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Virtual reality in the treatment of OCD: An initial case study.

Background. Virtual reality (VR) is being used in recent developments in the treatment of mental disorders, especially anxiety, eating, and substance-abuse disorders. VR-based interventions use a variety of hardware displays and software, depending on the aims of the interventions and characteristics of the disorders. Typically, subjects interact with specific stimuli in scenarios relevant to the disorder, following a therapist's guidelines. Exposure-based interventions have proven to be efficacious for a wide range of anxiety disorders in which avoidance or escape from situations and/or stimuli is common. However, to our knowledge, the use of RV in the treatment of OCD has not been examined, in spite of the well-known fact that avoidance and/or escape are common in this disorder. Exposure with Response Prevention (ERP) is the first-line treatment for OCD, but some patients refuse ERP, whereas in other cases it is difficult to adequately provide it. One potential advantage of ERP in virtual scenarios (ERP-VR) would be the creation of personally-relevant virtual environments that might be experienced as much safer than the actual environments in which patients experience their symptoms. At the same time, virtual environments could serve to prepare patients to face the actual environments/stimuli, thus promoting adherence to ERP. For these reasons, we sought to develop a specific VR scenario for treating OCD with ERP. Given the heterogeneity of OCD symptoms, we will first explore the utility of ERP-VR in patients with contamination-washing symptoms.

Methods. Two OCD-washers are taking part in the study. Instruments assessing OCD severity (Y-BOCS), OCD symptoms (OCI-R), OCD-related cognitions, sense of presence and reality judgment were applied. The software presents a kitchen in which patients are guided through interactions with several stimuli in four consecutive and graded situations. After each action, the patient is asked about his/her anxiety and disgust levels. The same action is repeated until anxiety and disgust levels decrease at least 50% from the initial level. The virtual kitchen is projected on a 46' Full HD TV, and the subject's movements are captured by a Kinect device. The subject sees him/herself inside the TV while doing the required actions.

Results. Results obtained regarding treatment adherence, validity of scenarios in reducing anxiety and disgust, and generalizability of gains under VR to actual life situations will be presented.

Keywords. Virtual reality; OCD; Virtual Exposure; anxiety disorders.

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Ironic Effects of Monitoring Internal States

Background: People with OCD are known to monitor closely not only their actions, but also their thoughts and feelings. This presentation will explore possible consequences of monitoring internal states and illustrate these consequences with a recent study of monitoring closeness. Most theories of goal pursuit underscore the beneficial consequences of monitoring progress towards goals, but some goals are difficult to monitor: The end state might be too vague, progress might be slow and/or the contingency between one's action and the outcome it produces might be unclear (Liberman & Dar, 2009). We suggest that OC symptoms may be understood as consequences of attempting to monitor difficult-to-monitor goals. Specifically in the case of emotional goals and goals that comprise other internal states, prior research suggests that monitoring may interfere with goal pursuit. We predicted that when pursuing interpersonal closeness, intense monitoring of progress would have a detrimental effect.

Methods: We tested our hypothesis with the intimate conversation procedure, adapted from Aron, Melinat, Aron, Vallone, and Bator (1997). Participants in the closeness-monitoring condition asked themselves every 5 min in the course of a 45-min interaction with a partner whether they felt any closer to their partner, whereas participants in the control condition monitored the room temperature.

Results: As predicted, intense monitoring interfered with achieving a feeling of closeness, as measured by sitting distance between pair members following the intimate conversation procedure.

Conclusions: OC tendencies are characterized by attempts to monitor internal states. We suggest that this process interferes with the ability of OC individuals to assess their own internal states. In line with this model, several recent studies have demonstrated that participants with high OC tendencies are less accurate than those with low OC tendencies in assessing various internal states and rely more on external feedback in assessing these states. Cognitive therapy for individuals with OCD might educate patients about the potentially detrimental effects of recurrent monitoring of internal states. Ideally, understanding the ironic effects of intense monitoring would lead clients to relax their attempts to monitor feelings, allow these feelings to unfold, and thus bring them closer to their emotional goals.

Keywords: obsessive compulsive disorder, monitoring, intimacy, goal pursuit

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Aversive intrusive thoughts as contributors to inflated responsibility, intolerance of uncertainty, and thought-action fusion

Background: Three constructs considered to be important primary beliefs in the pathogenesis of OCD are inflated responsibility (IR), intolerance of uncertainty (IU), and thought-action fusion (TAF). While there is evidence suggesting that these beliefs/appraisals can influence OCD symptoms, we conducted two experiments to determine whether manipulating aversive intrusive thoughts would conversely affect measures of these constructs. We predicted that participants experiencing a high level of aversive obsessive thoughts would score higher on measures of OCD-related constructs.

Methods: In Experiment 1, a non-clinical sample mentally rehearsed either OCD-relevant aversive statements ($N = 30$) or neutral statements ($N = 30$). All participants were asked to imagine the statements were thoughts that they were having, thus rendering the statements self-referent. Participants then completed short (composite) measures of each OCD relevant construct and also full questionnaire measures of each construct. In Experiment 2 ($N = 60$) the procedure was identical to Experiment 1, but with one addition. Half the participants were asked to imagine the statements were thoughts that they were having and the other half were asked to imagine they were thoughts a well-known celebrity was having, thus manipulating the self-reference of the statements.

Results: Experiment 1 found that participants rehearsing aversive statements generated higher scores on both composite and full measures of IR and TAF than a control condition. Mean IU ratings were higher in the high than the low obsession group, but this difference was not statistically significant. Experiment 2 found that rehearsing aversive statements facilitated measures of IR, IU, and TAF, but only when rehearsal was self-referent. Mediation analyses suggested that the findings could be explained either by increases in some measures of negative mood mediating the observed increases in appraisal ratings or alternatively, increases in some appraisal ratings increasing negative mood.

