



# BOOK OF ABSTRACTS

## FIFTH EABCT MEETING ON OBSESSIVE-COMPULSIVE DISORDER

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**Not Just Right Experiences as ironic result of perseverative checking.**

**Background:** OCD patients report Not Just Right Experiences (NJREs) broadly defined as “uncomfortable sensations of things not being just right”. It has been suggested that NJREs serve as a motive for compulsive perseveration and that the latter may be continued until NJREs subside. We hypothesized that perseverative checking has the opposite effect and *promote*, rather than reduce NJREs.

**Methods:** Two separate experiments were conducted with 48 (Experiment 1) and 55 (Experiment 2) healthy students. In both studies, all participants checked a virtual gas stove and were asked to rate their memory of that checking trial (i.e., meta-memory: confidence, vividness and detail of memory) and additionally completed an NJRE scale. The NJRE and meta-memory ratings were assessed at two times during the experiment (pre vs. post). In between, half of the participants engaged in 20 gas stove checking trials (i.e., relevant checking), whereas the other participants checked 20 light bulbs (i.e., irrelevant checking). We expected that participants who engaged in relevant checking, would report decreased memory confidence, vividness and detail, and – most importantly – an increase in NJRE; while we did not expect a difference over time for the irrelevant checkers.

**Results:** In Experiment 1, we found no effect for Confidence in memory, but memory Vividness and Detail decreased over time only in the relevant checking group. We found a medium effect for NJRE, but this trend did not reach statistical significance. Hence, we attempted to replicate the findings in a second experiment. In Experiment 2 only participants in the relevant checking group experienced decreased memory Confidence and Vividness. Detail did not decrease in the relevant group, but increased in the irrelevant checking group. In addition, we again found a medium effect for NJRE in line with our expectations: NJREs only increased in the relevant checking group. Finally, the data from both studies were analyzed in a meta-analysis showing – in line with our hypotheses – a small effect for Confidence, large effects of Vividness and Detail and a medium effect for NJRE.

**Conclusions:** While NJREs may serve as a motive for perseverative checking, the latter seems counterproductive. Repeated checking not only affects meta-memory (reduced vividness/detail and confidence), it also increase feelings of thing being ‘not just right’. Conceptual and clinical issues will be critically discussed.

**Key words:**

Not just right experience | Perseverative checking | OCD | Metamemory | Experimental psychology

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**How important is the therapeutic alliance in treating obsessive-compulsive disorder with exposure and response prevention?**

**Background:** Substantial research has established exposure and response prevention (EX/RP) as an effective psychotherapy for obsessive-compulsive disorder (OCD). Yet, the role of the therapeutic alliance as a factor in EX/RP remains a relatively understudied area. One would expect that patients who have a better alliance with their therapist would benefit more in treatment. We tested this hypothesis in a well-characterized sample using an established alliance measure.

**Method:** Data came from 37 adults with DSM-IV OCD who completed 17 sessions of manualized EX/RP as part of a randomized controlled trial of SRI augmentation strategies. Therapeutic alliance was assessed with the Working Alliance Inventory-Short Form (Hatcher & Gillapsy, 2006), which has three subscales to rate alliance dimensions (Goal, Task, and Bond) as well as a total score reflecting the overall strength of the alliance. Patients completed the WAI at the third EX/RP session. OCD symptoms were rated at baseline and post-treatment using the Yale-Brown Obsessive-Compulsive Scale (YBOCS; Goodman et al., 1989). Adherence to EX/RP was assessed with the Patient EX/RP Adherence Scale (PEAS; Simpson et al., 2010). The primary analysis was a linear regression in which the WAI total score was used to predict post-treatment YBOCS scores, adjusting for baseline YBOCS. Follow up analyses examined the relationships between WAI-subscores and post-treatment YBOCS.

**Results:** Adjusting for baseline severity, total score on the WAI did not significantly predict post-treatment YBOCS ( $\beta = -.11, p = .52$ ). Follow-up analyses revealed that post-treatment OCD severity was not associated with either the Goal ( $\beta = .02, p = .9$ ) or Bond ( $\beta = .13, p = .45$ ) subscales of the WAI. However, higher scores on the Task subscale were significantly associated with lower post-treatment scores ( $\beta = -.34, p < .05$ ). Scores on the Task subscale also predicted treatment adherence on the PEAS ( $\beta = .37, p < .05$ ).

**Conclusion:** Contrary to our hypothesis, overall ratings of the quality of the therapeutic alliance did not predict EX/RP outcomes. However, the degree to which patients and therapists allied on the tasks of therapy did predict outcome, suggesting that this particular aspect of the therapeutic alliance matters most to EX/RP outcomes. Better agreement on the tasks of therapy also related to better EX/RP adherence, suggesting a possible mechanism for the relationship. Clinical implications for forming therapeutic relationships will be discussed.

**Key words:** Obsessive-compulsive disorder; exposure and response prevention; therapeutic alliance; treatment outcome prediction

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**Therapist-guided Internet-based cognitive behavioural therapy for body dysmorphic disorder: A single-blind randomised controlled trial**

**Background:** Cognitive behavioural therapy (CBT) is an effective treatment for body dysmorphic disorder (BDD). However, most sufferers do not have access to such specialised treatment. In line with NICE recommendations, there is an urgent need to increase access to treatment for BDD sufferers. We aimed to evaluate the efficacy of a therapist-guided, Internet-based CBT programme for BDD (BDD-NET), compared to an active control condition, online supportive therapy.

**Methods:** A single-blind, parallel-group randomised controlled trial. 94 self-referred adult outpatients with a diagnosis of BDD, and a Yale-Brown Obsessive Compulsive Scale modified for BDD (BDD-YBOCS) score of  $\geq 20$ . Concurrent psychotropic medication was permitted if the dose had been stable for at least 2 months prior to enrolment and remained unchanged during the trial. Participants received either BDD-NET (n=47) or supportive therapy (n=47) delivered via the Internet for 12 weeks. The primary outcome was the masked assessor BDD-YBOCS score at post-treatment and follow-up (3- and 6-month follow-up from baseline). Responder status was defined as a  $\geq 30\%$  symptom reduction on the BDD-YBOCS.

