CHAPTER 1

COGNITIVE APPROACHES TO OBSESSIVE-COMPULSIVE DISORDER: AN OVERVIEW

OBSESSIVE-COMPULSIVE DISORDER

Obsessive-compulsive disorder (OCD) is a serious mental health problem. It is among the most prevalent of anxiety disorders with estimates of 1.9–2.5% lifetime based on cross-national epidemiological studies involving more than 40,000 people in seven countries (e.g. Weissman *et al.*, 1994). It is characterized by a chronic fluctuating course and can lead to significant handicaps in professional, social and family life among people who would otherwise function quite well (see Rasmussen & Eisen, 1992; Steketee, 1993). OCD may also increase risk for other conditions such as depression and alcoholism or substance abuse (Angst, 1993; Rieman *et al.*, 1992).

The hallmark of OCD is the presence of obsessions and compulsions (DSM-IV; American Psychological Association, 1994). Obsessions are defined as recurrent, persistent ideas, thoughts, images or impulses that intrude into consciousness and are experienced as senseless or repugnant. Compulsions are repetitive, purposeful forms of behavior that are performed because of a compulsive urge to do so. Obsessions may revolve around a wide variety of themes although the most common obsessions reported are related to contamination, making mistakes, aggressive thoughts, need for symmetry or order, somatic thoughts, religious or sexual thoughts and superstition. The most common compulsions are checking and cleaning (Rasmussen & Tsuang, 1986).

In some cases obsessions will not lead to an overt ritual but rather a covert attempt to neutralize the thought by mental effort to control or attenuate the negative impact. Compulsions can be linked functionally with the content of the obsession. So a person washes their hands because they are preoccupied with the thought that they may be dirty. On the other hand the form of the compulsive ritual may only be loosely tied to the content of the obsession. A person might counteract the thought that the day will go badly with a situationally convenient ritual (tapping the coffee mug that

happens to be there) rather than a fixed ritual. Apart from rituals a person may use other neutralization techniques or coping strategies to suppress, or avoid the impact of the obsession (Freeston & Ladouceur, 1997).

Subtyping of OCD

Early analysis of OCD symptoms revealed subtype clusters around washing, checking, rumination and precision rituals. Hoarding, impulsion phobia, health obsessions, dysmorphobia and some aspects of eating disorders have since been proposed as additional subtypes of OCD (Clark, 2004).

However, several problems discourage a definitive separation of subtypes on the basis of symptom clusters. Firstly, different studies have revealed different and sometimes conflicting symptom clusters (Calamari *et al.*, 2004). Second, the majority of people with OCD have more than one subtype. Indeed, it is rare to find a person ranking high on only one discrete subscale of the obsessional inventory. In a recent study (Julien *et al.*, 2004), only 52% of a sample of 80 consecutively referred cases of OCD showed a significantly high enough score on one Padua Inventory subscale compared to others to be classified even with a dominant subtype. A third reason for doubting the efficacy of symptom subtyping is the wide individual differences even within major subtypes. Should a woman who washes repeatedly because she is preoccupied that she might be contaminated by a sexual encounter be identified in the same category as a woman who washes because she feels there may still be dirt from her garden on her hands? The old clinician maxim, 'When you've seen one case, you've seen one case', applies with bells on to OCD, and begs the question of whether more qualitative approaches to case formulation may be appropriate.

At any rate, there is currently debate over whether symptoms or other performance or cognitive factors might better serve as denominators (McKay *et al.*, 2004). For example, the belief that a person should at all costs be a good mother and protect her family might lead to both checking and washing rituals. It may be that any topic could develop into an obsession, and that the different symptom clusters simply represent the different ways harm can occur: infection, violence, robbery, accident, illness, disorganization, lack of care, verbal insult, punishment by higher authority, etc.

Natural course of OCD

Onset of OCD can occur at any age from a few months to late life. The peak age of onset is in adolescence to young adulthood (Karno *et al.*, 1988), and onset is usually gradual, often starting in childhood as a concern with

routine and order, with tic-like gestures, and developing with more cognitively complexity (Geller *et al.*, 2001). If onset is during maturity, it is frequently triggered by a critical incident, although in all cases seen in our clinic, there is always evidence of pre-morbid subclinical precursors. Although obsessions and compulsions may evolve over time and wax and wane in intensity, there are no reported cases of spontaneous remission.

Diagnostic Boundaries

OCD compulsions can be distinguished from complex tics, habit disorders and stereotypies on the basis of intent and emotion (O'Connor, 2001), while obsessions are distinct from worries, depressive ruminations and normal thoughts regarding the content, frequency, egodystonicity and controllability of thoughts (Clark, 2004).