Conclusion: These findings indicate that experiencing frequent, uncontrollable aversive intrusive thoughts of an egodystonic nature may activate OCD-relevant appraisal processes representing causal factors for symptoms, and directly tackling these thoughts in psychological interventions may be sufficient to alleviate anxiety symptoms.

Key words: OCD; Intrusive Thoughts; Appraisal Processes; Responsibility; Intolerance of Uncertainty; Thought-Action Fusion

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Obsessive-compulsive disorder and fear of guilt and disgust

Background:

An increasing number of research focussed on the role of disgust propensity in the etiology and maintenance of different psychological disorders (i.e., specific phobias, eating disorders etc.), and specifically of obsessive-compulsive disorder (OCD).

Several studies (Berle and Phillips, 2006) have shown a significant relation between the propensity to experience disgust and OCD, in particular, with the subtypes characterized by fear of contamination, washing compulsions and obsessions focused on morality.

Another line of research has widely documented the role played by fear of feeling guilty in the onset and maintenance of OCD (Shapiro, 2011).

Interesting experimental data (Zhong and Liljenquist, 2007) and neuroimaging studies (Basile et al., 2011) also suggest the existence of a relationship between the emotion of guilt and disgust.

According to this previous evidence, we aimed to investigate disgust propensity in OCD patients and in healthy participants. More in detail, we wanted to study the specific association between disgust propensity, guilt and OC behaviours.

Methods:

Two samples of participants (76 OCD and 87 non-clinical) filled out in a balanced order: a) Beck Depression Inventory II (BDI-II), b) State/Trait Anxiety Inventory (STAI-Y), c) Padua Inventory Revised (PI-R), d) Guilt Inventory (GI) and, e) Disgust Scale Revised Form (DS-R).

Results:

Hierarchical regressions showed that guilt and disgust are significant predictors of PI-R scores, even after controlling for 1) age and gender, 2) State and Trait Anxiety and Depression.

A two-step regression equation was estimated on the PI-R total and subscales scores in the following order: (1) guilt, and (2) DS, after controlling for relation between guilt and disgust. Results on OCD patients showed that the guilt accounted for 6–34% of the variance of the PI-R total/subscales scores. Disgust results partial mediator between guilt and PI-R total score and a perfect mediator between guilt and PI-R washing subscale. As regard to healthy control participants, analyses showed that guilt account for about 8% of the PI-R total/subscales scores and disgust is not a mediator in this relation.

Conclusions:

The results will be discussed in the light of the existing literature.

Keywords:

guilt, disgust propensity, the relationship between guilt and disgust, obsessive-compulsive disorder.

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Prevalence and clinical characteristics of patients with obsessive-compulsive disorder in first-episode psychosis

Background: Several studies have indicated an enhanced prevalence of Obsessive-compulsive disorder (OCD) in patients with psychotic disorders, and the patients with co-morbid OCD are found to be more clinically disturbed. Most studies of comorbid OCD in psychotic disorders have however been conducted on patients with schizophrenia in large psychiatric institutions or day treatment centres. The samples often consist of chronic patients, which introduce several limitations related to the effects of illness duration, institutionalization, and use of antipsychotic treatment. To increase the understanding of comorbid OCD in psychosis, there is a need for studies where these methodological challenges are met.

Methods: First-episode psychosis patients (N = 246) consecutive admitted to a comprehensive early psychosis program were assessed for OCD with the Structured Clinical Interview for DSM-IV. Symptom assessment measures were the Positive and Negative Syndrome Scale, Global Assessment of Functioning, and the Clinician Rating Scale.

Results: Twenty-six patients (10.6 %) fulfilled the criteria for OCD. Patients with comorbid OCD were younger, had more depressive symptoms and a higher rate of suicidal plans or attempts at index point compared to patients without OCD. There were no differences between the samples at other demographic variables or severity of symptoms.

Conclusions: OCD is a significant comorbid disorder in patients with first-episode psychosis. Since treatment procedures are different, systematic screening for OCD is warranted.

Key words: Obsessive compulsive disorder, first-episode psychosis, schizophrenia, prevalence, comorbidity.

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Autonomic correlates of physical and moral disgust in subjects with and without obsessive-compulsive tendencies

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Background: It has been theorized that the adaptive function of disgust extended from protecting the body from the incorporation of harmful elements to preserving social order and rules. Given that the hypothesis of a common origin of physical and moral disgust has received sparse empirical support, this study aimed to shed light on the subjective and autonomic signatures of these two facets of the same emotional response in subjects with and without obsessive-compulsive tendencies.

Methods: Participants (20 men, 20 women) were randomly assigned to physical or moral disgust induction by the use of audio scripts while the electrocardiogram was continuously recorded. Affect ratings were obtained before and after the induction. Disgust sensitivity (DS-R) and obsessive-compulsive (OCI-R) tendencies were assessed. A series of 2 x 2 General Linear Models with Script (Physical disgust vs Moral disgust) and Group (High vs Low score at OCI-R) as between subject variables and Time (Pre, Post) as a within subjects variable were conducted on Heart Rate (HR) and Variability (HRV), and emotions change scores.

Results: As suggested by the significant Script X Time interactions, partially overlapping subjective but distinct physiological response patterns emerged. In both groups, the scripts elicited disgust but whereas the physical script elicited a feeling of dirtiness, the moral script evoked more indignation and contempt. In participants with low obsessive compulsive tendencies, the disgust-induced subjective indicators were mimicked by opposite patterns of autonomic reactivity: enhanced activity of the parasympathetic nervous system without concurrent changes in heart rate (HR) for physical disgust and decreased HRV and increased HR during moral disgust. Conversely, in participants with high obsessive compulsive tendencies showed both inductions elicited decreased HRV, that is a physiological signature of disgust. Disgust sensitivity correlated with the feeling of disgust during both conditions and with dirtiness for physical disgust.

Discussion: In line with the view that OCD is a disorder of morality, present findings suggest that ‘the bad taste’ of moral disgust relies on the same biological root as physical disgust in subjects with obsessive compulsive tendencies.