**Results:** BDD-NET was superior to supportive therapy and was associated with significant improvements in BDD symptom severity (BDD-YBOCS group difference= -7.1 points, 95% CI -9.8 to -4.4), depression (MADRS-S group difference -4.5 points, 95% CI -7.5 to -1.4), and other secondary measures. At follow-up, the proportion of responders was 56% amongst those receiving BDD-NET, compared to 13% in the supportive therapy group. The number needed to treat was 2.34 (95% CI 1.71 to 4.35). Self-reported satisfaction was high.

**Conclusion:** CBT can be delivered safely via the Internet to patients with BDD. BDD-NET has the potential to increase access to evidence-based psychiatric care for this severely under-detected and under-treated mental disorder, in line with NICE priority recommendations. BDD-NET may be particularly useful in a stepped-care approach, where mild to moderate cases with low suicide risk can be offered BDD-NET by their general practitioner or other mental health professional.

**Key words:** Body dysmorphic disorder, Obsessive-compulsive disorder, Cognitive behavioural therapy, randomised controlled trial

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**Inferential Confusion moderates the effects of dissociative experiences on OCD symptoms severity in a clinical sample with Obsessive Compulsive Disorder**

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**Background.** Recent research showed that greater OCD severity may be associated to stronger dissociation experiences. Higher dissociation was found to predict treatment resistance after cognitive behavioural therapy for OCD. Inferential Confusion, a reasoning error where the person with OCD persists in his/her obsessional belief despite sense information to the contrary, might moderate the relation between dissociation and OCD severity. Using a clinical sample of patients with OCD, the current study investigated whether the relation between more severe dissociation and OCD severity might be moderated by Inferential Confusion. A second aim was to test whether Inferential Confusion might moderate the relation between more severe dissociation and OCD symptoms subtypes.

**Methods.** Sixty patients with primary OCD (mean age= 37.17, SD= 9.98, 53.30% females) completed the Inferential Confusion Questionnaire-Extended Version (ICQ-EV), Dissociative Experiences Scale-II (DES-II), Yale-Brown Obsessive Compulsive Scale (Y-BOCS), Padua Inventory (PI). Moderation effects of Inferential Confusion on the relation between dissociation and OCD severity and subtypes were tested through General Linear Models.

**Results.** When Y-BOCS scores were considered as dependent variable, only an interaction effect emerged between ICQ-EV and DES-II Depersonalization/Derealization scores ( $\beta = 0.12$ ,  $p < .05$ ): patients with higher scores on ICQ-EV and higher scores on DES-II Depersonalization/Derealization scale had higher scores on Y-BOCS.

When PI scores were considered as dependent variables, a main effect of DES-II Amnesia on PI Insufficient control of mental activities scores was found ( $F = 9.31$ ,  $p < .01$ ). In addition, an interaction effect between DES Amnesia and ICQ-EV scores was found ( $F = 7.46$ ,  $p < .01$ ) on PI Insufficient control of mental activities: patients with higher DES Amnesia scores and higher ICQ-EV scores had higher scores on PI Insufficient control of mental activities.

**Conclusions.** The relation between depersonalization/derealization and OCD severity might be moderated by Inferential Confusion. Patients with such types of dissociative experiences, who typically are resistant to cognitive behavioural therapy might benefit from inference-based approaches. Dissociative amnesia could be a dimension implicated in Insufficient control of mental activities, and its effects might be moderated by Inferential Confusion. Future research should assess inference-based treatments for resistant OCD with dissociative amnesia symptoms and Insufficient control of mental activities.

**Key words:** Obsessive Compulsive Disorder, Inferential Confusion, Dissociation, Amnesia, Depersonalization/Derealization.

## POSITION PAPER

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### **The centrality of thought in OCD in light of the SPIS model**

Over the past several years we have developed a model of OCD which we termed “seeking proxies for internal states (SPIS for short). The central claim of the SPIS model is that people with OCD have attenuated access to their own internal states (preferences, feelings, emotions, bodily states). In an attempt to compensate for this deficit, according to our model, obsessive-compulsive (OC) individuals seek external proxies for their internal states, including rules, procedures and fixed rituals. Support for the SPIS model comes from studies which showed that OC tendencies and induced doubt are related to attenuated access to bodily and emotional states. In this position paper, I will argue that the SPIS model can explain the centrality of thoughts in OCD, which is acknowledged but not explained in present cognitive perspectives.

Current meta-cognitive theories of OCD, as laid out by Salkovskis, Rachman, and others, postulate that obsessions are perpetuated in OC individuals because they consider their own thoughts to be highly informative. For example, if an OC mother has images of spanking her child, she might conclude that she is a bad mother who hates her children. Furthermore, because people with OCD tend to (con)fuse thoughts and actions, she is liable to fear that she would act on her thoughts and end up really hurting her children. The importance people with OCD place on their thoughts and images, according to this view, leads them to attempt and suppress or neutralize these “bad” thoughts. When these attempts fails, as they inevitably do, this serves as further evidence that the thoughts really do reflect negative or unacceptable feelings and attitudes, leading to further attempts to suppress them and to perpetuation of the obsessive cycle.

But *why* do people with OCD attribute such high importance to the content of their thoughts? Current cognitive theories are silent about this question. I will argue that the SPIS model provides an answer, namely, that thoughts become a central source of information when access to other internal states is attenuated. If I don't know what I really feel, wish, or prefer, then my thoughts about these issues become a major source of information about my internal states. Because of that, OC people monitor their thoughts very closely, as noted by metacognitive theories of OCD, and the content of their thoughts becomes focal. Instead of feeling good, OC individuals strive to have positive thoughts. Instead of avoiding bad feelings, they try to avoid bad thoughts. I suggest that the focus on thoughts is a defining feature of OCD, which distinguishes it from anxiety disorders. Notably, and consistent with this view, our research shows that attenuation of internal states is specific to OCD. Finally, I will talk about some clinical implications of this idea, and specifically how Acceptance and Commitment Therapy may be useful in tackling this problem.