According to standard diagnostic categories, OCD is classified as an anxiety disorder. But it is an atypical anxiety disorder. OCD populations do not consistently show attentional biases characteristic of anxiety disorders, or even show anxiety as a dominant symptom, and guilt, blame and frustration can also accompany OCD. Anxiety may be secondary to the obsessional belief and some authors have argued that OCD would be better conceptualized as a belief disorder within a continuum between OCD overvalued ideation and delusional disorder (Insel & Akiskal, 1986; O'Connor & Grenier, 2004).

Treatment of OCD

The most successful behavioral therapy to date was developed from a phobic model of OCD development. Vic Meyer (1966), in an original case series, showed that the expectation of increased anxiety was not met when clients were exposed to the feared obsessional stimuli; but only when refraining from performing the compulsive ritual which Meyer realized delayed habituations. He termed the treatment exposure with response prevention (ERP). Subsequently, Eysenck, Rachman and colleagues hypothesized that OCD might follow Mowrer's two-stage theory of fear development and maintenance, whereby an initial conditioned anxiety response is subsequently reinforced by actions that lead to avoidance. The logic behind ERP then is to extinguish the compulsive ritual and avoidance by demonstrating spontaneous decline of anxiety over time during exposure in the absence of the negative reinforcement of the ritual or avoidance. This procedure requires initially tolerating a high level of anxiety.

In a now classic series of experiments, Rachman and colleagues (see Rachman and Hodgson, 1980) established that the prevention of the

compulsive behaviour is essential if exposure is to be effective in reducing anxiety. But compulsive rituals and other forms of safety behaviours aimed at 'neutralizing' the obsessional anxiety are often subtle and difficult to detect. Mental neutralizations may impede exposure by defocusing attention of invalidating its effects by counterproductive thought patterns. The early recognition that thinking could actively maintain anxiety has led even strongly behaviourist practitioners to attend to thinking as a preliminary step towards motivating exposure (Foa & Franklin, 2002).

Cognitive behavioral therapy (CBT), based largely on exposure and response prevention, is the treatment of choice for OCD, either alone or, especially in more severe cases, in combination with pharmacological treatment (March *et al.*, 1997). The CBT model predicts that exposure to the anxiety-provoking thought or object without performing compulsive rituals, other neutralizations or avoidance, will reduce the importance accorded to the thought and result in decreased obsessional preoccupation and associated anxiety. Meta-analyses on more than 30 studies with CBT treatments indicate large effect sizes that would generally support the claims of leading researchers that between 75–85% treated in these studies benefit from CBT (Abramowitz, 1996, 1997, 1998; Hiss *et al.*, 1994; Steketee & Shapiro, 1993; van Balkom *et al.*, 1994). However, despite these claims, there are large numbers of patients (estimates may be up to 40%) who either refuse treatment or drop out (Steketee, 1993), and there remain a number of subtypes of OCD who do not benefit substantially from CBT. Recent work has identified cognitive factors that play a role in maintaining obsessional behavior, such as beliefs, and appraisals about initial intrusive thoughts and cognitive challenges now play a significant role in CBT (Salkovskis, 1985, 1999).

COGNITIVE APPROACHES TO OCD

Cognitive models of obsessive-compulsive disorder (OCD) emphasize cognitive distortions and beliefs in the development and maintenance of this disorder. The initial clinical application of cognitive principles in the treatment of OCD was carried out by the pioneering work of Emmelkamp and colleagues (Emmelkamp & Beens, 1991; Emmelkamp *et al.*, 1980; Emmelkamp *et al.*, 1988) who investigated treatment based on changing irrational beliefs (Rational Emotive Therapy; Ellis, 1962). Since then, attention has shifted away from a focus on irrational beliefs in general towards identifying specific dysfunctional beliefs in OCD, based on Beck's (1976) cognitive specificity hypothesis, which holds that different psychological disorders are characterized by different dysfunctional beliefs (see Taylor, 2002a). The theoretical application of cognitive models to OCD, in

particular, Beck's model of psychopathology, found its most coherent formulation in the work of Salkovskis (1985, 1989) who argued it is not the unwanted thought or intrusive cognition that leads to distress and compulsive behaviors, but how the person appraises these thoughts in terms of personal responsibility. Similarly, Rachman (1997) has argued that it is not the intrusive cognitions that cause distress and compulsive behaviors, but the consequences of these thoughts in terms of personal significance.

In these appraisal models the occurrence of the obsession came to be sharply delineated from the subsequent appraisal of the obsessional thoughts. The 'normal' nature of obsessions was indeed supported in several studies which found that intrusive cognitions share a similar content with obsessions in approximately 80%–90% of non-OCD populations (Rachman & DeSilva, 1978; Salkovskis & Harrison, 1984). However, it is worth noting that there was not a consensus across these studies defining intrusions, and not all intrusions were included. Also, it has recently been suggested that this argument may have been taken too far in that there are important inference processes, which go beyond content considerations, that may play a role in the production of obsessions before appraisals or beliefs come into play (Clark & O'Connor, in press).