Keywords: Obsessive compulsive tendencies; Physical disgust; Moral disgust; Heart rate; Heart rate variability; Disgust sensitivity.

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Title. OCD: An affordance based disorder?

Body of abstract.

Introduction. Current psychological models of obsessive-compulsive disorder (OCD) suggest that catastrophic misinterpretations of (normally occurring) intrusive thoughts underlie the etiology and maintenance of OCD symptoms. However, these models do not account for the executive dysfunctions OCD patients demonstrate, of which inhibition deficits are particularly robust. Recently, Anholt et al. (2011) have suggested an inhibition deficit model of OCD in which poor inhibition serves as a vulnerability factor for repeated checking (and the paradoxical effects thereof). In this presentation, additional theoretic and empirical advancements of this model will be presented, particularly on the increased action tendencies that may contribute to the onset and maintenance of OCD symptoms.

Theoretical background. Gibson's (1979) ecological approach to perception suggests that people not only perceive the physical properties of an object or tool, but also what they can do with it. These meanings are perceived automatically when encountering objects, with minimal cognitive processing. This is the theory of “**affordances**”. Cisek (2006) elaborated this theory and suggested that multiple motor plans are generated automatically across visuo-motor regions of the cortex in response to attended stimuli (e.g., when viewing a cellular phone, a motor plan of holding it and pulling it to one's ear is automatically activated).

Suggested implications. It is suggested, that in OCD, various internal and external stimuli activate related motor plans, which are (1) overly activated relative to action plans activated in non-patients, and (2) difficult to inhibit due to patients' inhibition deficits. Furthermore, preliminary findings of event related potentials (ERP) indices of "readiness potential" suggest that OC symptoms are related to increased action tendencies to changes in the environment, and furthermore, that these action tendencies are particularly exacerbated in reaction to negatively valenced stimuli. The model will be outlined and various lines of preliminary evidence will be presented.

Keywords: OCD, inhibition deficits, motor plans

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Executive cognitive factors and sleep disturbance in patients with OCD: Predictors and treatment results

Background: Clinical experience indicates that a significant number of OCD patients suffer from sleep disturbances like late sleep onset and frequent awakenings, and studies, although few, indicate a prevalence of sleep disorders of about 50 % among OCD patients. OCD is characterized by unpleasant, intrusive thoughts that patients experience as difficult to shift their focus from or to control. It has been suggested that this might be related to reduced flexibility in executive cognitive functions. In a recent study by Hovland and colleagues (2012) on patients with panic disorder they found that flexibility in executive functions indexed by heart rate variability (HRV) as well as by a standard stroop test, was inversely related to overall sleep disturbances, suggesting a relationship between sleep and cognitive inhibition. These findings may be highly relevant also for OCD patients, and the aims of the current study are to explore the relationship between OCD-symptoms, executive functions and subjective reported sleep disturbance and relate them to treatment response.

Methods: 50 patients consecutively referred for treatment of OCD will be assessed on measures of heart rate variability, cognitive inhibition and subjective sleep quality. Heart rate variability is measured with HF power (ms²), cognitive inhibition is measured with the Color-Word Interference test from the Delis-Kaplan Executive Function Test (D-KEFS) and subjective sleep quality will be measured with the Pittsburgh Sleep Quality Index (PSQI). Clinical variables will be collected through a standard battery of OCD symptom measures (e.g. Y-BOCS; OCI-R). PSQI and OCD specific measures will be administrated at pre-treatment, post-treatment and follow-up, the remaining measures will be administered at pre-treatment.

Results: Data collection is anticipated to end in April 2013. So far 30 patients have been assessed on measures of heart rate variability, cognitive inhibition and subjective sleep quality, as well as OCD symptom severity. Results will be presented at the Assisi conference.

Conclusion: The results may be of importance for understanding basic mechanisms related to sleep disorder and OCD.

Keywords: Heart Rate Variability; Cognitive Inhibition; Sleep; Obsessive Compulsive Disorder

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Why is there not a placebo effect in OCD?

Background: It seems that unlike other anxiety disorders, in OCD there is no (or almost no) placebo effect (Huppert et al., 2004). Yet, there are few studies that have examined why this is. A cognitive behavioral account suggests that both safety behaviors, in the form of rituals, as well as cognitive biases, including inflated responsibility and thought-action fusion (TAF).

Methods: Participants with elevated scores of contamination concerns on the OCI-R were compared to participants with elevated scores on a fear of cockroach questionnaire in terms of their behavioral approach to two stimuli- a dead cockroach and a dirty bandaid. Participants were randomized to either a placebo group ("relaxation drops") or a nocebo group ("sugar drops"). Expectancy was measured before each task. Responsibility and TAF were measured before the experiment using common, psychometrically validated measures of each construct.

Results: Results showed evidence of reduced or inverse placebo effect in patients characterized by OC symptoms, compared with patients characterized by specific phobia of cockroaches. A connection was found between lack of placebo response and compulsions, demonstrated by time engaged in hand-cleaning. In addition one subtype of exaggerated sense of responsibility, the biased interpretation of intrusive thought, was also found connected to the lack of placebo effects.

Conclusions: Results suggest that the placebo effect can be studied in analog groups in single session experiments, and that both cognitive and behavioral factors appear to impact the placebo effect. Further research is needed to trace the factors underlying resilience to the placebo effect, and their therapeutic implications in OCD.

Keywords: obsessive-compulsive disorder, placebo effect, rituals, thought-action fusion, responsibility.

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***Ricky and the Spider* – a computer game to support treatment of children with OCD**

Background: Paediatric OCD is a chronic condition with lifetime prevalence estimates of 1% to 3%. It is often associated with severe disruptions of family functioning and impairment of peer relationships as well as academic performance. The OCD Expert Consensus Guidelines for treating childhood OCD recommend CBT as the first-line treatment of choice for prepubescent children. However, availability of CBT for paediatric OCD in the community is scarce. Moreover, there is a lack of treatment approaches specifically designed for younger children.

