

Info OCD-RL

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Compulsive
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Research
Laboratory

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The Obsessive Compulsive Research Laboratory is dedicated to improving our understanding and the treatment of obsessive compulsive disorders through scientific research and its worldwide dissemination to provide clinicians and patients with viable and effective treatment options.



**OBSESSIVE COMPULSIVE
DISORDERS**
RESEARCH LABORATORY



OBSESSIVE COMPULSIVE DISORDERS RESEARCH LABORATORY

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OBSESSIVE COMPULSIVE DISORDERS RESEARCH LABORATORY

The Obsessive-Compulsive Disorder Research Laboratory (OCD-RL) directed by Dr Frederick Aardema is focused on improving our understanding and the treatment of obsessive-compulsive and related disorders. These objectives are carried out over four interlinked arms of research, including: 1) the identification of environmental, cognitive and behavioral markers; 2) the improvement differential diagnosis; 3) the identification of predictors and mechanisms of treatment outcome; and 4) the development and validation of specialized cognitive-behavioral treatment options for obsessive-compulsive and related disorders. Dr. Frederick is an associate professor with the University of Montreal and a senior research scholar funded by *the Fonds de Recherche du Québec* at the *Centre de Recherche l'Institut Universitaire en Santé Mentale de Montréal*.

Editorial

By Dr. Frederick Aardema

It is my pleasure to write this editorial to highlight our recent accomplishments at the laboratory. In particular, despite the challenging circumstances posed by the pandemic in the last few years, our work has seen tremendous progress and productivity. I would like to thank everyone in our team who contributed to advancing our understanding and the treatment of obsessive-compulsive and related disorders.

Improvement in reasoning and feared self-perceptions is strongly associated with treatment outcome.

We have developed new measures and experimental tasks showing that those with obsessive-compulsive and related disorders exhibit and maintain higher levels of doubt often as the result of dysfunctional reasoning that gives rise to obsessions. In addition, these reasoning errors often appear to occur in areas of life where the person lacks confidence, espe-

cially when valued aspects of personal identity are threatened. This is an important area of investigation, since when both reasoning distortions and feared self-perceptions are not addressed in treatment, they may give rise to treatment resistance. Indeed, an important discovery from our laboratory is that improvement in reasoning and feared self-perceptions is strongly associated with treatment outcome.

Our work has culminated in a recent special issue published in the *Journal of Obsessive-Compulsive and Related Disorders* to advance this new promising domain of research forward. The same special issue has proposed a new promising cognitive-behavioral model of obsessive-compulsive and related disorders based



on the role of dysfunctional reasoning and feared self-perceptions. Due to these efforts, OCD-RL now has an internationally leading role in research on obsessive-compulsive and related disorders.

Another crucial area of research that has been further strengthened in recent years is the development and validation of strategies and interventions for patients where treatments have so far not worked. Despite the overall effectiveness of various kinds of treatments, there remains a significant portion of people who do not benefit. To remedy this situation, based on extensive theoretical and empirical work, we have developed and validated an alternative inference-based cognitive-behavioral therapy (I-CBT). We have produced two books based on this work, including a treat-

OCD-RL now has an internationally leading role in research on obsessive-compulsive and related disorders.

ment manual titled the Clinicians OCD Manual published by Wiley and sons. A self-help manual to make this treatment more widely available is currently in preparation.

The translation of novel cognitive conceptualizations and empirical studies into viable treatment interventions at OCD-RL has led to continued development and validation of I-CBT. This approach has drawn significant interest both nationally and abroad, and in addition to our own studies, I-CBT is being validated in randomized trials at independent laboratories. There is also significant interest from clinicians and mental health institutions, and we currently provide support in the delivery of I-CBT across the world, like for example, the Advanced Intervention Services Unit of the Ninewells Hospital and Medical School, part of the National Health Services in Scotland.