The original work of Rachman (1997) and Salkovskis (1985, 1989) has guided most of the research on OCD, and the main impetus of research since then has been to identify other types of beliefs and appraisals that may play a role in the development of OCD, while pre-existing concepts such as over-estimation of threat (Carr, 1971), intolerance to uncertainty (i.e. 'intolerance to ambiguity', Frenkel-Brunswick, 1949), and perfectionism (Frost et al., 2002) still struggle to find their place in the appraisal model of OCD as specific obsessive-compulsive beliefs, rather than markers for anxiety disorders in general. More recent beliefs that have been proposed to be relevant to OCD are beliefs concerning the necessity to control thoughts (Purdon & Clark, 2002), Thought–Action Fusion (Rachman & Shafran, 1999), and beliefs or appraisals in general concerning the over-importance given to thoughts (Freeston et al., 1996).

The Obsessive Compulsive Cognitions Working Group (OCCWG) has attempted to identify the most important belief domains in order to bring clarity to the multitude of cognitive variables proposed to be relevant to OCD (OCCWG, 1997). This work has ultimately resulted in the Obsessive Beliefs Questionnaire (OBQ), focusing on six belief domains, namely intolerance to uncertainty, importance of controlling one's thoughts, perfectionism, inflated responsibility, over-estimation of threat and over-importance of thoughts (OCCWG, 2001, 2003). Although this measure does not claim to be exhaustive with respect to the measurement of cognitive

beliefs that may be relevant to OCD, it has advanced the measurement of cognitive factors involved in OCD, and improved the ability to answer important research questions, which were previously limited by the sheer multitude of cognitive constructs proposed to be relevant to OCD. However, none or only some of the OBQ domains can claim to be specific to OCD (Clark, 2002; Taylor *et al.*, 2002), and the ability of these cognitive variables to explain OCD symptoms has been rather disappointing. Also, problems of overlap among these domains remain, and the question has been raised whether the OBQ measures irrational beliefs in general (Taylor, 2002a) or is better accounted for by negative mood states (Emmelkamp, 2002). It has also been suggested that the cognitions proposed to be relevant in OCD themselves require an explanation (Jakes, 1996; Taylor, 2002a). In fact, these authors argue that if appraisals and beliefs play some role in causing OCD, it is important to identify the causes of these beliefs and appraisals.

There is also the question of potential overlap between OCD-related cognitive measures and personality traits. For example, Aardema (1996) found that scores on measures such as the Irrational Beliefs Inventory (Koopmans *et al.*, 1994) could in large part be explained by personality (54%), in particular neuroticism (45%). In this regard, it is disturbing that the trait-like characteristics or beliefs that have been identified to be relevant to obsessive-compulsive disorder are often reminiscent of the same characteristics that have been identified in obsessive-compulsive personality disorder (OCPD). For example, perfectionism and mental control are characteristic of OCPD in DSM-IV-TR, while the link between inflated responsibility and OCPD is easily made. Even a concept such as intolerance to uncertainty, which appears to originate in the early work of Frenkel-Brunswick (1949), on 'Tolerance to ambiguity', and which was originally primarily associated with rigidity, has indirectly become wound up with OCD through the work of Hamilton (1957) who found obsessive-compulsive patients tended to avoid ambiguity on self-report ratings. Clearly, the advent of the appraisal model has inherited several concepts already in place. Yet, OCPD has not been shown to make a person more vulnerable to develop OCD (see Baer & Jenike, 1998). Thus, the initial enthusiasm of this endeavor to 'explain' OCD in terms of cognition by gathering a sufficient amount of measures of cognitive variables that would accommodate the entire spectrum of obsessive-compulsive symptomatology has lost some of its lustre. Indeed, it is starting to become increasingly clear that OCD is not akin to a personality disorder, which may be partially described, but not explained, in terms of an exhaustive set of beliefs and trait-like variables.