Methods: In order to enhance dissemination of empirically supported treatments, the therapeutic video game *Ricky and the Spider* (www.rickyandthespider.uzh.ch) was developed for children between the ages of 6 and 12 who suffer from OCD. The game is not a self-help game and should be played under the guidance of a therapist. It offers a child-friendly metaphor to understand OCD and the CBT treatment approach by incorporating the following elements: psycho-education, the cognitive model of OCD, creating a symptom hierarchy, the use of externalizing techniques to cope with anxiety and unpleasant feelings, and EX-RP-exercises. The game exists in German and English.

Results: *Ricky and the Spider* is available since January 2012 and, up to now, has been purchased by 44 child psychiatric institutions or practitioners in Switzerland, Germany and Austria. Pilot data of several children in whose therapy the game was used will be presented, as well as a feedback of their therapists.

Conclusion: *Ricky and the Spider* is a therapeutic tool, but cannot replace the therapist. As children and adolescents with OCD have a heightened risk for clinically significant psychiatric and psychosocial problems as adults, intervening early offers an important opportunity to prevent the development of long-standing problem behaviours.

Keywords: Paediatric OCD, therapeutic video game, early intervention, dissemination

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Neurobiological mechanisms underlying abnormal processing of guilt, disgust and intentionality in OCD: A review

Abstract

Background

Many different and innovative neuroimaging techniques have been developed in the last decades. Functional neuroimaging allows detecting what is happening in our brain at rest or while performing a specific cognitive or emotional task, while structural methods are concerned with the physical organization of the brain, considering both micro- and macro-structural aspects within the grey (GM) and the white matter (WM). Starting from these recent developments, neuroimaging techniques have been applied to healthy subjects, as well as to clinical populations. Functional and quantitative imaging research has also focused on what is going in the brain of patients suffering from OCD.

There is consisting clinical evidence showing that OCD patients are particularly sensitive to guilt and disgust emotions and how these contribute to the onset and maintenance of symptomatology. Further, OCD patients also show impairment in the ability to consciously control, or inhibit, specific behaviours, resulting in compulsive acting.

Methods

In this review we want to provide some neurobiological evidence on the cerebral mechanisms underlying guilt and disgust processing in OCD, also considering the role of motor intentionality, which might explain the compulsive aspects of the disorder. Different imaging techniques have been considered, studying both functional (task-related and resting-state functional Magnetic Resonance Imaging, fMRI, and Positron Emission Tomography, PET) and structural (Voxel Based Morphometry, VBM, and Diffusion Tensor Imaging, DTI) aspects of OCD brains.

Results

Overall, neuroimaging studies suggest that the frontostriato-parietal circuit, including both cortical regions as well as some inter-connecting fibers, is affected in OCD pathophysiology. Taken together, these findings show more frontal regions, extending to the insular cortices, to be involved, respectively, in action monitoring, error detection, decision making, and in sociomoral guilt and disgust processing, and midbrain regions, such as the basal ganglia, extending to more parietal regions (i.e., motor and premotor areas), to be involved in movement selection, correction and inhibition, in intentionality and social cognition (specifically the striatum).

Conclusions

We think that these data might contribute in explaining the neurobiological substrate underlying some core aspects of OCD clinical manifestation, such as guilt proneness, disgust sensitivity and impaired voluntary behaviour control or inhibition. Finally, specific neuroimaging studies investigating brain changes before and after treatment, further support the role of specific aberrant neural mechanisms underlying OCD pathophysiology.

Key words

OCD, neuroimaging, guilt, disgust, intentionality, frontostriatal circuit, insula, emotional processing.

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Attention training with dichotic listening in OCD patients

Background: The core symptom of OCD is intrusive unpleasant thoughts. The content of the intrusions is ego dystonic, meaning that it is viewed as unacceptable and incompatible with one's fundamental beliefs and personality. Still, they consider the thoughts as their own. In contrast, auditive hallucinations, a major symptom in schizophrenia, are described as intrusive voices experienced to come from outside the patient. Obsessions and auditive hallucinations are clinically different phenomena, but can be seen as analogous by the fact that both patient groups show a failure to shift their focus from the intrusive thoughts/voices. Hugdahl and his research group have developed a cognitive model of understanding auditive hallucination where hearing voices is seen a result of reduced cognitive control in the prefrontal cortex. Based on this model a cognitive training program has been developed aiming to strengthen the patient's ability to shift attention and to ignore the hallucination. The group has also developed a training program consisting of a dichotic listening (DL) task applied as an app for iPod/iPhone. Our aim in this study is to explore whether DL training also might be of relevance for patients with obsessive thoughts and specifically we want to investigate: If patients initial ability to shift focus away from dominant auditory stimuli is related to pre-treatment symptom level and to treatment response; If changes in cognitive control resulting from the DL training program are related to changes in OCD symptoms prior to treatment, and to which extent such possible changes might be related to OCD symptoms after ERP treatment.

Method: By December 2012 15 of 30 patients have completed the training. All patients have a diagnosis of OCD according to DSM IV. Pre and post the two weeks of two daily DL training sessions, the patients are interviewed with SCID, Y-BOCS and BAI and standard Stroop tests (executive functions). The app includes three visual analog scale questions for patients to evaluate their obsessions daily.

Results: Results accordingly to the above described aims and methods will be presented.

Conclusion: In addition to a possible clinical effect, the results may be of interest for a further understanding of functional similarities between intrusive thoughts and auditive hallucinations. Possible implications for metacognitive approaches to OCD treatment will be discussed.

Key words: OCD, Dichotic listening (DL), Cognitive theory, attention training, executive functioning

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Mild uncertainty provokes checking behavior in sub-clinical Obsessive Compulsive Disorder.