**Keywords:** OCD, obsessions, doubt, SPIS

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**Metacognitive beliefs about thoughts and rituals in OCD and obsessive-compulsive symptomology: a review of the evidence**

**Background:** Two types of metacognitive knowledge have a central role in the metacognitive model of OCD (Wells & Matthews, 1994; Wells, 1997, 2000): 1) beliefs concerning the meaning and power of thoughts (thought-fusion beliefs) and 2) beliefs about rituals-these consist of a) declarative beliefs about the need to carry out rituals to self-regulate and b) a metacognitive plan which includes rules on how to carry out the ritual and when it can be stopped. A significant number of studies have tested the hypothesized role of these specific beliefs.

**Method:** Eleven studies (9 published in peer reviewed journals, 2 manuscripts in preparation) were reviewed. All studies included examined the role of one or more of the specific metacognitive beliefs mentioned above, as a test of the metacognitive model. Seven studies used non-clinical and four studies used OCD participants. Studies used cross-sectional (8), experimental (2), and prospective (1) designs.

**Results:** Both metacognitive beliefs about thoughts (8 studies) and rituals (6 studies) significantly and positively related to obsessive-compulsive (o-c) symptoms cross-sectionally. Metacognitive beliefs about rituals explained additional variance in o-c symptoms beyond metacognitive beliefs about thoughts (5 studies). Metacognitive beliefs predicted o-c symptoms independently of non-metacognitive beliefs linked to OCD in other models (6 studies). The causal role of metacognitive beliefs about thoughts in o-c symptomology was supported by one prospective and two experimental studies.

**Conclusions:** Results indicate the importance of metacognitive beliefs about thought and rituals in OCD and support the metacognitive model. Limitations of the current research as well as clinical implications will be discussed.

**Keywords:** Metacognitive model; Obsessive-Compulsive Disorder, Thought-fusion, Beliefs about rituals

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**Obsessive-Compulsive disorder among adolescents and young adults: Results from the prospective longitudinal EDSP-study**

**Background:** Population-based information concerning age-of-onset, key periods for incidence and comorbidity of obsessive-compulsive disorder (OCD) among youth is scarce. Recent studies found that threshold and subthreshold OCD in the general population is associated with high lifetime comorbidity. There is evidence from cross-sectional studies that OCD precedes other mental disorders in a substantial proportion of cases. However, whether preceding OCD increases the risk of subsequent onset of mental disorders, using a longitudinal community study, has not been examined yet. The aims of this study are 1) to assess prevalence, incidence, age-of-onset and comorbidity of OCD at threshold, subthreshold and symptomatic level 2) to investigate the role of threshold and subthreshold OCD as risk factor for the onset of a broad range of mental disorders.

**Methods:** Data stem from a prospective-longitudinal community study of adolescents and young adults, originally N=3021 subjects aged 14-24 years at baseline, who were followed-up over a period of 10 years. DSM-IV OCD and a broad range of other DSM-IV mental disorders were assessed by the M-CIDI.

**Results:** The cumulative lifetime incidence was 1.8% for threshold, 13.2% for subthreshold and 10.8% for symptomatic OCD. Individuals in all three OCD groups were more likely to meet diagnostic criteria for other DSM-IV mental disorders, compared to those without OCD symptomatology. Individuals meeting criteria for OCD were at an increased risk of developing any bipolar disorder (HR=6.9), dysthymia (HR=4.4), generalized anxiety disorder (HR =3.4) and social phobia (HR=2.9); individuals meeting subthreshold criteria for OCD were at an increased risk of developing any bipolar disorder (HR=3.7), post-traumatic stress disorder (HR=2.9), any eating disorder (HR=2.5), agoraphobia (HR=2.2), social phobia (HR=2.1), specific phobia (HR=1.7) and alcohol dependence (HR=1.5). Within OCD diagnostic spectrum prior symptomatic/subthreshold OCD predicted subsequent threshold OCD (risk ratio=3.9).

**Conclusions:** This study provides strong evidence that OCD, both at threshold and subthreshold level, starts early and predicts the subsequent onset of a range of disorders. Future research should investigate the underlying mechanisms and the potential of early OCD as a target for prevention of subsequent psychopathology.

**Limitations:** Like in every observational study, we cannot exclude that observed associations may be due to hidden third variables.

**Key words:** Obsessive-compulsive, subthreshold, epidemiology, longitudinal, comorbidity, temporal relationship



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**Elevated Responsibility in Implicit Learning Task Impairs Otherwise Intact Performance of Participants with OCD**

**Introduction:** The purpose of the present study was to examine whether elevated responsibility for prevention of harm will impair the performance of OCD participants on an implicit learning task.

**Method:** Twenty four participants with OCD and 24 non-clinical controls performed a computer-administered modified Sugar Plant Production task, in which they were asked to reach and maintain a particular production level by regulating the size of the workforce. The relationship between the participants' input and the factory production output was determined according to a complex rule, unknown to participants. To assess whether participants with OCD are more prone than non-clinical participants to assert control over implicit processing, we informed half of the participants in each group that the plant is about to be shut down, and as a last endeavor they were chosen to be the plant's manager, responsible for maintaining a specific production level or else all the workers will lose their jobs. We predicted that as a result of the elevated motivation to control, participants with OCD will show a stronger effect of the manipulation, as evident in impaired performance, in comparison to the non-clinical participants.

**Results:** In line with predictions, no between group difference was found in the standard instructions condition, where both groups showed significant learning. However, in the responsibility manipulation condition, participants with OCD failed to acquire the task while non-clinical participants showed significant learning.