One of the main reasons for the tendency of cognitive models to focus on beliefs or trait-like characteristics in OCD is the assumption that all

psychological disorders must be characterized by specific beliefs relevant to this disorder as per the cognitive specificity hypothesis of Beck (1976). The emphasis on beliefs to explain OCD has led to perhaps somewhat contrived and unnecessary attempts to phrase cognitive variables in terms of beliefs, while in fact some of the cognitive domains in the OBQ are more reminiscent of process variables or biases rather than particular beliefs. For example, the OCCWG has defined over-estimation of threat as 'beliefs indicating an exaggerated estimation of the probability or severity of harm', or intolerance to uncertainty as 'beliefs about the necessity for being certain' (see Taylor, 2002b, p. 7). The tendency to phrase cognitive distortions or process variables in terms of specific beliefs is rather surprising, since the appraisal model of OCD was derived from Beck's theory of psycho-pathology, which does make an explicit distinction between cognitive beliefs and cognitive distortions or processes (Beck, 1976). However, cognitive accounts of OCD have failed to make such an explicit distinction between process and content characteristics of OCD, or at least, the distinction between content and process has become quite blurred in the past decade. Thus, the cognitive specificity hypothesis may have been applied in a rather selective manner focusing solely on beliefs at the expense of cognitive distortions and processes.

Traditionally, cognitive process variables have been associated with an information-processing paradigm and are often taken to refer to processes such as attention, perception and memory. However, other types of cognitive processes have been identified, which find their origin in clinical observations and reasoning-based paradigms rather than pure information-processing theory. The best-known of these are Beck's cognitive distortions such as over-generalization, all-or-nothing thinking and personalization. These types of cognitive processes have been almost completely ignored in popular cognitive models of OCD, and no attempts have been made to explicitly identify if these types of cognitive distortions operate in OCD.

Characteristically, process variables operate independently from specific mental content, and may apply to a wide variety of mental contents. For example, the cognitive distortion 'over-generalization' is not necessarily concerned with any particular content, but can apply to a variety of types of information. Even so, the delineation between process and content is often not entirely clear. The lack of delineation between process and content is intrinsic to the nature of these concepts. Generally, process variables deal with cognitive features of OCD that are not bound to *specific* thoughts and beliefs, but concern themselves with the *operation* of cognition. However, cognitive processes require content to operate upon, and without content there would be no process. Thus, process variables can differ with respect to their domain width, ranging from formal approaches dealing with information processing in general, and not limited to a specific category

of information, through to cognitive processes that pertain to a specific content domain (i.e. over-estimation of threat). An example of an approach focusing purely on the form of obsessions would be Reed's (1985) cognitive structural approach to OCD that identifies a central process characterizing OCD as a tendency to over-classify events and information regardless of the content of the thoughts. In the words of Reed (1985, p. 214): 'if radio reception is distorted, we examine our receiver rather than the newscaster's announcements'.

Thus, despite the inherent symbiosis between process and content, the distinction is important, since it inevitably leads to different cognitive formulations of psychological disorders, research questions and even interpretation of results. For example, in early experimental research on OCD, Milner *et al.* (1971) suggested obsessional patients show a need for certainty to terminate ordinary activities. In a task that required the identification of a particular sound amidst white noise, the obsessional patients asked more often for a repetition of the sound than a control group. However, these results can both be interpreted as a *need* for certainty representing a particular belief or trait-like characteristic of OCD or as a tendency to doubt what was seen or heard correctly as the result of particular process characteristics operating in OCD.

Historically, doubt has always figured as an important characteristic of OCD (Janet, 1903), but is presently only given a marginal role in cognitive accounts of this disorder. However, several authors consider pathological doubt and uncertainty a prominent cognitive characteristic that pervades obsessional thinking (Rasmussen & Eissen, 1992; Reed, 1985; Ribot, 1905). While initially the application of Beck's model to OCD by Salkovskis (1985) almost appeared to equate doubt with intrusive cognitions (see ibid., p. 578, Figure 1), it has almost completely fallen out of favor since then. The neglect of doubt as a pervasive characteristic of OCD in current cognitive accounts is not entirely surprising. The concept of doubt does not lend itself well to appraisal formulations of OCD, since doubt is a mental state, which is more reminiscent of a particular cognitive process operating independently of specific content, rather than a particular belief. Besides the 'normalization' of intrusive cognitions, which inadvertently subsumed doubt under the same category, as mentioned before, the tendency has been to identify specific beliefs relevant to OCD rather than process characteristics or cognitive distortions.