Background: Patients with Obsessive Compulsive Disorder (OCD) display both uncertainties that are general and mild (a) and uncertainties that are domain specific and extreme (b). The latter is often responded to by perseverative behaviour (e.g. repetitive checking). Perseveration however serves to ironically reinforce uncertainty. Possibly, mild uncertainty (a) acts as vulnerability factor for the emergence of clinical OCD because a) may motivate to perseveration. But do individuals with sub-clinical OCD respond to mild uncertainty by perseveration?

Methods: Among university students we recruited a group that scored high on OCD symptoms (OC+; n=34) and a group that scored low (OC-; n=31). Participants were presented 50 visual search displays, and had to indicate whether a target (closed circle) was “present” or “absent” (50% contained a target). The target present trials were straightforward; the response “present” could be based on the perception of the target. Target absent trials were relatively ambiguous; for the response “absent” participants had to rely on not having overlooked the target. Using an eye tracking device, we monitored the visual behavior for all trials. The time it took to decide whether or not a target was present, and the number of fixations served as operationalization of the degree of perseveration.

Results: For the, relatively unambiguous, “target present” trials there were no between-group differences. However, in the “target absent” trials, the OC+ group was slower and made more fixations than the OC- group. Groups did not differ in the number of mistakes made.

Conclusions: The findings indicate that, relative to OC- individuals, people with sub-clinical OCD respond to mild uncertainties by (mild) perseveration. This may put the latter group at risk of experiencing the ironical effects of repeated checking and of developing full blown OCD. Relapse of treated OCD patients may be reduced if patients are urged not to respond to emerging uncertainties by checking.

Keywords: uncertainty, checking, eye tracking.

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Relationship-related obsessive-compulsive phenomena: A one-year follow-up study.

Background: Relationship-related obsessive-compulsive phenomena (ROCD) have been the focus of recent investigations. These phenomena are encountered frequently in the clinic, and involve severe consequences to personal and relational well-being. Two measures were developed to assess two aspects of ROCD: The Relationship Obsessive-Compulsive Inventory (ROCI) assesses obsessional doubts and neutralizing behaviors centered on one's romantic relationship. The Partner-Related Obsessive-Compulsive Symptoms Inventory (PROCSI) assesses obsessional doubts and neutralizing behaviors centered on the qualities of one's romantic partner. These measures were found to predict depression and relationship dissatisfaction among nonclinical participants. Moreover, a nine-week longitudinal analysis indicated a reciprocal relationship between these measures, with one predicting the other over time. In the current study we assessed this reciprocal relationship in a one-year longitudinal sample.

Methods: A nonclinical sample of 303 romantically involved individuals completed an online survey including the ROCI, the PROCSI, and measures of depression, anxiety, OCD symptoms, OCD-related beliefs, and attachment orientations. One-year later, the 141 of the same participants completed again the ROCI and the PROCSI.

Results: Compliance was not predicted by any of the study variables. Participants who initially reported high levels of relationship-centered OC phenomena (high ROCI scores) maintained these high levels one year later. Among participants who initially scored low on the ROCI, high PROCSI scores predicted an increase in ROCI scores one year later. Similarly, participants who initially reported high levels of partner-focused OC phenomena (high PROCSI scores) maintained these high levels one year later, whereas among participants who initially scored low on the PROCSI, high ROCI scores predicted an increase in PROCSI scores one year later. These findings held even when relationship duration and all other measures were statistically controlled.

Conclusions: Obsessional doubts and neutralizing behaviors centered on one's own relationship may promote over time obsessional doubts and neutralizing behaviors centered on one's own relationship partner, and vice versa. This may lead to a spiral of relationship-related doubts and worries that if not addressed in therapy may result in severe personal distress, and ultimately in the dissolution of the relationship.

Key words: OCD; relationships; obsessive-compulsive symptoms; relationship-centered obsessive-compulsive symptoms; partner-focused obsessive-compulsive symptoms.

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Overinvestment in possibilities and distrust of the senses creates doubt in Obsessional Compulsive Disorder (OCD)

Background: Previous research has shown that people with OCD overinvest in remote or imagined possibilities at the expense of logical conclusions in the here and now. People with OCD use a number of reasoning devices to convince themselves that something hypothetical has a reality value stronger than what can be seen. These devices include distrusting the senses "I must go beyond what I see to get to the truth", category errors or misassociations where a remote event is seen as applying to the person, imaginary playing out of a scene to make the imagined inferences more believable, and use of out of context facts: "Microbes exist". People with OCD seem to be able to subjectively create doubt under objective conditions of both uncertainty and certainty. One hypothesis is that the obsessional doubt is an inference arrived at by faulty reasoning, which is revealed in the narratives justifying why the person is right to doubt their actions or self.

Methods: In order to test the hypothesis, we chose at random 8 checking narratives and 8 contamination narratives from a sample of 32 people diagnosed with OCD participating in a recent open trial. Nine judges (3 naïve, 3 experienced and 3 expert) were recruited for a content analysis, rating the presence or absence of reasoning devices (apparently comparable events, imaginary possibilities, distrust of the senses, use of out of context facts), and more classical (Beckian) cognitive distortions (intolerance of uncertainty, over-catastrophization, black and white thinking).

Results: The presence of reasoning devices was consistently and significantly (Fisher's exact test) rated higher than the classic cognitive distortions by all three groups of judges. Reasoning based on imaginary possibilities was the device rated present most frequently by the content analysis (32%) followed by reasoning based on distrust of the senses (26%).

Conclusions: The consistent profile across participants suggests such reasoning processes are distinct from classical cognitive distortions and are present across OCD subtypes. Further, the narratives justifying the obsession are not post-hoc justification for the doubt. There was little difference in naïve versus expert judges, so showing a minimal training effect in detecting reasoning devices. The results are discussed in terms of an inference-based versus an appraisal focused model of OCD.