**Conclusions:** Results suggest that OCD is associated with a potentially intact implicit processing capacity together with a tendency for controlled processing to take over and interfere with implicit processing in domain-specific areas.

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**Development and validation of the Self-Directed Moral Disgust Scale in a large Italian non-clinical sample**

**Background:** Mental contamination (MC) has been described as an internal experience of dirtiness that can arise and persist in the absence of contact with observable physical contaminants. Many studies supported the crucial role of moral element in MC. Research indeed suggested that mental imagery involving a number of themes including sexual violation, contact with others perceived to be immoral, and the perpetration of immoral acts may be capable of eliciting feelings of self-disgust and MC. A recent study (Badour et al., 2014) suggested that perceiving the self as disgusting, as a result of internalizing the disgust experienced during a sexual assault, was predictive of MC. We then hypothesized that a self-directed form of moral disgust, within general self-disgust, may play a critical role in MC. Unfortunately, no validated measure specifically assesses this construct. Overton et al. (2008) developed the Self-Disgust Scale (SDS), but it does not assess moral disgust toward the self. In order to carry on future studies about the relationship between self-moral-disgust and MC, we first developed a new measure - the Self-Directed Moral Disgust Scale (SD-MDS) - aimed at assessing this construct, and validated it testing its factorial structure, reliability and construct validity in a large Italian non-clinical sample.

**Methods:** 604 volunteers (54% females) were recruited from general population (mean age: 38.28, SD: 14.67). They were administered the 20-item SD-MDS, the Three Domain of Disgust Scale, the Disgust Propensity Questionnaire, and the Depression Anxiety Stress Scales-21.

**Results:** Principal component analysis revealed a unidimensional structure, the first factor explained 39.54% of variance and every item saturated on it. Scale refinement and item analysis led to the final 20-item version of the scale that showed excellent internal consistency and construct validity, assessed by convergent and discriminant validity.

**Conclusions:** We provided preliminary evidence that SD-MDS is a unidimensional reliable scale that assesses the self-directed form of moral disgust. Future studies should investigate its psychometric properties in clinical samples and test the hypothesized associations with measures of MC.

**Keywords:** moral disgust, self-disgust, mental contamination, psychometrics, assessment

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**Emotion regulation in OCD: true deficits or beliefs about having deficits ?**

**Introduction:** Especially in clinical contexts there is a strong conviction that individuals with obsessive-compulsive disorder (OCD) have deficits in emotion regulation and that these deficits contribute to the development and /or maintenance of OC symptoms. For instance, the idea that individuals with OCD perform compulsions because they have no other way of dealing with strong emotions is frequent. However, empirical data on the association between emotion regulation deficits and OC symptoms is rare and shows mixed results (e.g. de la Cruz, Landau, Iervolino, Santo, Pertusa, Singh et al., 2013; Fergus & Bardeen, 2014; Stern, Nota, Heimberg, Holaway & Coles, 2014). The present study attempts to contribute to this discussion by providing correlational data on further aspects of emotion regulation and OC symptoms in a community sample. Additionally, the study explores an alternative model: OC symptoms are related to the *beliefs*, that one has deficits, and not to the emotion regulation deficits per se. Thus we expect these beliefs and OC symptoms to be positively correlated.

**Methods:** 202 adult community members completed questionnaires about emotion regulation strategies (ERQ, Emotion Regulation Questionnaire; DERS, Difficulties in Emotion Regulation Scale), depressive Symptoms (BDI-II), OC symptoms (OCI, Obsessive-Compulsive Inventory, Revised) and a brief pilot version of a measure assessing beliefs about the capability to deal with strong emotions.

**Results and discussion:** There were no significant correlations between OC symptoms and two of the main emotion regulation strategies, i.e. suppression of emotions and cognitive reappraisal. This finding does not support the idea that emotion regulation deficits are related to OC symptoms. Other aspects of emotion regulation, such as clarity of emotions or goal directed behaviour, were moderately correlated with OC symptoms. These correlations, however, decreased when depression was statistically controlled. As expected, beliefs about the inability to endure and deal with strong emotions were highly related to OC symptoms. Limitations of the study and future research ideas are discussed.

## POSITION PAPER

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### **Emotional processing and inhibitory models of exposure: competition or potential for integration?**

How does exposure work? There have been a number of models proposed over time. Two of the dominant models are Foa and colleagues' Emotional Processing Theory (EPT) and Craske and colleagues' Inhibitory Model (IM). EPT contends emotional processing occurs when the fear structure (or network) is activated and then disconfirming information must be incorporated into it.

The fear structure is described as a propositional network comprised of stimuli, responses, and meaning. Potential indicators of emotional processing were originally proposed to include within session habituation and between session habituation. Updates to the theory have acknowledged that within session learning is likely a less stable indicator, as evidenced in a number of studies, while between session appears to be a stronger indicator.

In addition other indicators may be changes in thoughts, appraisals, or cognitive biases (i.e., attention, interpretation, judgment). IM suggests that changes in the latter without behavioral exposure not effective and that such changes preceding exposures may harm the long term effect of exposures. In addition to proposing a number of strategies that may enhance inhibitory learning (e.g., superconditioning, facilitation of generalization), IM also adds the idea that emotion tolerance is what is needed more than fear reduction.

In my address, I ask some questions that may challenge both theories including: how do we understand cognitive interventions and factors such as responsibility, thought action fusion, and doubt? How do the models address the additional emotions and feelings related to OCD such as guilt and not-just right experiences? And how do the models explain the apparent utility of imaginal exposure (flooding)?

I will conclude by proposing some directions in which the theories may be integrated more than contrasted. Implications for understanding exposure treatments for OCD will be highlighted throughout.

