Cognitive and Behavioral Methods for Obsessive-Compulsive Disorder

Maureen L. Whittal, PhD
Melanie L. O’Neill, PhD

The psychological treatment of choice for obsessive-compulsive disorder (OCD) has been behavioral in nature, that is, mainly exposure and response prevention (ERP). Recent advances and interest in cognitive therapy, largely spurred by the theoretical paper of Salkovskis in 1985, led to the development of cognitively focused approaches for the treatment of OCD. Although ERP has strong empirical support for its efficacy, cognitive interventions are receiving mounting evidence. Combining cognitive and behavioral techniques to match with a patient’s unique symptom presentation may help maximize treatment outcomes and patient satisfaction. The purpose of this article is to introduce the cognitive-behavioral theory, assessment, and treatment strategies for OCD, and to illustrate their use in the case of an individual with compulsive checking behaviors. [Brief Treatment and Crisis Intervention 3:201–215 (2003)]

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the changes that were thought to account for a
decrease in the severity of OCD symptoms. Cog-
nitive accounts of the etiology and maintenance
of OCD have their origins in work published by
Carr (1974) and McFall and Wollersheim (1979).
However, it was not until Salkovskis (1985) pub-
lished his theoretical paper that interest began
to climb. The purpose of this article is to in-
troduce the cognitive-behavioral theory, assess-
ment, and treatment strategies for OCD and to il-
lustrate their use in the case of an individual
with compulsive checking behaviors.

The cornerstone of the cognitive theory of
OCD is based upon the knowledge that intru-
sive, unwanted thoughts are essentially uni-
versal human experiences. Rachman and de Silva
(1978) and Salkovskis and Harrison (1984) re-
ported that over 90% of community and ana-
logue samples reported unwanted intrusive
thoughts that were similar in content to the ob-
sessions experienced by people with OCD. How-
ever, what does appear to be different is the
meaning or the interpretation of the thoughts.
People with OCD attach a threatening meaning
to the intrusions, whereas those without OCD
appraise similar thoughts in a more neutral fash-
ion. It is the appraisal that produces the emo-
tional distress and the urge to neutralize the in-
trusive thought. For example, in the case of an
individual who compulsively checks, a typical
intrusive thought would include a doubt about
whether the door was locked. The appraisal as-
associated with this doubt often centers on re-
sponsibility (e.g., “It will be my fault if some-
thing bad happens”). This appraisal becomes as-
associated with emotional distress (e.g., anxiety,
guilt) and the urge to neutralize (e.g., checking
the door, seeking reassurance, avoiding being
the last person out of the house).

Similar to other cognitive-behavioral treat-
ments, the initial component of treatment is ed-
ucational and is completed typically in the first
two sessions. It involves an idiosyncratic de-
velopment of a shared understanding between ther-
apist and patient about what maintains OCD
(as opposed to what predisposed or precipitated
the person to developing). Defining OCD, the
subtypes, the nature, and the course can also be
helpful.

Behavioral Techniques

The behavioral approach to treating OCD con-
sists of exposure and response prevention
(ERP), which was largely pioneered by Meyer
and associates (Meyer, 1966; Meyer & Levy,
1973). The major components of ERP include
imaginal and *in vivo* exposure, firm ritual pre-
vention, and therapist-aided exposure (Franklin
& Foa, 1998). In vivo exposure involves experi-
encing feared items in real-life situations or set-
tings, such as having a patient with contami-
nation fears touch doorknobs throughout the
hospital (Foa, Franklin, & Kozak, 1998). Imag-
inal exposure involves experiencing feared ob-
jects through imagining the feared consequence,
such as having a patient with compulsive check-
ning mentally picture forgetting to lock the door
to their house or car (Foa, Franklin, & Kozak,
1998). Response prevention, on the other hand,
blocks any mental (covert) or behavioral (overt)
rituals or compulsions that are intended to de-
crease the anxiety associated with the obsession
(Steketee & Barlow, 2002). Early experimental
studies (e.g., Rachman, De Silva, Roper, 1976)
reported that following response prevention,
anxiety would diminish in 60–90 minutes.
Thus, anxiety was observed to peak, plateau,
and decrease over time with repeated exposure
to the same stimulus, thus producing progres-
sively lower levels of anxiety.