However, there are several reasons to assume that a process-oriented approach to OCD may be a more fruitful line of research than a focus on specific beliefs and appraisals in OCD. Phenomenologically speaking, OCD is not as clearly defined in terms of pervading beliefs and feelings such as in depression where themes such as hopelessness and worth-

lessness come to the foreground in a relatively uniform way. In fact, the clinical manifestations of OCD are so varied that some authors have doubted whether all these varieties can be subsumed under the label 'obsessive-compulsive disorder' (see Reed, 1985). Obsessions do not exist in a vacuum, and while the senseless and ego-dystonic nature of obsessions is sometimes emphasized as a characteristic of OCD, this disorder tends to find its way towards content domains that in one way or another, and often indirectly, have some sort of personal relevance or importance to the individual involved. Hence obsessions often take a (semi-)idiosyncratic form. The idiosyncratic content of obsessions can be striking, and even though there are clearly subgroups of OCD patients with particular types of obsessions, clinical evidence suggests that the reasoning behind the same type of obsessions shows great variety in terms of cognitive content. Recognition of the idiosyncratic content of cognitive variables in OCD has led some to suggest that more idiosyncratic measures may be needed to assess cognitive characteristics in OCD, since current measures of obsessive beliefs such as the OBQ may reflect mood states rather than deeper cognitive structures (Emmelkamp, 2002). However, the difficulty with identifying specific obsessional beliefs may be intrinsic to the phenomenology of obsessive-compulsive disorder. That is, there may be no schema containing *specific* beliefs that cause this disorder, but rather patterns in reasoning that may revolve around *any* type of mental content or belief.

An inference-based approach (O'Connor & Robillard, 1995, 1999) bypasses the problem of idiosyncratic content in OCD, since instead of identifying specific beliefs or appraisals in OCD it emphasizes the reasoning *process* that is associated with the occurrence of obsessions. As mentioned before, without cognitive content there is no cognitive process, since cognitive processes require mental content to operate upon, but rather than identifying *specific* mental content, an inference-based approach locates specific reasoning processes proposed to be specific to OCD in idiosyncratic narratives that form the justification behind a particular obsessional doubt. Such an approach is entirely cognitive in nature and is loosely affiliated with information processing and neuropsychological paradigms without losing contact with the phenomenology of OCD and clinical applications, but it deviates from other cognitive models of OCD in that it does not locate the origin of obsessions in intrusive cognitions, nor in specific appraisals guided by specific beliefs that make these intrusive thoughts seem beyond control. In fact, it has been argued that appraisals and beliefs follow logically from the primary doubts in OCD, and as such may not represent essential elements in the development of OCD (Aardema & O'Connor, 2003). However, the exact relationship between appraisal and cognition requires empirical identification.

INTRUSIONS AND INFERENCES IN OCD

The quality of 'intrusiveness' in obsessions was first systematically elaborated by Rachman and Hodgson (1980) who noted that the essential characteristics of intrusive thoughts was their unwanted and unwelcome entry into consciousness, and this quality fitted well with clients' phenomenal experience. It is the unwanted nature, rather than the intrusiveness, which causes distress, since pleasurable spontaneous ideas tend to be more happily embraced as our own. Rachman and Hodgson also note that 'intrusive' does not mean entering consciousness from somewhere 'out there', that obsessions are prompted by external and internal prompts, and not 'inserted', but that although this conceptualization may be unsatisfying, it is difficult to discern another function for the content of obsessions other than their intrusiveness. The word 'intrusion' is of course used in other psychiatric domains where the intrusion may correspond better with a sense of thought insertion (Mullins & Spence, 2003), but is it an accurate term for obsessions? Intrusions have been variously defined as spontaneous, aversive or intrusive, although spontaneous thoughts may not count as intrusions if they are not ego-dystonic. Put bluntly, is it not more misleading than informative, if obsessional thoughts do not really intrude, to call them intrusions?

James (1890) noted our thoughts tend to evolve in a stream of consciousness with ideas chaining one onto the other in a continual flow, but the crucial element maintaining a preoccupation with obsessions is the personal significance attached to the 'intrusive' thought. The point of contention is how this personal significance gets attached. Historically, any intrinsic value attached to the content of the thought has been dismissed from the equation. Several studies have indicated that the content of intrusive thoughts is an universal experience shared with approximately 80% of non-OCD populations (Rachman & DeSilva, 1978; Salkovskis & Harrison, 1984). But as these studies noted, the intensity and frequency of the thoughts are greater in OCD populations, so we might surmise that even if the content is normal, the context in which the content appears is not always normal.

In fact, in any case the content of *all* obsessions has not been shown to be normal. In the original study by Rachman and DeSilva (1978), the obsessions associated with overt compulsions were under-represented, in particular more bizarre over-valued ideas, and further, some of the obsessions would now be recognized as mental tics (such as mentally replaying a song or phrase) which have a distinct etiology (O'Connor, 2004). Other items might be now considered more anxious than obsessive thoughts. Subsequently, Purdon and Clark (1993) have shown elegantly that the content of obsessional intrusions is distinct from both anxious and

depressive automatic thoughts. Apart from the question of context, there is also the question of the form of the intrusive thoughts which is not well captured in simple statements of the subject matter. As several authors from Janet (1903) onwards have noted, doubt is an important quality of obsessional thoughts, particularly when talking of obsessions associated with overt checking or washing compulsions (example: 'perhaps the oven is left on', 'maybe my hands are dirty'). However, this doubting seems not to take the form of a genuine questioning doubt (example: 'I wonder if it will rain tomorrow', 'maybe this time next year I could be in London'). It rather takes the form of an inference of doubt about an actual state of affairs. Furthermore, the doubt is not posed in a spirit of impartial enquiry (example: 'now did I leave the stove on or did I not? Let's weigh up the probabilities either way and see what evidence best supports the hypotheses').