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**Where did this thought come from? – Misattribution of authorship of thoughts in individuals with high obsessive-compulsive (OC) tendencies. Replication and extension**

**Background:** Intrusive thoughts constitute a key feature of OCD. While the DSM-5 characterizes obsessions as intrusive and unwanted thoughts, and studies show that OCD patients report on a lower sense of control over thoughts, to our knowledge the question of authorship over thoughts in OCD has never been tested experimentally. We applied a sham-priming paradigm to convince participants that thoughts can be inserted externally, and measured participants' tendencies to attribute their thoughts to an external source on-line.

**Methods:** Participants (Study 1: 25 low OC (OCIR<11) and 25 high OC participants; Study 2: 24 High and 22 Low OC participants) were asked to wear headphones playing low-volume continuous stream of audio, after presented with materials explaining that novel methods of auditory priming were found to insert thoughts into people mind subconsciously. In each of two blocks, participants were told that a specific neutral (block 1: "Table") or negative (block 2: "Death") word might and might not be primed via the audio stream, and were asked to click on the mouse once they experience the target word entering their mind from an external source.

**Results:** Results of two studies show that high OC participants are indeed more likely to misattribute thoughts to an external source, for neutral (Studies 1 and 2) and negative (Study 1) thoughts. In both studies, most participants explained their decision to click the mouse as a result of a surprising thought which was not directly related to their regular stream of consciousness, entering their mind.

**Conclusions:** Obsessive compulsive traits are related to difficulty in experiencing authorship over thoughts, even for thoughts not directly related to symptoms. The relations of sense of authorship and the experience of intrusive thoughts will be discussed. In addition to these primary findings, the effects of external source attribution of thoughts on emotional responses and responsibility over thoughts, as well as candidate mechanisms for low sense of authorship over thought will be discussed.

**Keywords:** Intrusive thoughts; Agency; Authorship;

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**BACKGROUND**

Obsessive-compulsive disorder (OCD) is often characterized by neuropsychological deficits. Till now, the relationship between the cognitive impairment and obsessive-compulsive symptomatology has been unclear. Our aim is to investigate if a cognitive remediation program for OCD patients could positively impact impaired cognitive abilities and if improvement in cognitive function correlates with better clinical outcomes. If so, a cognitive remediation program could be considered a credible augmentation strategy in evidence-based pharmacological treatment of OCD.

**Methods**

Thirty-two OCD patients and 16 healthy volunteers were recruited and, at baseline, their cognitive functioning compared. During hospitalization, 16 OCD patients received cognitive remediation training in addition to a psychiatric rehabilitation program, and 16 patients received no cognitive remediation training. Cognitive Remediation was performed using the RehaCom software package. Executive functions (Iowa Gambling Task, Tower of Hanoi, Wisconsin Card Sorting Test, Stroop Tests, Trail-Making Tests) and obsessive-compulsive symptoms severity (Yale-Brown Obsessive-Compulsive Scale) were assessed at the beginning and the end of hospitalization.

**Results**

In comparison to healthy controls, OCD patients showed impaired neuropsychological performance (planning, attention, response inhibition, visual-motor coordination and attentional shifting).

OCD patients who participated in cognitive remediation training showed a significant reduction in reaction times in the Color/Word Interference Test ( $t= 2,355$ ;  $p= 0,025$ ) than OCD patients who did not participate. Finally, in the same OCD group, improvement in the Stroop Color/Word Interference Test significantly correlated with lower Y-BOCS scores for compulsions ( $r= 0,684$ ;  $p= 0,005$ ) and higher scores for obsessions ( $r= -0,273$ ;  $p= 0,032$ ). The cognitive remediation training had no effects on other impaired cognitive functions.

**Conclusions**

Our preliminary findings suggested that OCD patients who participated in cognitive remediation training showed improvements in interference control/motor inhibition. The cognitive improvement correlated with greater improvement in compulsion and lesser improvement in obsession. Although the role of cognitive remediation in the treatment of OCD requires further studies, this pilot study suggests that cognitive remediation training should be considered as a possible augmentation strategy to standard therapy for OCD.

**Keywords:** obsessive-compulsive disorder, cognitive remediation, executive function, inhibition

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**What matters more? Common or specific factors in cognitive behavioral therapy for OCD: Therapeutic Alliance, Expectations, and Homework Compliance as Predictors of Treatment Outcome**

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**Background:** There are ongoing debates regarding the relative influence of common and specific factors in psychotherapy. Arguably, CBT for OCD is a prime candidate to demonstrate specific effects given the low response to placebo but large treatment effects.

**Methods:** In the current study, we examine common and specific factors in a randomized controlled trial (n=108) comparing the effects of augmenting SRIs with exposure and ritual prevention versus stress management training. Therapist effects, therapeutic alliance, therapist and client expectations, and homework compliance will be examined as common and differential predictors. Measured analyzed include: working alliance at multiple time points (sessions 1, 2, 10 and 17) both from client (WAI-C) and therapist (WAI-T) perspectives, expectations of therapists and clients, and clients homework compliance in relation to outcome (Y-BOCS).

**Results:** Results of data analysis using advanced mixed effect modeling (MEM) will be presented, including emphasis on examining alliance, expectancy, and homework compliance as competing predictors of outcomes in both treatments. Both within and between patient analyses will be conducted, as well as therapist level analysis.

**Conclusions:** This study will help shed light on the interplay and contribution of these important factors as contributors and predictors of symptomatic change in OCD.

**Keywords:** common factors, alliance, specificity, CBT, treatment outcomes

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**Prevalence of personality disorders in patients with OCD and the effect on treatment outcome**

**Background:** As a rule of thumb 30-40% of patients with OCD do not experience clinically relevant change from exposure and response prevention (ERP), and previous studies indicate that comorbid personality disorders (PD) predict poorer outcome (e.g. Pinto, Liebowitz, Foa, & Simpson, 2011). The aims of the current study were to 1) describe the prevalence of PD in a sample of OCD-patients referred to an outpatient clinic in the specialist health care and 2) investigate if PDs are associated with poorer outcome in patients who undergo OCD-treatment.