As part of our current large scale randomized trial investigating the effectiveness of I-CBT, we are conducting several studies to better understand why not everyone benefits from treatment, and to find solutions to this problem. In particular, some people with obsessive-compulsive and related disorders feel that their obsessions are entirely realistic and reasonable, and they may require a different approach in treatment that is more focused on reasoning, which is exactly what I-CBT does. Over the next few years, we will conduct a number of additional studies in this area with the aim to improve treatment for those with obsessive-compulsive and related disorders who have difficulty benefiting from standard treatments. In addition, we

expect to further expand our research program to Body Dysmorphic Disorder. This condition is characterized by a preoccupation with one's own appearance, and although it is different from obsessive-compulsive disorder, there are also many similarities as well. Our current research program is ideally suited to further our understanding of this condition.

The last year during COVID-19 has certainly been difficult for everyone, but we have paradoxically managed to increase our productivity, including several papers on the impact of COVID-19 on those with obsessive compulsive and related disorders. The greatest challenge was moving our entire team and the treatment of our patients to an online working environment, which thanks to a very dedicated and profession-

al team, we were able to accomplish within a short period. Moving to a virtual working environment has also paradoxically led to significant progress in the execution of our ongoing randomized controlled trial. This because the delivery of treatment through videoconferencing could now be realistically offered to those outside of Montreal without participants having to travel long distances, leading to a surge in participants in our trial.

Clearly, the development of technology and its potential beneficial effect for those with mental health problems by digitalizing work environments have been ongoing for a while already, but its implementation has been radically accelerated by COVID-19. The pain and stress caused by COVID-19 has been enormous for many, yet the resilience and innovation it has brought to the forefront is something we certainly aim to carry forward.

We have an excellent team in place to carry out our goals over the coming years, who have worked tirelessly to keeping our trial and many projects running efficiently. Our team is ever expanding, and a big thank you to all of you, your dedication, work ethic and efficiency. It has made all difference in the last year. Similarly, I would like to thank all of those who participate in our studies. It would not be possible without you. Together, I feel confident it will be a very productive next few years with clinical work and new research findings to improve the lives of those struggling with this serious and often severe mental health problem.

Special Issue on Feared Possible selves

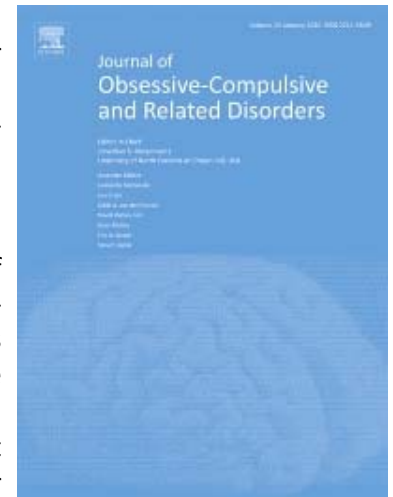
Journal of Obsessive Compulsive and Related Disorders

The Journal of Obsessive-Compulsive and Related Disorders published a special issue on Feared possible selves in obsessive-compulsive and related disorders with Frederick Aardema and Shiu Wong as guest editors and with contributions from a wide variety of invited authors investigating the role of feared-self perceptions in OCD.

Editorial abstract

Cognitive-behavioral models of obsessive-compulsive disorder (OCD) have largely ignored conceptualizing vulnerable self-themes as a core feature, despite numerous historical accounts and empirical work hinting at its importance. The current special issue of the Journal of Obsessive-Compulsive and Related Disorders aims to highlight the role of one such self-construct in OCD, namely the feared possible self — which describes a set of qualities that the person fears or worries being part of oneself, currently or in the future. To this end, this editorial first situates the feared self in a historical context as well as in recent literature, and we have provided a working model of OCD to guide future investigations on this topic. Contributing authors in this

special issue were then asked to describe their empirical findings on the association between a fear of self and OCD, gathered from research conducted using a variety of methodological approaches. Through this unique format, we hope to provide a strong foundation that inspires further research around feared self-perceptions and its elaboration in theory, which may advance our understanding, treatment, and even prevention of OCD and related disorders.