Although the mechanism that influences the
effectiveness of exposure is uncertain (Steketee
& Barlow, 2002), it appears that prolonged peri-
ods of exposure activate the emotional response
to the feared stimulus and consequent habitua-
tion, thereby allowing for significant reductions
in anxiety. Foa and Kozak (1986) argue that ex-
Exposure and habituation provides patients with disconfirming evidence for irrational ideas and beliefs. Exposure is most helpful and tolerable for the patient when it is gradual and prolonged (without any form of neutralizing or avoidance), and when it involves therapist modeling (Foa, Franklin, & Kozak, 1998; Rachman & Hodgson, 1980; Steketee & Barlow, 2002).

Combining both cognitive and behavioral techniques for OCD treatment may be of benefit. Beginning treatment with a cautious or severely symptomatic patient may be better served with some cognitive techniques. On the other hand, a patient with significant ritualizing in the workplace may be better started with strict response prevention. Ultimately, therapists can use the two strategies to maximize outcomes and tolerance or satisfaction based on each patient’s unique symptom and personal presentation.

**Cognitive Techniques**

With a cognitive treatment focus, the importance of the appraisal process is emphasized. The model that was developed with D.P. (our patient) is illustrated in Figure 1. The basics of guided discovery and Socratic questioning are evident in the development of the model and throughout the treatment. The therapist and the patient work together to understand the fine details of the obsessions and the various forms of neutralization. Once cognitive challenges are initiated, the patient is encouraged to test predictions, similar to a scientist, with the therapist’s guiding the patient to come up with his/her own evidence-based conclusions. The goal is to have patients reattribute the meaning of the intrusive thoughts to make them neutral or non-threatening in nature.

Beginning with the first session and continuing throughout the treatment, it is important to normalize intrusive thoughts. The cornerstone of CBT is based upon the knowledge that intrusive thoughts are essentially a universal human experience (e.g., Rachman & de Silva, 1978; Salkovskis & Harrison, 1984). We discuss a variety of normalizing strategies in the case description to follow.

The meaning of the appraisal can be ascertained through a downward arrow, which is a successive questioning regarding meaning. See Wilhelm’s article in this volume and our following case description for an example of a downward arrow. Similar to peeling back the layers of an onion, the repetitive questioning around the appraisal can help identify the central concern. Often, although not always, the central issue is one of worthlessness.

**Cognitive Domains of Interest**

In addition to appraisals of responsibility (identified by Salkovskis, 1985), other researchers have focused on overestimation of threat (e.g., Jones & Menzies, 1998) and overimportance of thoughts (e.g., Rachman, 1997, 1998). The Obsessive Compulsive Cognitions Working Group (OCCWG; 1997, 2001) has also identified additional cognitive domains of interest, including control of thoughts, uncertainty, and perfectionism. As is clear from the most recent OCCWG
publication (in press), these domains are not mutually exclusive, nor are they specific to OCD. However, the interventions to follow will be presented as if they are mutually exclusive. Therapists need to remember and also remind their patients of the overlap in the cognitive domains and that the strategies should be used together as a package.

Overimportance of Thoughts

As members of the OCCWG have recently published a book (Frost & Steketee, 2002) on cognitive theory, assessment, and treatment of OCD, we will not discuss the theoretical aspects of the cognitive domains in detail, but rather we will refer the reader to the specific chapters in the Frost and Steketee (2002) book. Briefly, three overlapping features characterize overimportance of thoughts: thinking a thought is important because it occurred; likelihood thought-action fusion (TAF); and moral thought-action fusion. For a more in-depth discussion of overimportance of thoughts, refer to Thordarson and Shafran (2002).

Challenging the overimportance of thoughts can involve a variety of strategies, including testing the power of thoughts with thought experiments and letting thoughts “come and go” (O’Neill & Whittal, 2002). An unwanted intrusive thought often results in additional cognitive activity to determine its origin and meaning. This analyzing or dwelling can serve to verify the importance of the thought, which leads to further dwelling. The more one dwells on these thoughts, the more important they become. The circularity of this reasoning is drawn out through a series of Socratic questions. Testing the importance of thoughts can be done through an alternating day experiment via switching between treating the thoughts as if they are important and then not important. Although the design of each experiment is idiosyncratic, patients typically monitor anxiety, responsibility, and relief they experience with each type of strategy. Letting the thoughts come and go by treating them as if they are not important results in lower anxiety, responsibility, and an increased sense of relief.