**Methods:** 44 OCD patients (15 male) received concentrated exposure therapy (cET) which consists of individually tailored and therapist assisted exposure therapy during 4 consecutive days. The treatment is delivered in a group format with a patient-therapist ration of 1:1. OCD-symptoms were measured with Yale-Brown Obsessive Compulsive Scale (Y-BOCS) pre and 1 week post-treatment. Post treatment interviews were conducted by an independent rater. Patients were screened for PDs with Standardized Assessment of Personality, Abbreviated Scale (SAPAS), which is an interview with high sensitivity and specificity. Results were evaluated by a repeated measures multivariate analysis of variance.

**Results:** The sample was divided into two groups (PD and nPD) based on SAPAS scores and 59% (n=26) were classified with PD. A repeated measures multivariate analysis of variance showed a large main effect of treatment  $F(1, 42) = 273.70, p = .000$ . No interaction effect between treatment and PD  $F(1, 42) = 1.63, p = .268$  was found, even though a one-way between-groups analysis of variance showed a tendency for the PD group to have higher pre-YBOCS scores than nPD  $F(1, 42) = 2.65, p = .111$ .

**Conclusions:** In our sample 59% were classified with PD. Overall the cET was highly effective and there were no differences in OCD-symptoms post treatment between patients with or without PD. Whether this highly interesting result is related to the format the exposure therapy was delivered in, needs to be tested in a controlled study.

**Keywords:** OCD, personality disorders, exposure and response prevention, group format, intensive treatment



## **POSITION PAPER**

**Presenter: GRAHAM DAVEY**  
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**Discussant: Jonathan Huppert**

### **OCD Research in the Lab: A Research Pathway for Psychological Models**

This paper outlines a putative pathway for experimental psychopathology research developing psychological models of OCD. The pathway uses established external validity criteria to define the pathway and clarifies the important role that research conducted on healthy participants can play in our understanding of OCD.

Defining a research pathway for experimental OCD research in this way has a number of benefits. It would (1) make explicit the need to address the external validity of developed models, (2) provide a clear programme of research that would be required to extend research on healthy individuals to populations with a diagnosis of OCD, and (3) recommend a closer reciprocal relationship between psychological models of OCD and existing core psychological knowledge. A structured research pathway for psychological models would help to provide a more robust (and fundable) alternative to other more medically-oriented paradigms such as neuroscience and genetics.

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**Therapist variability in the task/goal dimension of the early working alliance predicts outcome in exposure and response prevention treatment for obsessive-compulsive disorder**

**Background:** The importance of exposure (both in-session and between-session) and a strong working alliance is assumed to be fundamental in treatment of Obsessive-Compulsive disorder (OCD) with exposure and response prevention. During the first sessions in exposure and response prevention, the therapist aims to agree with the patient on the tasks and goals of therapy and formulate a treatment plan. The relative importance of the first couple of sessions could be explored by measuring the working alliance early (after the second or third session) before introducing exposure. The aims of the study were to explore the predictive role of therapist- and patient variability in the early working alliance when using exposure and response prevention for OCD.

**Methods:** The sample consisted of 44 outpatients with a primary diagnosis of OCD, which received exposure and response prevention. Fourteen therapists delivered the treatments (average caseload was 2.45). The working alliance was measured after the second or third session with patient rated Working Alliance Inventory-Short (WAI-S). We used two subscales from the WAI-S (agreement on tasks/goals and therapeutic bond). Treatment outcome was measured using the Yale-Brown Obsessive Compulsive Scale. Therapist variability in the working alliance was estimated by calculating each therapist's mean WAI-S scores and calculating how much each therapist's mean deviated from the grand means. Patient variability was estimated by calculating each patient's score for the two WAI-S components and how much this deviated from their therapist's mean score on these factors.

**Results:** Therapist variability in the task/goal dimension of the alliance predicted outcome, while patient variability in the alliance did not.

**Conclusions:** The results indicate that therapists' ability to establish agreement on tasks and goals of treatment in the first couple of therapy sessions is vital in treating OCD with ERP. Implications for clinical work and future research are discussed.

**KEYWORDS:** Obsessive-compulsive disorder; Alliance; Outcome

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**Attenuated Linguistic Expressions of Agency in Individuals with High Obsessive-Compulsive Tendencies**

**Background:** Do people high in OC tendencies also experience reduced sense of agency (SoA) in their daily lives? To answer this question without resorting to explicit judgments of agency (which are likely to reflect also motivation for control and prior expectations for control), we examined linguistic behavior. The language people use can be informative in regard to many psychological processes and systematic analysis of language can serve as an implicit measure of psychological constructs, including the SoA. Specifically, reduced agency can be expressed by omission of the agent altogether or by using alternative grammatical framings that detach the event from the entity that might have caused it. Clinical experience with OCD patients suggests that indeed, their language often conveys a reduced SoA.

**Methods:** We examined empirically the use of agentic language in OCD using modified versions of paradigms described by Novogrodsky and Friedmann and by Varlokosta et al., in which clauses are elicited using simple oral questions and pictures.

**Results:** As predicted, high OC individuals produced significantly more non-agentic sentences than low OC individuals, using various linguistic strategies. This pattern was significant in both methodologies (oral questions and pictures descriptions).

**Conclusions:** The results suggest that OC tendencies are related to an attenuated SoA. We discuss the implications of these findings for explicating the SoA in OCD and the potential contribution of language analysis for understanding psychopathology.

