### **Common Questions about I-CBT**

#### By Mike Heady, LCPC & Carl Robbins, LCPC

#### What is Inference-Based CBT (I-CBT)?

Inference-based CBT (I-CBT) is a specialized cognitive-based treatment developed specifically for OCD. Its goal is to target and resolve the faulty reasoning narratives and processes that lead to obsessional doubts. If the doubting was resolved, what would be left of OCD?

#### Isn't Cognitive Therapy (CT) for OCD ineffective?

I-CBT is not a traditional CT. It does not utilize strategies to dispute or refute the content of one's obsessional doubting and it does not prioritize the challenging of post-doubting beliefs and consequences. It targets the faulty reasoning processes that generate here-and-now obsessional doubting. In this way, it is primarily a reasoning-focused cognitive therapy.

#### Does I-CBT utilize exposures?

No. I-CBT is a reasoning-focused cognitive therapy. Deliberate, prolonged in vivo or imaginal exposures are not a part of the treatment model and not relied upon. Its model is summarized as the knowing precedes the doing. While there is a case-series published that indicates ERP can reduce inferential confusion (obsessional doubting) it is not required.

#### How is I-CBT different from Exposure Response Prevention (ERP)?

The most obvious difference is that ERP is exposure therapy while I-CBT is a specialized cognitive therapy focused on reasoning. However, when we look more closely at the underlying theories, the differences become much larger. I-CBT views OCD as a doubting disorder as opposed to ERPs underlying theory, which views OCD as an anxiety disorder or exaggerated phobic disorder. From an I-CBT lens, anxiety and compulsions are all downstream byproducts of obsessional doubting and relevant to the maintenance of OCD but not the central problem. No doubting means no anxiety and no compulsions.

#### What is the significance of the inference in I-CBT?

This is also another significant departure from other models of OCD treatment. Historically, models (CBT/ERP and ACT) have suggested that obsessions come about by unwanted thoughts that descriptively intrude into awareness and are then negatively appraised (Thought-Action Fusion, and the 6 belief domains). It is this interaction that determines which unwanted thoughts will become obsessions and which will not. These unwanted thoughts are considered normal and not specific to those with OCD, so they are not a target for treatment/resolution. Therefore, the endgame for how other models deal with unwanted thoughts is that they must be accepted and tolerated because they are normal. This is why they all focus on the emotional and compulsive reaction to the thoughts.

I-CBT, on the other hand, does not see obsessions coming about by negative beliefs about normal unwanted thoughts. Instead, it argues that obsessions are actually the result of faulty reasoning narratives that cause one to doubt a circumstance in the here-and-now where no doubt was needed. This is referred to as an inference of doubt or a decision to doubt arrived at through a reasoning process. This process is faulty, so the doubt is false. This is referred to as inferential confusion (IC). Numerous peer-reviewed studies have demonstrated IC to be a stronger predictor of OCD than the 6 belief domains (intolerance for uncertainty, perfectionism, inflated responsibility, overestimation of threat, over importance of thoughts, and excessive concern about controlling one's thoughts) as well as thought-Action fusion beliefs and IC is specific to OCD whereas the belief domains are not.

### What is Inferential Confusion (IC)?

Inferential confusion is a confusion between reality and possibility during reasoning which gives undue credibility to obsessional doubts. A number of reasoning processes that have been identified in the model exemplify this confusion, which can broadly be categorized as an overreliance on possibility, or the imagination, and a distrust of the senses and self during reasoning. Fundamentally, the error in making what is irrelevant in the here-and-now seem relevant and real. There is a psychometrically validated questionnaire, Inferential Confusion Questionnaire-EV (ICQ-EV) which measures one's level of IC. Scores under 92 are considered subclinical and less indicative of OCD while scores between 92-180 are significantly related to OCD but not other disorders like GAD, Panic or MDD. Reductions in the ICQ-EV are also correlated to the reduction in Y-BOCS scores.