Likelihood TAF is open to testing with the power of thought experiments. The objective is to test the belief that thinking about something increases the probability of its occurrence, to either others or oneself. In likelihood for others, for example, the patient is asked to pick a target, often the therapist, and think about something bad happening to that person. It is preferable to allow the patient to pick the negative consequence with the instruction that it should be uncommon but not rare (e.g., food poisoning or breaking a bone). It would not be instructive to think about someone getting polio (i.e., a nonexistent problem) or getting the flu in the middle of winter. When the base rate for the target problem is either too high or too low, it provides no information on the power of thought.

Moral TAF is reflected by the belief that having the thought is as reprehensible as engaging in the action. One of the strategies used to challenge moral TAF is a “goodness continuum.” An analogue scale is drawn with “the best person” and “the worst person” as anchors. The anchors can be anybody the patient knows personally or recognizes in the media. Once the anchors are identified, the patient is asked to place him or herself on the continuum in reference to the anchors. People with moral TAF tend to be those who are struggling with obsessions about acting out sexually and physically, or those who are having blasphemous, unwanted intrusive thoughts. As such, they will often rate themselves quite close to the “worst person” end of the continuum. When completing the continuum, the goal is to have a range of “goodness,” including people who have performed negative acts (e.g., murdering a child) versus those who experienced negative thoughts with no corresponding action (e.g., a new, sleep-deprived
mother thinking about hurting her child). Typically, patients can separate thoughts from actions (which may lead to the identification of a double standard) and may also allow a re-evaluation of themselves.

Another strategy for challenging moral TAF is setting up a conversation with an expert (e.g., a priest if the patient is a Catholic who has blasphemous thoughts). The patient should come to the arranged conversation with questions predetermined with the therapist. The therapist should call the expert prior to suggesting it to the patient to ensure that the conversation will not serve to exacerbate the symptoms.

**Control of Thoughts**

Closely related to overimportance of thoughts is control of thoughts (Purdon & Clark, 2002; Thordarson & Shafran, 2002). It follows that if an unwanted intrusive thought is appraised as important due in part to TAF, the patient will also likely consider it important to control the thought (i.e., “If I don’t control the thought, I might actually do it”). The consequence of trying to control thoughts is a paradoxical increase in the frequency of the targeted thought (see Purdon, 1999; Wegner, 1989). Control of thought results in a focus of attention on the thought, which leads to noticing the thought more frequently. The increased frequency of unwanted thoughts results in further efforts at thought control and a further narrowing of attention on thoughts, thus leading to noticing more unwanted thoughts.

Attention experiments serve to illustrate the role of attention in this paradoxical process. For example, patients are asked to determine the number of for-rent/sale signs (or whatever target you choose) that they saw in the previous week and then to look for and record the number they see in the upcoming week. Patients typically notice several more of the target items when their attention is focused on it.

A version of the alternating day experiment is also helpful where patients are asked to switch between attempting to control and not control thoughts. The latter often surprisingly results in fewer intrusive thoughts and in lower anxiety (in comparison to their prediction that they are asked to make prior to engaging in the experiment).

**Responsibility**

Salkovskis (1996) defines responsibility as the belief in one’s power to prevent actual or moral negative outcomes. Salkovskis and Forrester (2002) further discuss the theoretical underpinnings of responsibility appraisals and assumptions, and how they serve to maintain OCD. Recent research (Salkovskis et al., 2000) has pointed to the central role of responsibility in promoting the urge to neutralize. However, despite the seeming importance of responsibility, it is not a unique concept. Successfully challenging overimportance and the need to control thoughts have likely had a positive impact on decreasing responsibility; questionnaires that measure these variables have found strong intercorrelations (OCCWG, in press; Thordarson & Shafran, 2002). For example, if you no longer believe that the intrusive thoughts are important or that they need to be controlled, it follows that that sense of responsibility for the thoughts would also decrease. Despite the overlap in the constructs, certain specific strategies can more directly target inflated responsibility.

Pie-charting and determining logical levels of responsibility (and comparing to subjective level of responsibility) can be a useful tool in broadening a patient’s perspective. As illustrated in Whittal, Rachman, & McLean (2002), pie-charting involves the reattribution of responsibility from the reflexive blaming of self when mistakes occur. It is also demonstrated in our treatment of D.P.