**Keywords:** Agency, agent, OCD, language

**Presenter: NOR C. TORP**

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**The importance of identifying responders at the “half-way” point in exposure-based CBT for pediatric OCD.**

**Objective:** To identify responders and remitters, at the half-way point (week 7) to exposure-based CBT.

**Method:** 269 children and adolescents age 7 – 17, mean age 12.8, 51.3% female with a DSM-IV diagnosis of obsessive-compulsive disorder (OCD) were included. The Nordic long-term OCD treatment study’s design involved initial assignment of all participants to exposure-based CBT. All analyses were conducted using an intent-to-treat model in which all available data were included in the analysis. Primary outcome measure was the Children’s Yale-Brown Obsessive Compulsive Scale (CY-BOCS) total score at weeks 7 and 14. We identified responders (CY-BOCS $\leq$ 15) and remitters (CY-BOCS $\leq$ 10) at the half-way point.

**Results:** For the sample as a whole, mean CY-BOCS total score symptom reduction from baseline to half-way point was 28.5% (SD=26.3), and the mean CY-BOCS score at week 7 was 16.4 (SD=7.1). At the half-way point, 38.3% of the participants were responders (95% CI 32.4%-44.5%, n=95), and 13.7% were remitters (95% CI 10.0%-18.6%, n=34). CY-BOCS total score at post treatment for the responder group was 6.59 (95% CI 5.49-7.69), with a mean symptom reduction of 70.8%, and for the remitter group was 3.76 (95% CI 1.76-5.75), with a mean symptom reduction of 83.7%.

**Discussion:** Response and remission after seven weeks, at the half-way point, of treatment were persistent. However, a substantial numbers of non-responders and non-remitters at the half-way point, experience response and remission at post treatment.

**Conclusions:** Guidelines are needed to ensure that patients with OCD receive the therapy they need to achieve remission, while avoiding overutilization.

Clinical trials registration information: This study was registered in Current Controlled Trials; Nordic Long-term Obsessive-compulsive disorder (OCD) Treatment Study ([www.controlled-trials.com/ISRCTN66385119](http://www.controlled-trials.com/ISRCTN66385119)).

**Key Words:** Pediatric OCD, Cognitive-behavior therapy, early responders, early remission

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**A randomized-controlled trial of the self-help approach “My Metacognitive Training” for OCD**

**Background:** Effective treatment strategies exist for obsessive-compulsive disorder (OCD, Olanunji et al., 2013). However, many individuals with OCD do not receive or even seek treatment (Jacobi et al., 2014). Self-help is increasingly considered to narrow this treatment gap, however, has rarely been targeted empirically. We developed “my Metacognitive Training” (“myMCT”), a self-help manual for OCD (Moritz & Hauschildt, 2011) which aims at modifying specific cognitive biases related to the pathogenesis of OCD. A pilot study showed preliminary but promising evidence for its efficacy (Moritz et al., 2010).

**Method:** We conducted a randomized-controlled internet-based trial with 128 individuals with OCD to evaluate myMCT versus an active control condition (psychoeducation). In addition to online surveys at pre, post (4 weeks) and follow-up (6 months), we verified OCD diagnosis and symptom severity by administering structural clinical interviews (Y-BOCS, MINI) via telephone. Primary outcome parameters were the reduction of OCD symptoms (Y-BOCS), depression (BDI), and OCD-related cognitive biases (OBQ).

**Results:** Both groups showed a significant reduction of OCD symptoms from pre to post ( $p < .001$ ;  $\eta^2_{\text{partial}} = .27$ ) and pre to follow-up ( $p < .001$ ;  $\eta^2_{\text{partial}} = .29$ ) assessment with large effect sizes on Y-BOCS total score. In the myMCT group, the reduction was higher for OCD symptoms (total:  $p = .053$ ,  $\eta^2_{\text{partial}} = .04$  obsessions:  $p = .005$ ,  $\eta^2_{\text{partial}} = .08$ ), depression ( $p = .017$ ,  $\eta^2_{\text{partial}} = .05$ ), and cognitive biases ( $p = .041$ ,  $\eta^2_{\text{partial}} = .04$ ) compared with controls after 4 weeks. After 6 months, the group difference in symptom decline did not reach significance level. However, individuals with myMCT still showed a stronger decline of cognitive biases.

**Conclusions:** Results indicate that both self-administered interventions are effective in reducing OCD symptoms. MyMCT proved superior on short-term basis and regarding long-term reduction of cognitive biases. Thus, the current study provides further evidence that myMCT is a promising approach to target OCD-related psychopathology as mere self-help. Though differential effect sizes were below those usually found in therapist-guided self-help, myMCT could be especially valuable for the numerous individuals with OCD who do not (yet) receive treatment.

**Key words:** cognitive biases, metacognition, self-help, MCT

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**The cognitive heterogeneity of repeated checking: An explicit examination of the defective goal processing hypothesis across distinct checking profiles**

**Background.** Theoretical and empirical work suggests that compulsive checking may be a result of a variety of cognitive deficits related to action processing (e.g., low-confidence in cognitive abilities, impaired memory for actions, abnormal reality monitoring, overactive action monitoring, defective goal processing). Apparent inconsistencies across studies are, however, in agreement with clinical and empirical observations highlighting substantial variability in the subjective experience preceding/accompanying checking. In the present research we re-examine the idea that checking behaviors may be characterized by an undermined ability to process actions regarding goal-related features (i.e., the defective goal processing hypothesis) by taking the checking heterogeneity into account.

**Methods.** Participants ( $N = 195$ ) were assessed with the Obsessive-Compulsive Inventory, the Obsessional-Beliefs Questionnaire and the Behaviour Identification Form (evaluating the tendency to process various habitual actions regarding goal-related features). Checking-prone participants ( $N = 80$ ) scores on measures of Responsibility and Perfectionism related beliefs were subjected to a cluster analysis.

**Results.** Cluster-analysis revealed a 4-cluster solution: a “Responsibility-related checking cluster”, a “Perfectionism-related checking cluster”, a “Low-belief checking cluster” (i.e., low scores on both the responsibility and perfectionism subscales) and a “High-belief checking cluster” (i.e., high scores on the two belief domains). Group comparisons revealed that only participants from the “Low-belief checking cluster” are characterized by a diminished propensity to process actions regarding goal-related features, which is in line with the idea that Obsessive-Compulsive symptoms occurring in the absence of dysfunctional beliefs may imply other pathogenic mechanisms.