Keywords: Reasoning, possibility, content analysis, narratives, cognitive distortions, OCD.

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Task Control in Obsessive-Compulsive Disorder (OCD)

Abstract

Background. Task conflict is a conflict that arises whenever two possible tasks are associatively evoked by stimuli in the environment. For example, various studies showed that due to the automatic tendency to name objects, it is more difficult to name the color (i.e., the relevant task) of a meaningful form than of an abstract object (i.e., object interference effect, which is seen in children due to their immature control). Task control is a mechanism aimed at managing this conflict and was recently found to be contingent upon inhibitory mechanisms—which were found to be deficient in OCD patients. Furthermore, in various previous studies it was found that in cognitive tasks, such as the Stroop task (i.e., color word presented in congruent or incongruent ink color), when there are high proportions of neutral trials (i.e., XXXX in color, with no task conflict), control is low as manifested by large interference effects (i.e., incongruent RT minus neutral RT). We refer to this use of a high neutral proportion as 'putting the task control to sleep'. The current study aims to investigate task control in patients with OCD and to examine whether task control can be 'put to sleep' in those patients.

Method. Patients with OCD and controls conducted 3 tasks: 1) an object interference task in which they had to name the color of an abstract form or of a meaningful object—a task that measures difficulty inhibiting the irrelevant automatic task; 2) a Stroop task; and 3) a high neutral proportion Stroop task in which 75% of the trials were neutrals. All participants filled in OCD, anxiety and depression questionnaires and underwent a Structured Clinical Interview for DSM-IV-TR (SCID).

Results. Control subjects showed no object interference effect whereas OCD patients showed a significant effect (RTs for meaningful objects were longer than for abstract forms)—an indication of task conflict. Furthermore, while for control subjects the high neutral proportion Stroop task resulted in larger interference and task conflict effects, OCD patients were not affected by this manipulation.

Conclusions. OCD patients show a deficit in task control, which results in a lower ability to suppress irrelevant automatic tasks. Furthermore, the manipulation that caused cognitive control to be relaxed in control subjects did not affect OCD patients, suggesting that control in OCD patients is over active and not easily relaxed. This might be the underlying basis for OCD control deficits.

Keywords: cognitive control, inhibitory processes, task conflict, object interference, Stroop.

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Do dysfunctional beliefs moderate the negative influence of comorbid severe depression on outcome of residential behavioural treatment for OCD? A pilot study

Background: Comorbid severe depressive symptomatology can predict negative treatment outcome for OCD. Dysfunctional beliefs could moderate this relationship, improving the understanding of mechanisms responsible for this poorer response. The aim of the current study was: a) to investigate differences in dysfunctional beliefs severity between inpatients with resistant OCD with and without comorbid severe depressive symptoms; b) to evaluate whether a residential behavioural treatment could attenuate the negative influence of severe depressive symptoms on outcome of resistant OCD.

Methods: Participants included 38 inpatients (mean age= 35.40, SD= 10.75) with a primary OCD (Y-BOCS mean= 28.40, SD= 6.90), of which 17 (44.73%) had comorbid severe depressive symptoms (BDI-II > 30). Yale-Brown Obsessive Compulsive Scale, Obsessive Belief Questionnaire-87 and Beck Depression Inventory-II were administered at pre-treatment and post-treatment. A residential behavioural treatment with daily and prolonged exposure with response prevention was delivered in combination with medications for 5 weeks.

Results: Inpatients with comorbid severe depressive symptoms had significantly higher OCD symptoms severity [$F(1, 36) = 12.80, p < .05$], Intolerance for uncertainty [$F(1, 36) = 8.41, p < .05$] and Overestimation of threat [$F(1, 36) = 5.99, p < .05$] than those less depressed or non-depressed. Overestimation of threat was the unique significant predictor of a negative treatment response ($\beta = .11$, Wald = 4.04, $p < .05$). Neither a main effect of comorbid severe depressive symptoms and no interaction effects of comorbid severe depressive symptoms with dysfunctional beliefs predicted outcome.

Conclusions: These results seem consistent with cognitive behavioural models of chronic conditions, in which Intolerance for uncertainty and Overestimation of threat are considered maintaining factors for chronic mental diseases. Future longitudinal studies are needed.

However, those cognitive factors do not seem to moderate the negative influence of comorbid severe depression on outcome of OCD. Residential behavioural treatment for OCD seems to improve the negative treatment response of severely depressed inpatients. These findings could be attributed to the behavioural activation components of the residential treatment format. Conversely, future research should evaluate additional treatment components for improving the negative impact of Overestimation of threat on outcome.

Keywords: dysfunctional beliefs, resistant obsessive compulsive disorder, comorbid severe depressive symptoms, residential behavioural treatment.

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Attenuated Access to Affective States in Obsessive-Compulsive Disorder: Evidence from an Emotional Intelligence Test

Background: We have recently advanced the hypothesis that inputs from feelings, preferences, or bodily states in OCD are attenuated, leading to reliance on more discernible proxies for these states. This hypothesis implies that the uncertainty that obsessive-compulsive (OC) individuals often experience in regard to their internal states is grounded in a real deficiency in perceiving and experiencing these states. Our previous research provided preliminary support to this hypothesis in the realm of bodily states such as muscle tension or feelings of relaxation, but other domains of internal states, and specifically affective states, remain to be examined. Our working hypothesis was that access to affective states in individuals who are high in OC tendencies would be attenuated. We examined this prediction with the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT). We predicted that individuals who are high in OC tendencies would perform more poorly, compared to individuals with low OC tendencies, on the Experiential area of the MSCEIT, which relies on the abilities to perceive, generate, use and feel emotions. Conversely, we predicted that high OC individuals would not be deficient in their performance on the Reasoning area of the MSCEIT, which relies on the abilities to understand and manage emotional information, without necessarily perceiving them well or experiencing them fully.