### **Doubt vs Uncertainty and Accepting Uncertainty**

In I-CBT, the doubt that begins the OCD sequence in the here-and-now is a verb, doubting. Uncertainty is a downstream experience provoked by the doubting in the here-and-now. If one has not doubted, then there would be no OCD themed uncertainty. Moreover, because OCD is activated in moments rather than a 24/7 experience, there is a reality known through one's 5-senses and common sense prior to the doubting taking over. I-CBT aims to restore trust in one's 5 senses and common sense that was overshadowed by the doubting. In this way, I-CBT says there is certainty that one can reconnect with and trust no different than those without OCD have about their present moments. Lastly, I-CBT does not see future abstract possibilities as relevant to OCD. The doubting is activated now, trusted now, and treated as if real, now. What is happening now is where the problem is. So, while it's true to say, no one has certainty about the future, it is also irrelevant if we have doubting happening now that goes against the 5-senses reality and common sense of now.

#### Isn't doubting normal?

I-CBT contrasts normal doubting with obsessional doubting. Normal doubting arises when prompted by relevant here-and-now reality. For instance, I see and smell smoke in my house and this leads me to say what if there is a fire in my house or my doctor discovers a lump and wants to biopsy it, and this leads me to say what if this lump is cancerous.

Obsessional doubt on the other hand arises from imagined or hypothetical prompts. For instance, upon receiving my biopsy results where the document states my name, dob, lab tech, and my doctor's name along with the results reading benign, I say what if they switched my labs. This doubt was not arrived at via relevant here-and-now reality. In fact, it was conjured and trusted despite it.

#### Is I-CBT evidence-based?

Yes. There are over 80 peer-reviewed articles published from different labs. These include theory, experimental, cross-sectional, psychometric, and outcome trials. Specifically, open-trials, 3 RCTs, and 2 non-inferiority RCTs comparing I-CBT to ERP finishing in 2024. To date, research has only looked at adult populations.

A comprehensive list of peer-reviewed published research can be found here: https://icbt.online/publications/

### How does I-CBTs outcome data compare to ERP?

Recent meta-analyses (Reid, et al., 2021 and Öst, et al., 2015) and a patient-level mega-analysis (Steketee, et al., 2018) found CBT/ERP to provide clinically significant change in Y-BOCS scores for between 50-60% of sufferers. Open-trials and the 3 RCTs of I-CBT have all shown similar outcome results where there were no statistically significant differences in efficacy between the two. This data prompted researchers to establish a non-inferiority RCT to demonstrate true equivalence between ERP and I-CBT. To date there are two non-inferiority trials underway. One in Canada and the other in the Netherlands. Preliminary data on 111 of the 180 participants in the Canadian trial shows non-inferiority to ERP.

#### If I-CBT is evidence-based, why is it not recommended under division 12 of the APA like CBT/ERP is?

I-CBT is a cognitive-behavioral approach, which is a recommended treatment in many treatment guidelines. However, I-CBT is far more cognitive than any other approach, and so it may need more specific recommendation in treatment guidelines. APA division 12 relies on groups to submit their data for consideration. The volunteers of APA division 12 are not scouring journals across the globe to find efficacious treatments. Since I-CBT was developed in Canada and all of the research has taken place outside of the US there was not strong need to follow-up in this process. Now that I-CBT has become more widely known in the US, this process will be initiated.

Table 1. Rationale and mechanisms of change in each active treatment (I-CBT, A-CBT and Mindfulness).