An inflated sense of responsibility can also be
representative of an elevated sense of morality (i.e., a responsible person equals a good person). The use of a continuum is helpful in these instances. A visual analogue scale is drawn with the anchors “best person I know” and “worst person I know” on the opposite end points. The patient is asked to place him or herself on that continuum and to identify a number of other people who provide a range of “goodness” on the continuum. A second continuum is drawn, directly underneath the first one, with the anchors “most responsible person I know” and “least responsible person I know.” The people who were rated in the first continuum are reassigned spots on the responsibility continuum. Each case often has one or two instances of a striking lack of correlation between “goodness” and “responsibility” (i.e., someone who is quite good but also irresponsible, and/or someone who is high on the responsibility end but low on the goodness end). Clearly, this double standard should be identified and followed. Discussion around the double standard may identify additional feared consequences specific to the patient and not to others (i.e., that somehow it is worse for the patient to be irresponsible compared to others).

Overestimation of Threat

Clearly, overestimation of threat is not unique to obsessive-compulsive disorder. It also features prominently in panic disorder (e.g., Clark, 1986), social anxiety (Clark & Wells, 1995), and posttraumatic stress disorder (Buckley, Blanchard, & Hickling, 2002). Kozak, Foa, and McCarthy (1987) suggested a possible reasoning bias where people with anxiety disorders see a situation as dangerous until proven safe (unlike the majority who see a situation as safe until proven dangerous). Some researchers (e.g., Jones & Menzies 1998) have identified overestimation of threat as the leading cognitive factor in OCD. Sookman and Pinard (2002) reviewed the literature on overestimation of threat in OCD and other anxiety disorders and conclude that it should have a central role in a comprehensive model of OCD. However, they also note that overestimation of threat does not discriminate OCD samples from other anxiety disorder samples.

The imminence of threat can be striking in OCD, as checkers can believe it is quite likely that the house will burn down if the stove is not checked or is left on. Likewise, washers often believe that a terminal disease is imminent if an unknown substance is touched in public. Comparing logical and subjective probabilities can lower estimations of threat. The specifics of these strategies are illustrated in our case.

Behavioral experiments can also be useful in providing corrective information regarding threat. Examples include leaving a stove burner on (with nothing near it) to determine if it will cause a fire, spilling a small amount of water inside a public place to determine if people slip and fall, or using a timer on the oven or lights to determine if they cause a fire. Exposure is obviously involved in these examples, but the purpose is different from exposure that occurs in ERP. In the latter, exposure is repetitive, and the goal is habituation. Clearly, with habituation comes learning that danger has been overestimated and that thoughts may not be important. Behavioral experiments in more cognitively focused interventions are done to disconfirm a prediction (e.g., “Even if there is nothing near the element, if I leave a burner on high, it will cause a fire”).

Talking to an expert can also be a useful strategy in lowering threat estimations. In the case of checker who is worried about fire, it can be instructive to have him/her speak with a firefighter regarding the likelihood of a fire starting from leaving the oven or lights on (with the exception of halogen lights). Prior to talking to any
expert, it would be wise to list the specific questions to ask (i.e., those that the clinician is confident would lower threat estimation).

**The Need for Certainty**

Similar to the other domains previously discussed, the need for certainty is not unique to OCD. Sookman and Pinard (2002) suggest that it is moderately correlated to overestimation of threat. Ladouceur, Dugas, and colleagues (e.g., Ladouceur et al., 2000) identified intolerance of uncertainty as a main feature of generalized anxiety disorder. In OCD, the need for certainty is obvious in the subgroup who experience repetitive doubt (e.g., “Is the door locked?”, “Are my hands clean?”).

Normalizing uncertainty through the use of a survey can be a helpful first step. The specifics of the survey vary with each patient, as they should reflect the target of the repetitive doubt. For example, we have often done surveys where patients have asked 10 people if they recall locking their door when they last left their home. If they didn’t remember, how certain are they that it is locked? If they did remember, did something unusual occur to aid in this memory? Much to their surprise, patients often discover that the majority of people do not remember locking their door. Despite this uncertainty, they are quite sure that it is locked. Thus, just because you do not remember doing something does not mean that it is not done.