The appraisal argument would be that it is exactly the consequences which imbue the initial 'intrusion' with personal significance. The automatic negative appraisals become indistinguishably associated with the intrusion so that the intrusive thought evokes the same negative reaction. However, there are a couple of blips in this argument. First, as initially underlined by Jakes (1996), the processes by which intrusions turn into obsessions have never been fully elaborated. Second, appraisals do not relate to the specific content of intrusions, although some appraisals may be more specific to one rather than other subtypes of compulsion, e.g. appraisals of responsibility are hypothesized to be more relevant to checkers (Rachman, 2002), control of thoughts to ruminations (Julien *et al.*, 2004). If intrusions were just haphazard thoughts, then the appraisal model would not need to accommodate the content. But even thinkers within the appraisal model recognize that the content can be thematic (Rachman *et al.*, 1995; Trinder & Salkovskis, 1994). The themes, of course, relate generally to negative events, to harm and danger, yet in clinical practice, the themes of intrusions remain disarmingly personal and idiosyncratic. A person suffering from contamination fears constantly has the same doubt about germs landing on her skin (example: 'maybe airborne microbes have transferred onto my skin'). Similarly, a person with severe health anxiety is constantly seeking reassurance for her doubt 'maybe I have cancer', but not for any other disease. Thoughts of heart disease, diabetes, dementia, all statistically probable, cause no reaction. As pointed out elsewhere (O'Connor, 2002), doubts apparently comparable to the obsessional doubt seem never to occur even under duress. For example, the person with contamination fears about microbes landing on the skin is not afraid to touch plastic bags or shop counters or to breathe in air for fear of microbes. But objectively speaking, these activities could be equally infectious. She has no problems touching food or even real dirt in her apartment. A checker has a constant recurring

doubt 'maybe something has fallen from my pockets'. He verifies his wallet has not fallen out of his pocket several times per day. He verifies that nothing has fallen out of his car when he leaves it. But he does not verify his doors or windows when he leaves the house because these stimuli do not activate his theme. Now it seems difficult to accommodate these 'incoherences' purely within an appraisal model. The appraisal model of course explains very well how an increased perception of harm or responsibility would augment the intensity of the compulsive neutralizing. But it seems unable to offer a satisfactory account of why a particular theme of obsession is repeated to the exclusion of others. Why, for example, wouldn't manipulation of increased responsibility in the checker above induce additional doubts related to windows, or in the case of the washer, to airborne microbes as well as augmenting the intensity of existing obsessional themes? Although studies with non-clinical populations have demonstrated a general effect of manipulating responsibility on performance, clinical populations tend to react differently in and out of pertinent OCD domains. The majority of people with OCD tend to suffer from one major subtype (56% of our cases) but even where people show more than one subtype, within each subtype, the obsessional theme still remains constant. For example, a homemaker with obsessions about cleanliness, tidiness and hoarding relates all the obsessions to a common theme about being a good enough mother.

PHOBIC AND NON-PHOBIC MODELS OF DEVELOPMENT IN OCD

A conceptualization of obsessions as inferences was initially inspired by clinical observation of OCD with over-valued ideation (OVI) (O'Connor & Robillard, 1995). Fixed beliefs with a strong personal investment have been observed in a variety of psychiatric complaints, but OVI is generally located on a dimension between obsessions and delusions (Jaspers, 1913; Spitzer *et al.*, 1991). The overlap between OCD and Delusional Disorder has been a matter of debate for some time, and the nature of OVI is an important element in determining whether OCD itself is best characterized as an anxiety disorder or a schizotypal disorder (Enright & Beech, 1990; O'Dwyer & Marks, 2000). It is recognized that similarities between both disorders may only be partial in that delusional disorder has several other dimensions such as systematization of belief, lack of insight about the belief causing distress and the type of emotions typically associated with the belief (O'Connor *et al.*, in press).