Rationale		
Inference-based CBT	Appraisal-Based CBT	Mindfulness (MBSR)
- Obsessions are faulty inferences of doubt about a possible state of affairs of in reality (what "might be" or "could be").	- Obsessions have their genesis in intrusive cognitions, which are random thoughts without inherent meaning.	- Obsessions are just like any other thought that do not reflect truth or reality or define who one is.
- Obsessions are the product of a dysfunctional reasoning narrative leading the person to confuse reality with imagination (i.e., "inferential confusion")	- Obsessions develop as the result of dysfunctional appraisals and undue significance given to normal intrusive cognitions guided by specific obsessive beliefs.	- No specific rationale except that the obsessions are maintained by the inability to disengage from them.
- Dysfunctional reasoning processes that give rise to a state of inferential confusion characterized by an overreliance on possibility and a distrust of the senses and/or self during reasoning, including 1) inverse inference, 2) dismissal of sense information 3) irrelevant associations	- Obsessive appraisal and belief domains leading intrusions to develop into obsessions revolve around over-responsibility, overestimation of threat, over-importance given to thoughts, control of thoughts, perfectionism and intolerance of uncertainty	- The inability to decenter from obsessional thoughts results in lack of cognitive flexibility and perspective taking that contribute to maladaptive self-regulation processes and behaviours.
- Vulnerable self-themes and feared self-perceptions underlie obsessional narratives	- A lack of (self-) confidence in memory, decision making and information processing may underlie obsessions.	- Lack of awareness and attention regulatory skills may underlie the cycle of obsessions.
<ul> <li>OCD primarily follows a non-phobic model of development similar to overvalued ideas or delusions through dysfunctional reasoning and personal investment in obsessional doubts that gives rise to unsuccessful neutralizing and avoidance behaviors.</li> </ul>	<ul> <li>OCD primarily follows a phobic model development similar to other anxiety disorders through the significance attached to intrusive cognitions and the reinforcing role of anxiety and avoidance behaviors (cognitive and overt avoidance, neutralization, safety-seeking behaviors).</li> </ul>	- No specific underlying model of development for OCD except that lack of mindfulness perpetuates intolerance of obsessions and reflexive patterns of reacting to them.
- Treatment is based on a constructionist model, where obsessional doubt is generated inside the person without mediation. The person rehearses obsessional doubt during neutralization while being disconnected from the senses or authentic self that normally would invalidate the doubt.	- Treatment is based on a mediational realist model where obsessions result from a reaction to, and avoidance of, an intrusion or an ambivalent or uncertain state of affairs in reality. Avoidance prevents disconfirmation of the perceived threat or dysfunctional appraisal in response to the intrusion.	- Based on Buddhist methods mind training to reduce suffering. Suffering occurs when one lacks awareness of automatic and distorted patterns. Mindfulness training teaches people to step out of automaticity and respond to difficulties with acceptance, equanimity and wisdom.
Primary hypothesized mechanisms of change		
- The primary mechanism of change is modifying the inferential confusion process that gives credibility to obsessional doubt. In turn, this allows for the resolution of obsessional doubt, its imagined consequences, distress and compulsions.	- The primary mechanism of change is the modification of appraisals of significance of what otherwise would be usual, unproblematic intrusions. In turn, this allows for the normalization of obsessions, reducing distress and the need to engage in compulsive rituals.	<ul> <li>Primary mechanisms of change are acceptance, openness and flexibility through a non-judgmental observer or meta- cognitive stance towards experience. This conscious and detached stance attenuates distress and urge to engage in rituals as the obsessions become less salient and more tolerable.</li> </ul>
<ul> <li>Modification of feared-self perceptions and self-themes underlying obsessional narratives through the realization that OCD represents a false self while repositioning the person back towards their authentic and real self</li> </ul>	- Modification of core beliefs and self-schema underlying dysfunctional appraisals, including increasing self-confidence and awareness that symptoms inhibit the self by limiting social, leisure or work activities	- Developing a mindfulness stance facilitates building self-compassion, kindness, self-understanding and self-trust.
<ul> <li>Reducing neutralization and avoidance leads to less doubt as these constitute rehearsing doubt and prevent the assimilation of sense information that resolves the doubt. Certainty already exists before the doubt, and therefore neutralization and avoidance are unnecessary.</li> </ul>	<ul> <li>Reducing neutralization and avoidance leads to cognitive change as it normalizes anxiety while increasing the intensity and frequency of obsessions without the occurrence of feared consequences. Obsessions are normal thoughts and neutralization and avoidance are unnecessary.</li> </ul>	<ul> <li>Reducing neutralizations and avoidance facilitates full engagement with painful experiences as they arise. Facing and exploring obsessions and distress consciously and with detachment facilitates perspective taking, extinction of habitual reactivity, and adaptive coping and behavior.</li> </ul>

OSM Table 2. Principal treatment targets and techniques in each active treatment (I-CBT, A-CBT and Mindfulness).