**Perfectionism**

Frost, Novara, and Rhéaume (2002) reviewed the literature on the relationship between perfectionism and OCD. Similar to many of the other cognitive domains discussed thus far, perfectionism is not unique to OCD, as it also plays a role in other anxiety disorders (Antony, Purdon, Huta, & Swinson, 1998), depression (Blatt, 1995), and anorexia nervosa (Bastaini, Rao, Weltzin, & Kaye, 1995). Wade, Kyrios, and Jackson (1998) suggest that perfectionism may operate as a general predisposing factor rather than as a cognitive domain specific to OCD. Although there is no data as yet in this regard, Frost, Novara, and Rhéaume (2002) suggest that higher levels of perfectionism in OCD may negatively affect treatment outcome, which has anecdotally been our experience—that is, when perfectionism is part of the clinical picture, these individuals tend to be more resistant to cognitive challenging and thus take longer to habituate in exposure-based treatments. Although data are lacking, perfectionism may make the thoughts and behaviors appear more egosyntonic than egodystonic, which would correspond to more difficulty in treatment.

**Outcome Research**

Emmelkamp and colleagues (e.g., Emmelkamp & Beens, 1991; Emmelkamp, Visser, & Hoekstra, 1988) completed several early trials comparing various forms of cognitive therapy alone or in combination with ERP. These studies typically reported no between-group differences, but the sample sizes were small and made group differences difficult to detect. A number of recent randomized controlled trials have investigated the efficacy of contemporary cognitive strategies in comparison to individual ERP (Cottraux et al., 2001; van Oppen et al., 1995) and group ERP (McLean et al., 2001) and with a subgroup of primary obsessionals (Freeston et al., 1997). These studies collectively reported that cognitively focused treatment is effective in significantly reducing the severity of obsessions and compulsions and that the treatment gains appear to be maintained through short-term follow-up. Although there were no significant differences between CBT and ERP, van Oppen et al.
(1995) reported trends in favor of CBT. Alternatively, McLean et al. (2001) reported that group ERP was marginally better than group CBT at posttreatment and 3-month follow-up and that significantly more ERP participants had attained clinically significant improvement compared to CBT participants. In the most recent controlled trial, Whittal, Thordarson, and McLean (under review) reported that group CBT did significantly worse compared to individual CBT, individual ERP, and group ERP in which there was no difference. The largest effect size at 3-month follow-up was associated with individual CBT at 2.52. To our knowledge, there are no published outcome trials on the combination of cognitive strategies with ERP.

Case Description

Darlene is a 25-year-old single Caucasian female with a graduate degree in sociology. She is currently employed as a part-time instructor at a local college. Darlene was referred by her family physician to the anxiety disorders unit at UBC Hospital for the treatment of her OCD.

She described a history of OCD beginning in 1998 when a lump was discovered in her throat, which was an extremely stressful period as the medical consequences of the lump were unknown. Her intake assessment determined her main obsession to be a fear of making mistakes and being responsible for something bad happening. For example, she worried that her dog would go missing should she leave the door open. In response to the fears of being responsible for something bad happening, she engaged in a variety of checking and reassurance-seeking behaviors. Darlene reported that she checked door, locks, and appliances before she left the house or went to bed. Her symptoms extended outside her home environment where she engaged in checking rituals at work, consequent to the fear that she may be responsible for leaving a classroom door or filing cabinet unlocked.

Of lesser concern but still distressing was Darlene’s fear of losing things and a need to know or remember. She reported these concerns becoming less severe since commencing a medication regime 6 months prior. Darlene indicated that she previously needed to check her purse and briefcase every ten minutes, but, at the time of intake, only checked it several times a day.

Darlene reported that her obsessions consumed approximately 2 hours a day, as did her compulsions. Prior to beginning medication, she stated that she spent 6 hours of her day engaged in compulsions alone. Although the severity of her symptoms had decreased, Darlene continued to experience significant distress and interference. She reported frequently avoiding socializing and had few friends, as she was embarrassed to perform compulsions in front of others. She had little control over her obsessions and moderate control of her compulsions. She indicated that her degree of control depended on her mood as she reported better control when feeling less depressed. Darlene experienced moderately long symptom-free intervals when distracted or busy. Her insight was good as she acknowledged that her thoughts were excessive and irrational.