As noted, an inference-based approach conceptualizes OCD as a belief disorder rather than locating its causal development in the exaggeration of
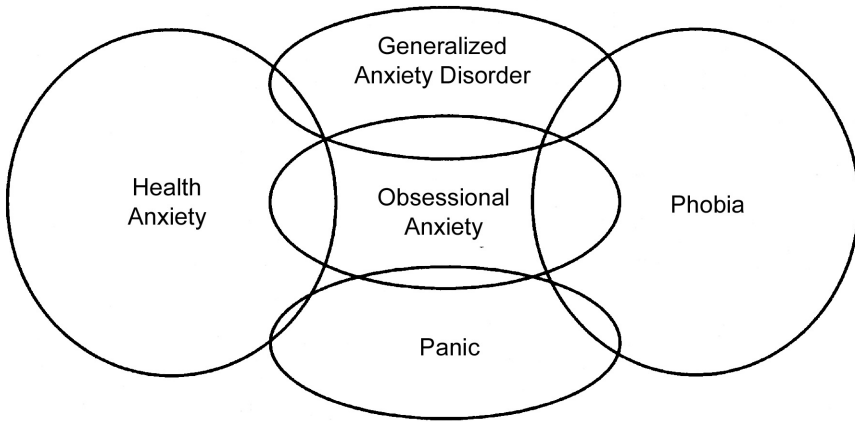
normal passing thoughts. The imaginary nature of representations has always figured as an important cognitive characteristic of delusional and related disorders where the person's beliefs deviate to a great extent from objective and/or consensus reality, but has not been given wide application in current cognitive models of OCD that emphasize rather the role of exaggerated and catastrophic interpretations. However, if the main obsessional concern revolves around themes only distantly related to objective events and objects as they occur in the here and now, then there may be reason to assume that OCD does not primarily follow a phobic model of development (O'Connor & Robillard, 1995). Instead of conceptualizing OCD solely as the result of appraisal of objective events (or intrusions), OVI highlights the remoteness of obsessional cognitive representation from the objective qualities of the feared object or event. This to the extent that 'the person with OCD does not react to what is there, and not even to the exaggerated of what is there, but to what might possibly be there even though the person's senses say otherwise' (ibid., p. 889). This would locate OCD in the different spectrum of related disorders than those of an appraisal model (see Figure 1.1).

While the concept of inferential confusion was inspired by observation of OCD with OVI, the exact nature of this relationship is still unknown. The concept of OVI itself is ill defined, and Veale (2002), while providing a conceptual analysis of over-valued ideas, argues for a better understanding of over-valued ideas, and that an advancement in assessment is required for this often neglected area of psychopathology, as well as novel treatments that specifically target over-valued ideas. However, it still remains to be seen whether over-valued ideation is a concept that is particularly relevant to a subgroup of OCD patients, or whether it represents a process characteristic operating in OCD in general. For example, inferential confusion (i.e. a tendency to negate and distrust the senses) may operate on a continuum ranging from obsessional doubt to pathological certainty, and represent a separate dimension from the high conviction levels seen in OCD with OVI. Empirical studies of the construct of inferential confusion are discussed in Chapter 5.

TREATMENT CONSIDERATIONS

Despite advances in cognitive-behavioural formulations of OCD, this has not led to improvements in treatment outcome. The early studies of Emmelkamp and collegues did not show any added benefit of including cognitive interventions in the treatment of OCD as compared to exposure *in vivo* (Emmelkamp & Beens, 1991; Emmelkamp *et al.*, 1988). Treatment

Anxiety Disorders

Generalized
Anxiety Disorder

Health
Anxiety

Obsessional
Anxiety

Phobia

Panic

Belief Disorders

Delusional
Disorder

Schizotypy

Obsessional
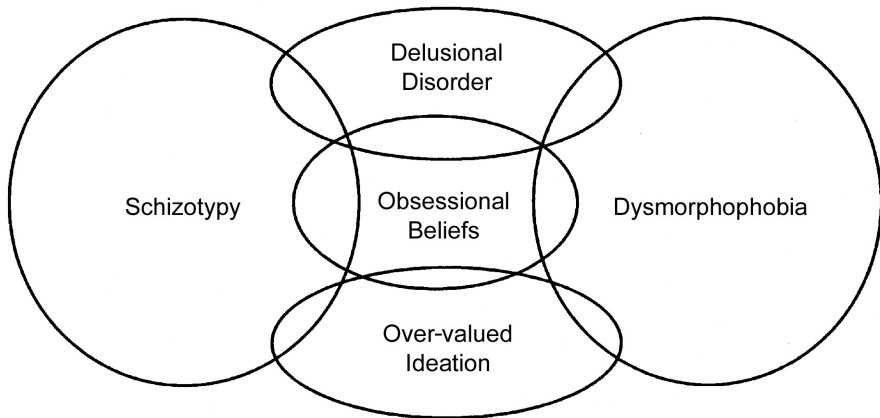Beliefs

Dysmorphophobia

Over-valued
Ideation

Figure 1.1   Diagnostic spectrum of anxiety and belief disorders

studies carried out since then, focusing on changing specific obsessive-compulsive beliefs, have yielded similar results (van Oppen *et al.*, 1995a).