#### Principal treatment targets and techniques Mindfulness (MBSR) Inference-based CBT Appraisal-Based CBT The principal treatment target in I-CBT is focused on the initial The principal treatments targets in A-CBT are focused on the The principal target of mindfulness training is the cultivation of conscious awareness of present moment experiences (i.e., obsessional doubt (e.g., "I might be contaminated," "I might significance attached to intrusive cognition and the avoidance have forgotten to lock the door") preceding the occurrence of and compulsive behaviors caused by these appraisals. Its thoughts, feelings and sensations), coupled with an accepting feared consequences, appraisals, distress and compulsions. cognitive component aims to normalize the experience of and non-judgmental mindset. Mindfulness training modifies Its techniques aim primarily to resolve the obsessional doubt intrusive cognitions based on the notion that the initial how one relates to internal experiences without attempting to by recognizing it reflects confusion between reality and the intrusions and doubts are normal, but escalate into obsessions alter them. One learns to see internal experiences as objective imagination, which renders it entirely irrelevant to the hereas the result of how they are appraised. Its behavioral events of the mind rather than personally identifying with and-now. The consequences of obsessional doubt are only component has a more explicit focus on all forms of avoidance secondary targets based on the premise that once you resolve and compulsive behaviors through behavioral exercises that the initial doubt, this should logically also resolve all symptoms include reality testing and/or formal exposure and response that follow from the doubt, including feared consequences, prevention (ERP). anxiety and neutralizations.

# Psychoeducation, techniques and interventions

- Increase awareness of the obsessional sequence, which starts with obsessional doubt.
- Teach the difference between normal and obsessional doubts.
- Identify the reasoning narrative that leads up to the obsessional inference of doubt.
- Highlight the imaginary construction of obsessional doubt as it occurs in the "here-and-now."
- Recognize the confusion between reality and imagination, rendering obsessional doubt irrelevant to the here-andnow
- Develop and practice alternative narratives grounded in common sense and reality.
- Identify and address specific reasoning errors that render the obsessional doubt false and irrelevant.
- Highlight the selectivity of the obsessional doubt.
- Identify the cross-over point into the obsessional doubt and learn how to stay with the sense and common sense where certainty already exists.
- Identify the feared self that represents a false self, and reposition the person back to their authentic self by building up a picture of mundane self-attributes.
- Improve self-trust through reality-sensing by acting in accordance with the knowledge that the obsession is false, the obsession, or the obsessional doubt.

- Normalization of unwanted intrusive thoughts that are universal, meaningless and normal, but develop into obsessions as the result of specific appraisal and beliefs.
- Psychoeducation about the counterproductivity of controlling thoughts, as well as neutralizing compulsive behaviors.
- Identification of specific appraisal and belief domains producing distress and compulsive behaviors in response to intrusive thoughts, including 1) inflated responsibility, 2) overestimation of threat, 3) over-importance given to thoughts, 4) importance of controlling thoughts, 5) intolerance to uncertainty and 6) perfectionism.
- Modification of obsessive belief and appraisal domains through cognitive restructuring methods, including Socratic dialogue, downward arrow, thought monitoring, examining the evidence.
- Repeated and sustained exposure and response prevention during and in between sessions combined with behavioral experimentation to disconfirm and modify appraisals of significance and obsessive beliefs (i.e., hypothesis/reality testing). Exposure includes covert (i.e., thoughts, scenarios, mental images, and mental rituals) and overt (i.e., compulsions, safety-seeking strategies) behaviors.
- Identification and modification of core beliefs and or fixed behavior patterns contribute to symptoms, including encouragement of lifestyle changes