Darlene also described a history of depression with the last episode occurring in the summer of 2001 at which time she experienced depressed mood, little interest in her typical activities, weight loss, fatigue, a sense of worthlessness, and sleep difficulties. At the time of intake, she reported feeling much happier and positive, and she felt as if she had a sense of direction and purpose in her life.

Darlene reported seeing a counselor for depression and anxiety for the year prior to intake. She also saw her psychiatrist monthly since 1999. She was taking sertraline (200 mg QD) for OCD and depression, and trazadone (25mg) to help her sleep. She denied the use of
alcohol, drugs, nicotine, or caffeine. There was no remarkable family history.

**Assessment Methods**

The Structured Clinical Interview for the DSM-IV (SCID; First, Spitzer, Gibbon, & Williams, 1996) was used to establish the presence of any Axis I disorders. Darlene’s primary diagnosis was OCD with a secondary diagnosis of major depressive disorder, recurrent, in partial remission. The Yale-Brown Obsessive-Compulsive Scale (Y-BOCS; Goodman et al., 1989) is a semi-structured interview that yields symptom severity scores separately for obsessions and compulsions. The assessor scored the 10 Y-BOCS items, each on a 4-point scale: 0 = no symptoms; 4 = severe symptoms. Darlene scored 24 out of a possible 40 points (obsessions = 14 and compulsions = 10), indicating moderate severity of OCD. Table 1 lists Darlene’s psychometric data for the various assessment points.

Darlene was also administered two scales developed by the OCCWG, including the Obsessive Beliefs Questionnaire (OBQ; Frost & Steketee, 2002) and the Interpretation of Intrusions Inventory (III; Frost & Steketee, 2002). The OBQ is an 87-item self-report questionnaire designed to measure beliefs (assumptions and attitudes) in the six domains implicated in generating and maintaining OCD symptoms: overestimation of threat, tolerance for uncertainty, importance of thoughts, control of thoughts, responsibility, and perfectionism. Items are responded to on a 1 to 7 scale. Darlene scored particularly high compared to an OCD sample on overestimation of threat. OCCWG (in press) reported the OCD average score for OBQ overestimation of threat as 3.86 (1.37), whereas Darlene scored 5.7 (see Table 1).

The III is a 31-item self-report questionnaire designed to capture appraisals or interpretations of recent intrusive thoughts, images, and impulses representing three domains, including responsibility, importance of thoughts, and control of thoughts. These domains are hypothesized to represent the range of appraisals of naturally occurring intrusions. Each item is scored on a 10-point scale. Again, Darlene scored particularly high compared to an OCD

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<th>Measure</th>
<th>Pre-CBT</th>
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sample on responsibility. OCCWG (in press) reported the OCD for III responsibility as 55.6 (25.7) whereas Darlene scored 78.0 (see Table 1).

Finally, Darlene scored 10 on the Beck Depression Inventory (BDI; Beck, Steer, & Brown, 1996) indicating mild depression.

**Intervention Techniques**

The first session was largely psychoeducational, including an introduction to treatment goals, realistic expectations for outcome, and some information about the nature and impact of OCD. The experience of having intrusive thoughts was normalized by reviewing the intrusive thoughts reported by people who do and do not have OCD and by emphasizing that over 90% of people report intrusive thoughts. Four thoughts reported by clinical and nonclinical samples found on Rachman and de Silva's (1978) list were read aloud by the therapist. Darlene was unable to differentiate which thought came from which sample. She reported being rather surprised that people without OCD had such “disturbing” thoughts. Darlene was then given the list of intrusive thoughts and asked to compare it with her own thoughts. She reported feeling slightly shocked that other “normal” people reported the similar thoughts. The therapist highlighted the increased frequency, intensity, distress that these thoughts produce for individuals with OCD.

Darlene also identified any thoughts from the list that occur occasionally but *do not* result in much distress. For Darlene, these nondistressing thoughts were largely sexual in nature and were associated with appraisals such as “I know it’s just a thought, and I won’t do it.” To illustrate the importance of the appraisal or the personal significance attached to her various intrusive thoughts. The therapist highlighted the role of the appraisal in differentiating people with and without OCD. If no particular significance were attached to the intrusive thought, there would be no anxiety and no urge to neutralize or perform the compulsion. We utilized Darlene’s roommate for comparative purposes to encourage her to determine the role of the appraisal (e.g., “I will be completely responsible for potential bad events” versus “I can’t be responsible for everything”) in compulsions (e.g., checking the front door lock seven times versus locking it once). Darlene’s high-scoring appraisals from the OBQ and III—including estimation of danger and responsibility—were defined and discussed. Homework included self-monitoring of 5–10 examples of intrusive thoughts and appraisals. The therapists then emphasized the role of compulsions, avoidance, and neutralizing in the maintenance of OCD.