Methods: Two hundred and twenty one first-year B.A. psychology students were screened using the Obsessive-Compulsive Inventory-Revised at the beginning of the school year. Thirty participants with high OC tendencies and 30 with low OC tendencies were chosen for the study. Participants were asked to complete the MSCEIT, and were compared on their Experiential and Reasoning Emotional Intelligence scores.

Results: As predicted, participants with high OC tendencies scored significantly lower than participants with low OC tendencies on the Experiential area of the MSCEIT, but not on the Reasoning area of the MSCEIT.

Conclusions: Inputs from affective states in OC individuals appear to be attenuated, leading to impaired performance on tasks which rely on perceiving and experiencing emotion. This finding supports our general hypothesis that access to internal states in OCD is attenuated, which may be an important factor in accounting for obsessive doubts, repeated checking and reliance on proxies for internal states in this population.

Keywords: obsessive-compulsive disorder, doubt, affective states.

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Title: The effectiveness of CBT for pediatric OCD. Cognitive behavior treatment for Obsessive-Compulsive Disorder in childhood and adolescence. The Nordic Long-term OCD Treatment Study (NordLOTS). A multi-center controlled trial.

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Abstract

NordLOTS is a Nordic collaboration between Norway, Sweden and Denmark intending to evaluate and strengthen the treatment of children and adolescents suffering from OCD. The aim was to establish a Nordic network in order to study the effectiveness of a similar approach to the treatment of children and adolescents with obsessive-compulsive disorder (OCD) in local clinics.

Background:

The purpose of the present study was to examine the effectiveness of manual guided Cognitive-Behavioral Therapy (CBT) in form of exposure- and response prevention (E/RP) as initial treatment for children and adolescent with obsessive-compulsive disorder (OCD). The study was a part of the Nordic Long-Term OCD Treatment Study (NordLOTS) conducted within regular outpatient's child and adolescent Mental Health clinics in Denmark, Sweden and Norway.

Method:

269 children and adolescent, age 7 – 17, with OCD as the primary disorder were recruited between September 2008 and May 2012. None of the participants received any kind of medication for their OCD, during or six month prior entering the study. All patients received E/RP combined with CBT-based family approach for 14 treatment sessions. Primary outcome was measured by change in Children's Yale Brown Obsessive Compulsive Scale (CY-BOCS). Clinical treatment response was defined as CY-BOCS score 15 or below at week 13.

Results: The intent-to-treat sample was 269, 241 out of 269 (89.6%) completed the full 14 weeks of treatment. The rate of clinical responder for the treatment was 72.6% (95% CI 66.7-77.9). Mixed effect model revealed a statistical significant of time, overall reduction of CY-BOCS total score in week 13 was 56.9%, and the estimated effect size between baseline and week 13 was 2.08 (95% CI 1.87-2.29). Site and the interaction of site x time was not significant.

Conclusion: Manual-guided CBT can be applied effectively in regular child and adolescent psychiatric settings, in line with several previous studies.

Keywords: Obsessive–Compulsive Disorder, children and adolescent psychiatry, Exposure- and Response Prevention & Outcome.

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Eating Disorders and the Obsessive-Compulsive Spectrum Disorder. Analysis of unwanted intrusive cognitions in clinical samples.

Background: The so-called Obsessive-Compulsive Spectrum (EOC) is a group of disorders that occur with high comorbidity in OCD and share some clinical features and other associated variables. Eating disorders, and especially Anorexia Nervosa (AN), have been included in the EOC by some authors. Shared features of the two disorders have been demonstrated in studies from different perspectives: comorbidity, personality features, neuropsychological, and family studies. However, there remains a need to further clarify this relationship. ED patients present a propensity to experience Unwanted Intrusive thoughts (UIT) similar to obsessions, which could at some point explain the commonality between the two disorders. The objective of the present study was to compare obsessions of OCD patients and UIT of AN patients. Specifically, to compare the frequency, emotional consequences, control difficulties, evaluative appraisals, and thought control/neutralizing strategies of both types of cognitions.

Method: Instruments. Obsessive Intrusive Thoughts Inventory (INPIOS) and Eating Intrusive Thoughts Inventory (INPIAS). Both share the same structure and, respectively, evaluate first the frequency with which 50 unwanted Obsessive/Eating Disorder -related Intrusive Thoughts, images and impulses (EDITs/OITs) are experienced, and then, dysfunctional appraisals and thought control strategies related to the most upsetting OIT/EDIT. Participants. 34 patients with a principal Axis I diagnosis of AN Restrictive subtype and 61 patients with a principal Axis I OCD disorder.

Results. Both AN and OCD patients experienced their UIT and obsessions with a comparable frequency (ANR: M=5.29; SD=0.94; OCD: M=5.26; SD=0.91). Both groups had similar negative emotional consequences, control difficulties, dysfunctional appraisals, and thought control strategies. However, OCD patients scored higher on 3 dysfunctional appraisals (Responsibility, Importance of control, and overestimation of threat) and 3 control strategies (cognitive distraction, repeating and ordering compulsions).

Conclusions: The propensity to experience UIT, their emotional consequences, and appraising them in a dysfunctional way might be variables explaining the high comorbidity between OCD and AN. However, the roles of some dysfunctional appraisals and control strategies should be studied. (Supported by: MICINN PSI2009-10957 and PSI2010-18340).

Keywords: Obsessive-Compulsive Disorder, Eating Disorders, Obsessive-Compulsive Spectrum.

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The relationship between disgust propensity, trait guilt, and mental contamination in OCD symptoms

Background. Both increased disgust propensity and inflated responsibility, combined with high trait guilt, have demonstrated associations with OCD symptoms. Traditionally, fear of contamination research in OCD has involved physical contamination, where the sense of dirt arises from a contact with clear and objective contaminants (e.g., germs, dirt and harmful substances). More recently, however, has been postulated that feelings of dirtiness and contamination can arise also in the absence of contact with a physical pollutant (mental contamination). This phenomenon refers to a sense of internal dirtiness which is usually triggered by thoughts, images, and/or memories related to moral transgressions, betrayal, abuse or humiliation. In literature, it is generally reported that mental contamination is associated with feelings of guilt and disgust. However, to our knowledge, there are no studies that examined the relationship between these constructs.