In part, the lack of additional benefit from cognitive interventions in OCD treatment may be due to the self-imposed restriction of appraisal models which address the appraisal of intrusive cognitions, rather than the 'intrusion' or primary inference. However, if the content of the initial intrusion or inference holds an intrinsic meaning reflected in a higher than normal conviction, it will dictate the strength of subsequent reactions.

Hence, where obsessional conviction is high, the intrusion and appraisal are inherently linked and the obsessional sequence begins with the intrusions.

Clinically speaking, an inference-based approach (IBA) would suggest that all intrusions, even non-bizarre ones, are in fact inferences. However, in non-OVI or low obsessional conviction where the content of the initial intrusion is 'normal', the focus of the distress may not be the initial doubt, but the reaction and further consequences, which may be dealt with independently of addressing the doubt. However, even though addressing the initial doubt or primary inference may not be *necessary* to dispel distress, it should be *sufficient* to dispel distress since, in the IBA model, it is ultimately the trigger for the secondary distressing appraisal.

Exposure and response prevention remain the treatment of choice for OCD with, however, a high treatment refusal rate and with variable effects on cognitive and emotional factors. Also implicit in the IBA model is that OCD should be treated as a belief disorder, so in a sense one could view exposure *in vivo* and the appraisal model as dealing with the anxiogenic thought and behavior feeding discomfort *after* the belief formation and the IBA model as dealing with reasoning processes preceding belief formation. All three models are not incompatible, particularly if one considers that in non-OVI OCD, according to IBA, it is not the *content* of the intrusions, but the *context* of its arrival on the scene which is problematic. In other words, even if the content of the intrusion may frequently be normal, the reason for the same doubt arriving in a non-OCD sample may be more realistic and, in an OCD sample, more the product of subjective reasoning.

Although the appraisal and inference model can complement each other in practice (see Clark & O'Connor, in press), there are some points of contention in case formulation, since for the inference approach the obsession begins with the initial doubt. For example, let's consider an obsessional doubt about sexuality. A client is distressed by constant doubting about whether he is homosexual or not. The primary inference is: 'maybe I could be homosexual'. The appraisal approach to this problem would be to normalize the initial intrusion 'maybe I'm homosexual' and encourage the person to tolerate the uncertainty (Gyoerkoe, 2003). The inference approach would be, however, to consider the doubting as an obsessional doubt, not founded in reality, and so explore the narrative producing the doubt (and associated reasoning errors). The person might be basing the doubt of their sexual attraction on a series of category errors ('looking at a man is the same as being attracted to him'; 'in a recent film I saw two men meet at a gym, I work out in a gym, so that could be what I'm doing') rather than any genuine sense-signals of sexual arousal (such as spontaneous erection, arousing fantasies). Of course such clients often

pursue a course of confirmatory testing behavior, where they will set up a 'sexual' situation and test their subsequent behavior (such as stand close to a target person while massaging their penis to see if they achieve an erection). The ensuing warmth from rubbing then risks being interpreted as evidence of arousal. The inference treatment approach here would be to return the client to making decisions about sexual orientation based on reality sensing, not on the basis of doubt-inducing narratives, and this approach contrasts with encouraging the client to tolerate the doubt through exposure.

An inference-based approach would share with cognitive behavior therapy the aim of detaching the person from the reality-value and importance of the intrusive thought. However, rather than identifying a thought as just a thought, the inferential confusion model would seek to identify the narrative which convinces the person that a hypothetical possibility is a real (even if small) likelihood or, in the case of 'fusion' obsession, identify the cross-over point when the person enters the imaginary world and the obsessional doubt becomes lived-in, and how subsequent rituals and other neutralizations are a natural consequence of a confusion between an imaginary and a real problem. This confusion of a subjective discourse with reality we term *inferential confusion*.

CONCLUSION

This chapter has situated the reader within current debates and controversies within cognitive theory of OCD. It has hopefully clarified how attention to reasoning and inferences may provide a helpful, and to some extent, novel perspective on OCD. It has also raised queries about the nature of IBA, namely: How does this approach relate to more formal approaches to the experimental study of reasoning? How does reasoning research address belief disorder? What other therapies have addressed reasoning? How does a focus on reasoning impact on other cognitive areas of functioning? Then there are the more direct questions on the validity of the approach. Can inferential confusion be reliably measured? Does it discriminate OCD from other disorders? Does modifying inferences produce change in symptoms? Does it add to other current treatments? How is it best implemented and delivered? The following chapters attempt to address these concerns. We start by examining reasoning in everyday life.