- Psychoeducation on mindfulness to improve well-being through acceptance of difficulty experiences, disengaging from unhelpful thoughts, emotions and behaviors, and moving towards living one's life fully and skillfully
- Formal training in focused attention and open monitoring of moment-to-moment experiences and informal practices to cultivate mindfulness in daily routine activities. Formal mindfulness practices, including the body scan, mindful yoga and walking, and sitting meditations.
- Psychoeducation on stress, hyperarousal, and responses that compromise well-being and the application of mindfulness skills to everyday activities and real-life stressors.
- Application of mindfulness skills to obsessions and compulsions. Includes increasing awareness of one's experiences, accepting one's experience as it unfolds, investigating one's experience with curiosity and openness, taking an observer and detached stance with one's experiences
- Promote flexibility and acceptance of thoughts and inner experience, while concentrating on achieving goals in a mindful conscious way
- Applying mindfulness to enhance compassion and acceptance towards oneself and others, mindful communication, and mindfully changing life styles

## Table 3A. Potential areas of overlap and distinctions (I-CBT vs A-CBT)

# Inference-based CBT versus Appraisal-based CBT

### "Reality sensing" vs. "Reality testing"

Reality sensing in I-CBT has an overlap with reality testing in A-CBT given that both are exercises with a behavioral component where the person approaches obsessional situations. In I-CBT, the person is asked to act upon the knowledge that the initial obsessional doubt is false while trusting one's authentic self when encountering triggering situations. In A-CBT, the person is asked to test out obsessional beliefs and appraisals by engaging with an obsessional situation without neutralizing allowing for the person to disconfirmed feared outcomes. Hence, while the overt behavior is similar in treatments, the aims and rationale of the exercises are distinct with a focus on disconfirming and refuting appraisals in A-CBT and a focus on doing things normal without a putting in any unnecessary effort in I-CBT. However, like in reality testing, there is a behavioral component to reality sensing that may be related to an unknown or overlapping mechanism of change during treatment. Both techniques may also allow the limbic system to experientially process situations to develop more adaptive mental representations without lack of threat.

### "Neutralization" versus "Neutralization"

Both I-CBT and A-CBT recognize the importance of addressing neutralization and compulsions as a factor in maintaining symptoms, albeit with some distinctions in conceptualization. I-CBT views covert and overt neutralization primarily as acting upon doubt that is irrelevant to here and now. A-CBT views neutralizations and attempts to control thoughts as counterproductive because they maintain dysfunctional beliefs and distress. However, both approaches may directly ask the client to not engage in neutralizations. In I-CBT, the person may be asked not to engage in neutralization rituals as part of reality sensing which asks the person to do things normally without any additional effort. Similarly, A-CBT may ask the person not to engage in neutralizing activities through reality testing, or as part of an ERP-based rational (i.e., response prevention). The latter involves purposely inducing anxiety in clients, which is not an intended effect of reality sensing, since its goal is to do things normally, and this includes not engaging with obsessional doubt and feeling anxious as a result. However, reality sensing in I-CBT may also be accompanied by distress if the person does not succeed to do things without doubt and engages in neutralizing activities.

# "Faulty reasoning processes" vs. "Cognitive distortions"

Cognitive distortions and processes are addressed in both I-CBT and A-CBT. I-CBT focuses on the reasoning process of inferential confusion (i.e., confusion reality with imagination) hypothesized to result in obsessions while A-CBT may address Beckian cognitive distortions as part of the dysfunctional appraisal of intrusive cognitions. However, I-CBT is more process than content-oriented with its focus on the reasoning process of inferential confusion as a crucial factor in symptom development, which is claimed to be distinct from the cognitive distortions addressed in A-CBT. In comparison, A-CBT tends to be more content-oriented with its focus on the content of specific beliefs of appraisals considered relevant to OCD in line with the cognitive specificity hypothesis, which states that psychological disorders can be defined by their cognitive content.