**Conclusion.** Checking symptoms have been connected to impairments in processing information related to self-actions. Consistent with the idea that action processing can be differentially affected across distinct checking subtypes, the present research showed that the defective goal processing hypothesis may be applicable only for a subgroup of checking-prone participants (i.e., those characterized by a high checking propensity in the absence of dysfunctional beliefs). Our results support recent work highlighting the heterogeneity of compulsive checking which may imply distinct underlying cognitive mechanisms.

**Keywords:** Obsessive-compulsive disorder; checking; heterogeneity; dysfunctional beliefs; action identification; goal processing.

## **POSITION PAPER**

**Presenter: GIDEON ANHOLT**

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**Discussant: Michael G. Wheaton**

### **Translational implications of understanding compulsions as habitual stimulus-driven behaviors**

The modern behavioral conceptualization of obsessive-compulsive disorder (OCD) began in 1966, when learning theory was used to suggest compulsions function as negative reinforcement to obsessional intrusions (Meyer, 1966). This conceptualization has resulted in the development of exposure and response prevention, which remains the treatment of choice for OCD to date. Later, cognitive theories were used to expand the model, maintaining that catastrophic appraisals of obsessional intrusions explain the anxiety they evoke and the urge to perform compulsive behavior. Recently, however, several researchers have suggested compulsions may be viewed as habitual or stimulus-driven behaviors, and obsessions may be post-hoc rationalizations of the performance of compulsions. The appraisal and stimulus-driven models of compulsions are not necessarily contradictory or mutually exclusive. Higher, conscious appraisals and automatic responses may operate in a vicious cycle, fueling each other. Moreover, they may exert differential influences in various symptoms, patients, or across various points in the temporal course of OCD. This presentation aims at outlining various translational clinical implications stemming from the view of compulsions as habitual behaviors. These implications rely on various hypothetical stages implicated in the stimulus-response association, such as perception, response preparation (and enhanced action tendencies), response inhibition, evidence accumulation and decision making, and error monitoring. It is argued that this approach may enhance traditional cognitive behavior therapy for OCD in novel ways.

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**Brief and intensive treatment for adolescents with OCD**

**Background:** Exposure and response prevention (ERP) is recognized as the treatment of choice for children and adolescents with OCD. The treatment is most commonly delivered individually over 12-14 sessions. Our research group has developed a concentrated out-patient group format for adults with individually tailored and therapist assisted ERP over four consecutive days. The results indicate that the format is highly effective for adults. The aim of the current study was to evaluate the effectiveness and applicability of the concentrated group format for adolescents.

**Methods:** 22 adolescents with OCD in the age 11 – 17 years were offered the concentrated group format. Treatment was delivered to “groups “of two-three patients and their parents over four consecutive days at an outpatient clinic for child and adolescent psychiatry as part of standard health care. Assessment took place pre- and post-treatment and at three and six months follow-up. CY-BOCS-interviews were performed at all four assessment points in addition to the following rating scales: COIS, OCI-R, DOCS\_SF, GAD-7, CDI, PHQ-9 and WEMWBS. All CY-BOCS ratings post treatment were done by an independent rater. Family accommodation was assessed at baseline using the FAS interview.

**Results:** Mean CY-BOCS scores at baseline was 28.0 (4.1) and post treatment 9.1 (5.5). The improvement was maintained at three and six months follow-up. The results represent highly significant and clinically relevant changes. Details of the program and complete results will be presented and discussed.

**Conclusions:** The present study suggests that concentrated ERP group treatment is a promising treatment also for adolescents.

**Key words:** Obsessive-compulsive disorder, adolescents; intensive treatment; group format; exposure and response prevention



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**Requesting information: Need for information vs. Need for reassurance in individuals with obsessive-compulsive characteristics**

**Background:** Previous studies have shown inconsistent findings in terms of information seeking in obsessive-compulsive (OC) individuals. Whether information seeking is motivated by a need for further information regarding alternatives or a need for reassurance has not been sufficiently examined. In this study, we disentangle the two motivations by using a novel mouse-tracking paradigm in which both motivations are operationalized using the mouse cursor location during a decision making task. Measuring the distance of the mouse cursor from the middle point between two alternatives when seeking information represents the participant's tendency to seek more information versus seeking reassurance. Seeking information close to the location of the response button is interpreted as more reassurance seeking and less seeking new information. We hypothesized that 1) individuals high in OC symptoms would request more information overall, 2) these individuals would particularly seek more reassurance via requesting such information close to the decision button, and 3) that there would be an interaction with decision difficulty.

**Methods:** 30 participants high (OCIR>25) and 30 participants low (OCIR<11) on OC symptoms were administered a tone discrimination task. In each trial, two tones were played, requiring the participant to decide which of the tones had a higher pitch. Participants indicated their decisions by pressing on one of two buttons placed on the left and right top corners of the screen, signifying the first and second tones respectively. Tones difference varied across trials, making some trials easier than others. Tones were replayed multiple times upon request of the participant. Number of replay requests as well as the distance of the mouse cursor from the middle of the screen upon replay requests were recorded.

**Results:** Groups did not significantly differ in the amount of replay requests or cursor location upon requests overall. However, a significant interaction of group and tone discrimination difficulty on button location was found. When discrimination was easier, high OC participants requested tone replays closer to the buttons compared to low OC participants.

**Conclusion:** This novel paradigm operationalizes information seeking requests in a way that allows measurement of a continuum from information seeking (requests closer to the middle of the screen) to reassurance seeking (requests closer to the decision buttons). Results of this study help elucidate the inconsistencies in the literature on information seeking in OC individuals found in previous studies. It appears that requesting information prior to decision-making mimics other known reassurance seeking behaviors in OCD and is present even in non-threatening decisions such as tone discrimination.