms by enhancing the need for control of the environment (i.e., external and/or internal stimuli). General perceptions of the world as threatening lead to a further increase in vigilance for “danger” cues (e.g., intrusive thoughts). Finally, we have suggested that a clearer understanding of the role of parental practices in the development of OC symptoms can be achieved by identifying specific rearing patterns leading to particular self and world perceptions.

This literature review has focused attention on several new areas of OCD research with the intent of expanding the focus of traditional cognitive-behavioral models. The aim was to enhance the understanding of OCD phenomena by identifying specific enduring cognitive-affective structures that

may sensitize individuals to the development of OC symptoms. We also explored possible factors that may lead to development of such structures. This, we hope, will enable a better understanding of the etiology of OCD, its development, treatment or even prevention.

The conceptualization of OCD vulnerability as involving a specific constellation of self and world representations may add to our understanding of this disabling disorder. Future research would firstly need to determine the relationship between OC symptoms and specific self and world-view structures. Determining the nature of the association between the self and world representations with respect to core cognitive beliefs (e.g., importance of thought and inflated sense of responsibility) would also be important. Research would also benefit from investigating the influence of self and world vulnerability factors relative to other potential etiological factors (e.g., neuropsychological factors, decision-making and information processing biases, etc.). The relationship between internal representations and more specific patterns of parenting also needs to be explored in order to identify the possible origins of vulnerability to OCD. Together, such investigations will allow a better understanding of specific and general aspects of vulnerability to OC symptoms better informing our etiological, early intervention, and treatment models.

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