### "Feared selves" vs. Self-schema"

I-CBT focuses on the role of vulnerable self-themes and feared self-perceptions, whereas A-CBT may focus on self-schema or core beliefs relating to the self. In A-CBT, this is usually a general approach to identifying behavior patterns, whereas, in I-CBT, the feared self is hypothesized to cover up the person's actual self. In addition, I-CBT conceptualizes feared self-themes as dictating the content and occurrence of obsessional doubt, whereas A-CBT considers only the self in terms of the personal significance attached to intrusive thoughts. Nonetheless, both I-CBT and A-CBT consider ingrained or deep-seated core beliefs about the self or the world contributing to symptoms.

#### "Self-Doubt" versus "Lack of confidence"

In I-CBT, the obsession begins with the primary doubt which typically reflects a feared self that stands in sharp opposition with their real or authentic self. In other words, I-CBT considers a distrust of self or self-doubt as an important feature of OCD. Consequently. I-CBT aims to reposition the person back to their authentic self and increase self-trust by acting in accordance with one's actual self during reality sensing to counter self-doubt. Similarly, in A-CBT, there may be the view that people with OCD lack confidence in memory, that doubt is threatening, and lack cognitive confidence in their decisions and information processing. As a result, they may also lack self-confidence. So, there may be techniques to encourage confidence in self and decision-making in A-CBT that share similarities with the focus on increasing self-trust in I-CBT.

#### Other similarities and differences

- Both A-CBT and I-CBT share general common factors that exist across most psychotherapies including building a working alliance, sharing hope, guidance, empathy, therapist experience and a structured approach towards emotion management. Both approaches also identify avoidance and family accommodation as important factors to address in therapy.
- A-CBT may also encourage a lifestyle change and undertake enjoyable leisure pursuits to counterbalance OCD activities. Similarly, I-CBT
  would encourage activities in accordance with the person's authentic self to fill up the void left behind by OCD once symptoms begin to
  retreat
- Both approaches also emphasize similar factors in relapse prevention, namely: identifying high-risk situations, mood and stress triggers, and keeping up with practice exercises.
- I-CBT does not challenge the specific content of beliefs or values. It only addresses the process by which obsessional doubt comes about, rendering it false and irrelevant. A-CBT typically does address the content of beliefs and may also address traits and values that contribute to the dysfunctional appraisal of intrusive cognitions (e.g., intolerance for certainty, perfectionism, over-responsibility). I-CBT does consider content in terms of feared-self themes that may dictate the content of individual obsessions or symptom dimensions of OCD.

## Table 3B. Potential areas of overlap and distinctions (A-CBT vs Mindfulness)

# Appraisal-based CBT versus Mindfulness (MBSR)

### "Thoughts are just thoughts" vs. "Defusion"

A-CBT conceptualizes obsessions as originating from normal, universal intrusive thoughts that are given too much significance and importance. Thus, a central focus of A-CBT lies in the active normalization of thoughts, helping clients to treat thoughts as just thoughts and taking a more metacognitive stance towards them instead of getting overly preoccupied with them. Similarly, mindfulness focuses on reducing the importance given to thoughts by promoting an observer stance towards thoughts without attachment, aversion or mental proliferation. While both address thoughts, the difference is that in A-CBT, the techniques are practiced as a way of disengaging from the OCD symptoms and reframing the appraisal of thoughts, whereas mindfulness training helps one to see thoughts as objective events in the mind rather than personally identifying with them. The role of systematic countering of dysfunctional thoughts is becoming less prominent in A-CBT, as both A-CBT and MBSR are modalities to conclude that thoughts are harmless.

#### "Letting thoughts pass" by versus "Letting go"

In line with the notion of treating thoughts as just thoughts, A-CBT helps clients learn that obsessions pass by, whereas mindfulness similarly helps clients to see their thoughts as transient events. However, in A-CBT, this is achieved by helping clients appraise these thoughts as normal and non-significant, whereas mindfulness training aims to change one's relationship with thoughts without attempting to modify them.