The remaining sessions contained a review of the model and homework; the introduction and challenging of OCD appraisals; completion of behavioral experiments in session; hierarchy development; exposure and response prevention; and agreement on homework for the upcoming week. The therapist designed various CBT interventions to help Darlene shift her appraisal to one less threatening. The downward arrow technique (“If that is true, what does that mean about you?”) was used to help Darlene understand the meaning of her appraisal: “I am irresponsible → I’m stupid and can’t be trusted → I’m a disappointment to others → I’m a burden → I’m worthless → I’ll be alone forever.” Homework following this session included continued self-monitoring and using the downward arrow to determine Darlene’s core fears for each OCD theme (e.g., losing things, needing to know).

The therapist then introduced Darlene to the concept of logical probability. Darlene was asked how likely it is that her front door was un-
locked; then she determined the number of times she left her house in the past year (e.g., 500) and the number of times the door was unlocked upon returning (0). The logical probability, based on Darlene’s own experience, of leaving the door unlocked the next time she left the house was 1/501 (0.2%) (1 was in the numerator because there is always a chance the door could be left unlocked). An additional challenge regarding logical probability was completed with Darlene’s concern that leaving a burner on would lead to the house burning down. Table 2 illustrates the logical probability calculations that resulted in a drastic decrease in the level of threat she associated with the stove. Subjectively, she believed 90% that having the burner on would lead to the house burning down. When she considered all the possibilities that would need to occur prior to the house burning down (see Table 2), the logical probability was a fraction of 1%. For homework, Darlene was assigned to survey 10 close friends and family members, asking them if they remembered locking their door that day. Survey techniques help provide powerful base-rate information and thus normalize the experience of forgetting routine daily activities (e.g., locking the door, turning off the oven).

Darlene found the idea of logical probability helpful in lowering danger appraisals and in reducing her need to check some items, and she noticed a slight decrease in her anxiety. Her survey of friends and family found only one person who remembered locking their door that morning. With the goal of normalizing uncertainty, the therapist helped Darlene conclude that not remembering does not actually equal not happening.

Pie-charting was used to help Darlene continue to challenge her inflated responsibility. She was very worried that she would inadvertently leave the door unlocked, which would result in a break-in where she would lose all of her possessions. She brainstormed all possible people or situations that could play a role in the break-in with a portion of the percentage for each, with her responsibility allotted last. Figure 2 illustrates Darlene’s pie chart. Although she had a difficult time letting go of control and trusting others to be responsible, pie-charting was a helpful strategy in redistributing responsibility.

The therapist also used behavioral experiments to help challenge appraisals of responsibility. Although these experiments are designed to disconfirm faulty beliefs with direct personal evidence, they clearly contain some of the fundamentals of ERP-based exposure exercises. Darlene was encouraged to purposefully make minor to moderate mistakes at home with her roommate and friends, with her family, and with her colleagues and students at work (only minor mistakes for the latter). Darlene reported some reluctance with this experiment but did inadvertently end up making mistakes (e.g., forgetting to make reservations for a restaurant). To her surprise, the inadvertent mistakes had no known negative consequences, which gave her the courage to make more purposeful blunders (e.g., being 10 minutes late for a work meeting). This series of experiments significantly reduced Darlene’s belief of responsibility.

The therapist presented Darlene with the

<table>
<thead>
<tr>
<th>Step</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burner left on</td>
<td>1/1000</td>
</tr>
<tr>
<td>Something flammable near the element</td>
<td>1/100</td>
</tr>
<tr>
<td>Item catches on fire</td>
<td>1/10</td>
</tr>
<tr>
<td>Fire spread to other items</td>
<td>1/10</td>
</tr>
<tr>
<td>Smoke alarm does not go off</td>
<td>1/500</td>
</tr>
<tr>
<td>Fire not noticed by in house occupants</td>
<td>1/10</td>
</tr>
<tr>
<td>Fire not noticed by the neighbours</td>
<td>1/5</td>
</tr>
<tr>
<td>Fire department does not arrive in time</td>
<td>1/50</td>
</tr>
<tr>
<td>House fire out of control</td>
<td>*</td>
</tr>
</tbody>
</table>