The aims of this study were: 1) to explore the association between mental contamination, disgust propensity and trait guilt in a sample of OCD patients with fear of contamination, controlling for anxiety and depression; 2) to analyze the role of mental contamination as a mediator in the relationship between trait guilt and/or disgust propensity and washing/cleaning rituals.

Methods. 76 OCD patients completed questionnaires to assess mental contamination (VOCI-MC), disgust propensity (DPQ), trait guilt (GI-Trait), OCD symptoms (DOCS), anxiety (BAI) and depression (BDI-II).

Results. Mediation analysis indicated that mental contamination plays a role as partial mediator in the relationship between trait guilt and/or disgust propensity, and OCD symptoms, even after controlling for depression and anxiety.

Conclusions. Our study provided preliminary evidence that trait guilt and disgust propensity play a role in arising mental contamination feelings, which is strongly related to washing/cleaning rituals in the absence of contact with a physical pollutant. Since mental contamination seems to emerge as a result of life traumatic events in which the person felt morally wrong (for acts committed) or violated, or humiliated (as a result of actions), the possibility that these memories are integrated into his/her autobiographical memory system could increase the efficacy of cognitive-behavioral intervention in OCD.

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Exposing repeated checking: The Differences Between Repeated Checking and Exposure on Memory and Inhibition

Background: Repeated checking is a symptom of OCD. Various studies used a computerized repeated-checking manipulation on healthy participants to demonstrate that relevant checking affects subjective memory but not memory accuracy. In these studies, the experimental and control groups differed on the number of relevant exemplars that the participants saw. However, it is possible that memory distrust is caused by viewing the exemplars and not by repeated checking. According to the executive overload model, OCD patient's inhibitory deficits are epiphenomena of attempts to control automatic processes. A previous study has shown smaller repeated checking effects in participants with good inhibitory control. Current study had two goals: (1) assessing whether exposure to multiple exemplars affects subjective memory, and (2) investigating whether repeated checking influences inhibitory control.

Methods: 61 participants were assigned to exposure and checking groups. Tasks featured different exemplars of pictures of the same gas stove. Participants of the exposure group indicated which gas ring disappeared but its disappearance occurred after varied delays ranging from 2 to 16 seconds. The checking group performed repeated checking. Both tasks ended with 3 checking trials followed by a questionnaire measuring memory accuracy and subjective memory measurements. Subsequently, participants performed a stop-signal task, which is used to measure inhibition, and completed Obsessive Beliefs Questionnaire (OBQ) and Obsessive-Compulsive Inventory-Revised (OCI-R).

Results: All 3 subjective memory measurements—memory detail, memory vividness, and confidence in memory—were significantly worse in the checking group, $F(1, 58) = 4.69$, $p < .05$; $F(1, 58) = 3.92$, $p = .052$; $F(1, 49) = 6.575$, $p < .05$, respectively, but memory accuracy was not affected by the different tasks, $F(1, 58) < 1$. With respect to the stop-signal task, participants who engaged in repeated checking had better inhibitory control, $t(58) = -2.1$, $p < .05$. There were no between group differences in OCI-R and OBQ, $F(1, 48) < 1$; $F(1, 48) = 1.06$, *ns*.

Conclusions: Our results indicate that checking causes memory distrust, and imply that exposure does not. We suggest that the repeated checking activated the executive functions to a higher extent and effectively primed inhibition that was used in the stop-signal task. We believe that in healthy participants the repeated checking does not cause executive overload.

Keywords: repeated checking, cognitive inhibition, stop signal, obsessive-compulsive disorder.

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Brief and intensive group treatment for OCD: Preliminary results

Background: Exposure and response prevention (ERP) delivered in an individual format is recognized as the treatment of choice for patients suffering from obsessive-compulsive disorder (OCD). Clinically relevant, but typically smaller changes have been reported for ERP in a group format. Several factors might contribute to this reduction in effectiveness, e.g. less focus on individually tailored exposure tasks, less time spent on therapist assisted exposure, less total amount of time spent on exposure as well as less focus on stringent response prevention. Still, group format might represent an important opportunity for patients to share information and to offer/ receive social support from individuals who suffer from the same disorder and go through the same treatment process. It might also be more cost-effective. The aim of the present study was thus to explore whether ERP delivered in an intensive group format with the same amount of individually tailored therapist-assisted exposure and as strict adherence to response prevention as in individual treatment, would yield results comparable to individually delivered ERP.

Methods: Six consecutively referred OCD-patients (four male) between 23-59 yrs. of age were included. Mean OCD duration was 22 (3-49) yrs. Comorbidity was panic disorder, major depressive disorder and/or generalized anxiety disorder. The treatment was as part of standard outpatient health care and delivered in an intensive group format (nearly thirty hours in 4 consecutive days). Group leaders were highly experienced OCD-therapists assisted by OCD-trainees. The two following weeks, patients continued non-assisted ERP-training combined with daily records of change. Patients were assessed at pre, post and follow-up with the Y-BOCS (Interview) and the Beck Depression Inventory (BDI). The follow-up interview was administered by an independent rater with long OCD - and Y-BOCS experience. The patients were also asked to evaluate aspects of the treatment process.

Results: All patients expressed high satisfaction with the treatment. Y-BOCS score were pre treatment: 23.66 (19-32), post treatment 4.33 (0-11) and at two months follow up: 6.33 (3-11), which represent highly significant and clinically relevant changes. Details of the program will be presented and discussed.

Conclusions: The current Brief and intensive group seems to be a promising treatment format, and replication is recommended.

Keywords: Exposure and response prevention, group format, intensive, obsessive compulsive disorder.