### "Exposure" vs "Acceptance"

Both A-CBT and mindfulness tend to address avoidance similarly, especially when applying exposure. For example, in A-CBT, clients are asked to expose themselves to their obsessions and feared stimuli without engaging in compulsions or any related avoidance in order to habituate to the anxiety. Similarly, in mindfulness, clients are asked not to avoid or suppress distressing thoughts and emotions but to remain open, curious, and accepting of them. In mindfulness training, clients are encouraged to turn towards and accept difficult and unpleasant experiences but not to react to or engage in them. They are also asked to remain fully present when engaging in various behaviors, without being distracted or engaging in neutralization strategies. Given that this is carried out over long periods, these techniques share similarities in underlying exposure mechanisms and are both experiential exercises. However, in mindfulness, the difference is that these strategies are part of a meditative technique focused on limiting experiential avoidance and habitual reactivity patterns, whereas in A-CBT, the focus is on learning principles (e.g., inhibitory learning, information processing, emotional processing, habituation).

### "Paradoxical intent" versus "Thought suppression"

Both mindfulness and A-CBT recognize the role of neutralization and compulsive behaviors as counterproductive and that in order to gain control, one has to give up control. Mindfulness utilizes paradoxical intent where the person is asked to allow thoughts to come into awareness without trying to control or suppress them with the ultimate aim of being able to disengage from them or tolerate them. Similar exposure strategies can be observed in A-CBT, where the person is asked not to suppress or resist thoughts to conclude that they are harmless. The same general principles apply to other neutralizing behaviors and overt compulsions, although in mindfulness, the person is usually asked to observe these compulsive behaviors non-judgementally initially before giving them up.

# "Reality testing" vs. "Staying with the five senses"

The concept of "reality testing" or "hypothesis testing" shares a superficial similarity with staying with five senses during mindfulness practice. However, in A-CBT, these behavioral experiments have the explicit aim to change one's expectations and anticipation of adverse outcomes when not engaging in rituals and compulsions. In mindfulness, unless combined with cognitive interventions, staying with the five senses in mindfulness does not have the explicit aim to reevaluate the appraisals of intrusive cognitions. However, reality testing and staying with the five senses may be similar to the extent that both involve exposure to fearful stimuli.

#### "Changing lifestyle" versus "Living Mindfully and Skillfully"

A-CBT may encourage a change of lifestyle and undertaking enjoyable leisure pursuits to replace the time consumed by the OCD. Similarly, mindfulness training teaches one to embrace life fully with a sense of clarity, wisdom, and joy, to be mindful in interactions with others, to cultivate a positive mindset, and to nurture calmness, self-compassion and self-acceptance. However, the focus on engaging and maintaining a healthy global lifestyle is significantly smaller in A-CBT.

#### Other similarities and differences

- Both A-CBT and mindfulness consider a preoccupation, lack of distance (i.e., "fusion") and giving (intrusive) thoughts too much importance to be at the root of obsessions. Consequently, both teach distancing from thoughts, detachment from emotional reactions, accepting thoughts and letting them go non-judgmentally, taking an observer position, and facing the problem and experience. The principal difference is that these focused are part of a meditative technique in mindfulness, whereas in A-CBT, these techniques are taught to disengage with the OCD through a more functional appraisal of thoughts.
- The focus of A-CBT on learning highlights which strategies can subtly contribute to avoidance (e.g., when touching a dirty object, focusing on defusing thoughts instead of accepting and being mindful of the situation). The focus of mindfulness on acceptance and a meditative stance guide therapists away from engaging in emotionally detached and complex cognitive debates (e.g., when touching a dirty object, focusing on restructuring the probabilities of catching or transmitting diseases).
- Both A-CBT and mindfulness share general common factors that exist across most psychotherapies including building a working alliance, sharing hope, guidance, empathy, therapist experience and a structured approach towards emotion management. Both approaches also identify avoidance as an important factor to address in therapy.

### OSM Table 3C. Potential areas of overlap and distinctions (Mindfulness vs I-CBT)

### Mindfulness versus Inference-based CBT

### "Staying with the five senses" vs "Reality sensing"

Mindfulness practice includes staying with the five senses in the here and now, which has similarities the I-CBT notion of using the senses to detect reality, both inner and outer. But there are some distinctions in the rationale and content of the exercises. In I-CBT, reality sensing is intended to stop the person from going into the imagination and encourage them to relate to the world as they already do in non-obsessional situations. Trusting the senses and self goes along with abandoning the reasoning behind doubt and investment in remote or imaginary possibilities. It does not require learning new skills or acting unusually. In mindfulness, using the five senses is part of learning a meditative technique of being present in the here-and-now.