*Logical probability = \( \frac{1 \times 1 \times 1 \times 1 \times 1 \times 1 \times 1 \times 1 \times 1 \times 1}{1000 \times 100 \times 10 \times 10 \times 500 \times 10 \times 5 \times 50} \) divided by a fraction of 1%.
concept of a responsibility transfer. These transfers involve cognitively shifting total responsibility for a feared consequence (e.g., locking doors due to fear of break-ins) from the client to a trusted individual (e.g., spouse). Darlene was encouraged to psychologically give her roommate complete responsibility for the safety of the house. Although the transfer was difficult for Darlene at first, it slowly helped ease the overwhelming burden of being solely responsible for all aspects of keeping the home and her roommate safe from harm. Although these transfers could be conceptualized as avoidance, they are meant to illustrate the role of responsibility and the idea that it can be shared.

Darlene was concerned with her limited social circle and often felt lonely but did not know why. Darlene and her therapist constructed two lists. The first listed the personal qualities and characteristics of a highly responsible person, and the second listed the qualities of a fun-loving individual with a multitude of friends. The resulting lists were polar opposites, which prompted an “a-ha” moment for Darlene, and an important cognitive shift from her previous belief in the benefits associated with being highly responsible.

After eight sessions over 10 weeks of primarily cognitive therapy and seeing only modest symptom reduction (see Table 1), the therapist shifted to an exposure and response prevention (ERP) approach. The therapist believed Darlene would respond well to ERP, based on her success with the behavioral experiment aspect of treatment and because it appeared firm ritual prevention was needed for further symptom reduction. ERP for individuals with OCD with primary checking identifies areas and items that are repeatedly checked due to doubting that they had completed the action and needing the repeated reassurances that checking provides.

Clients are encouraged to abstain from checking (response prevention) for increasingly lengthy periods of time, which thus exposes them to the uncertainty and doubting of not having checked (exposure). Repetition allows the habituation of anxiety and distress to occur. Clients are encouraged to engage in ERP in a controlled manner, beginning with moderately challenging items and gradually moving to more anxiety-provoking items.

Darlene and her therapist constructed a hierarchy of areas frequently checked (see Table 3). They selected the car as the first place to begin prevention of checking behaviors. She reported high levels of anxiety initially with her subjective unit of distress scale (SUDS), but it dropped quickly following continued response prevention. In the remaining four sessions over 8 weeks, Darlene and her therapist selected two or three items from the hierarchy to practice between sessions. Appointments were spaced to bimonthly to allow Darlene time to engage in repeated exposure exercises. She had particular difficulty with response prevention surrounding her dog but was eventually able to significantly minimize checking his collar and ensuring he was in the house before she left for work. Darlene’s SUDS levels habituated somewhat slowly, thus requiring repeated trials of response prevention for each item on her hierarchy. Although she was able to successfully complete all items on her hierarchy, Darlene was never able to completely abstain from checking.
and, consequently, did not experience complete symptom relief. By the last session, she was able to reduce checking her dog’s collar and the stove to one check on 5 out of 7 days. On the other two days, Darlene was checking these items two or three times before leaving the house.

**Treatment Outcome**

At the posttreatment assessment with an independent evaluator, the OCD section of the SCID was administered: the Y-BOCS, the OBQ, the III, and the BDI. After eight treatment sessions, Darlene continued to meet criteria for OCD and had a Y-BOCS score of 17. After four additional sessions (twice monthly), she experienced a further decline in her Y-BOCS to a score of 11, which was well below the clinical cutoff of 16 for accepting patients into treatment. At her 3-month follow-up session, Darlene’s Y-BOCS had dropped to a score of 9, and she reported continuing to use her response-prevention techniques on a relatively consistent basis. Her BDI reduced to 5.

Importantly, Darlene began to socialize with colleagues outside work and is currently romantically involved with another instructor. She attributed her ability to socialize again to her significant reduction in neutralizing and the decreased importance of responsibility. Darlene is committed to the relapse-prevention plan (collaboratively therapist devised) and was invited to return for booster sessions on an as-needed basis.

**References**