#### "Observer stance" versus "Metacognitive insight"

Similar to taking an observer position in mindfulness, I-CBT includes increasing awareness of obsessional and normal thinking to improve cognitive insight. The main reasoning process in I-CBT held responsible for the obsession (confusion between reality and imagination) also requires a meta-cognitive stance to gain insight into. Further, in the course of I-CBT, various exercises involve observing, rather than reacting to thoughts, including identifying the obsessional sequence, telling the difference between normal and obsessional doubt, and learning to identify the cross-over point from reality into imagination. However, I-CBT utilizes these strategies with the ultimate aim of recognizing the falsehood of the obsession and rejecting these thoughts. Mindfulness would encourage acceptance of thoughts to be able to let them go or tolerate them (i.e., paradoxical intent).

### "Neutralization" versus "Neutralization"

Both mindfulness and I-CBT address neutralization, but with different rationales. In mindfulness, neutralization and compulsive behaviors are viewed as antithetical to mindfulness as these represent fusion experiences, which are the opposite of defusion. It would ask the person to take a metacognitive stance to help the person let go of unhelpful thoughts and behaviors according to their values and goals. Therefore, the philosophy is to accept the obsessions and compulsions, see how they are furthering one's goals or not, and perform the rituals mindfully rather than automatically, slowing them down and rendering them more irrelevant to the here and now. In I-CBT, neutralization is viewed as rehearsing the doubt and changing reality based on imaginary doubts. The result is that neutralization sabotages the goal they are supposed to accomplish. Consequently, I-CBT focuses on bringing the person back to reality through the realization that the doubt is imaginary, the rehearsal of reality-based alternative narratives, and reality-sensing exercises that involve acting without additional effort.

### "Self-Compassion" versus "self-trust"

In mindfulness, there is an emphasis on self-compassion and trusting the self or experience by accepting experience without judgment. In I-CBT, there is also a strong focus on learning how to trust the self and the senses, given that a distrust of the senses and the self is an integral part of the inferential confusion process. However, in mindfulness, trusting the self is part of a meditative technique, whereas in I-CBT it is an explicit mechanism of change that goes along with abandoning the reasoning behind doubt and investment in remote or imaginary possibilities.

#### Other similarities and differences

- In mindfulness, the point is to stop struggling unhelpfully against an obsession, accept it non-judgmentally and subsequently carry on normally. In I-CBT, a hallmark point is that the person does not do anything special or extra but uses their five senses and common sense in OCD situations, exactly as they do in non-OCD situations. In other words, people with OCD already possess the skills to use their senses in the correct way but not in the correct context.
- In I-CBT, the person has a vulnerable self-theme or a feared self-identity that the person imagines they may become (but never will) making them more vulnerable to symptoms of OCD. Hence, I-CBT is focused on reorienting the person towards their real self. In mindfulness, clients are also encouraged to focus on their goals and the positive self-confidence they feel for their achievements, but not with the explicit aim of dissolving a feared self that covers up their real self,
- In mindfulness, similar to A-CBT, a lack of distance and preoccupation with (intrusive) thoughts is at the root of obsessions. However, in I-CBT, obsessions are considered false inferences that need to be rejected rather than accepted as just another thought.
- I-CBT, values, morals, ethical and social, or goals in life are not explicitly addressed. Rediscovering the authentic self relates to rediscovering observable and mundane aspects of self that often stand in sharp opposition to the person's feared self.
- Both I-CBT and mindfulness share general common factors that exist across most psychotherapies including building a working alliance, sharing hope, guidance, empathy, therapist experience and a structured approach towards emotion management. Both approaches also identify avoidance as an important factor to address in therapy.