Source: Aardema, F., & Wong S.F. (2020). Feared possible selves in cognitive-behavioral theory: An analysis of its historical and empirical context, and introduction of a working model. *Journal of Obsessive Compulsive and Related Disorders*, 4, 100479.

Recent publications at OCD-RL

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In the media: Frederick Aardema: "As chance would have it..."

By Annik Chainey

Early 2000s. Originally from the Netherlands, Frederick Aardema, who has just moved to this side of the Atlantic out of love for a Québécoise, works as a clinical psychologist at the Royal Victoria Hospital and is considering a doctorate. As he explores the possibilities open to him for further education, he makes a startling discovery: Kieron O'Connor, a researcher who had a decisive influence on the master's degree he completed in his homeland in the late 1990s, on obsessive-compulsive disorders (OCD), lives in Montreal, his newly adopted city. "During my master's degree, I came across two articles by Mr. O'Connor proposing a different approach to the understanding and treatment of OCD, an approach that I had found extremely innovative and original," says the researcher at the Research centre of the Montreal Mental Health University Institute (CRIUSMM). At the time, I did not dwell on his nationality and it was a beautiful coincidence to find out that he lived in Quebec. "

This approach is the inference-based therapy, which offers a new way of looking at OCD. OCD can be defined as a psychological illness characterized by the presence of obsessions, that is, persistent images or thoughts that cannot be dispelled, and of compulsions, that is, a behavior or mental act aimed at preventing a feared situation or to reduce the distress caused by the obsession. These obsessions and compulsions are severe enough to have a negative impact on the functioning of the affected person. Although the type of obsessions varies, the sequence of OCD is always the same: a triggering event causes an obsessive doubt, the latter leads to the anticipation of a consequence which in turn causes a negative emotion leading to a compulsion.

At the time of publication of Kieron O'Connor's articles, there are two therapies for OCD. The first, behavioral therapy, also known as "exposure with response prevention", has been around since the 1960s and focuses on compulsion. It involves exposing the patient directly to what frightens him until he gets used to it.



Photo by Bonesso-Dumas

The second, cognitive behavioral therapy, dates from the 1980s and is the first model to take into account the cognitive aspect of OCD. It focuses on the stage of anticipating consequences, that is, the moment in the sequence when the patient assesses the obsessive doubt. "According to this model, the obsession has its origin in the intrusive thoughts that burst into our minds every day without any real explanation," explains Frederick Aardema, who is director of the Obsessive-Compulsive Disorder Research Laboratory (OCDLR) of CRIUSMM. Proponents of this model believe that the problem lies not with intrusive thinking, considered normal, but with evaluation, that is, with anticipation of the consequence. The goal of treatment is therefore to get the patient to appraise their obsessive doubt differently. "

These two approaches, however, are not unanimous within the scientific community. "Exposure with response prevention is a very difficult treatment that many patients refuse to follow or give up along the way, says Mr. Aardema. As for cognitive behavioral therapy, it is still used in conjunction with exposure and there is consensus in the literature that this type of cognitive intervention does not increase the effectiveness of treatment. " This is where Mr. O'Connor comes in. "The two theoretical articles he published in 1995 propose a reconceptualization of OCD, presenting them no longer as a phobic disorder, but rather as a disorder relating to primary beliefs," specifies the director of the Laboratory for research on obsessive-

compulsive disorders. of CRIUSMM. The first cognitive model considered that obsession stemmed from normal intrusive thoughts. But Kieron O'Connor put forward the idea that obsessive doubt is more the product of reasoning. He therefore suggested addressing not only the obsessive doubt, but also the reasoning process behind it in order to identify the errors that lead the person to develop an obsession. It was on this premise that he developed the first draft of the inference-based approach. "

Mr. O'Connor's hypotheses had a great effect on Frederick Aardema, who immediately set himself the task of testing the hypotheses of the Quebec research

Also during his doctoral studies, Mr. Aardema participated in one of the first randomized controlled trials comparing behavioral, cognitive-behavioral and inference-based therapy. "We found that they were all equal in terms of results," reveals the researcher, who also did a postdoctoral fellowship on the role of ego themes in OCD. But on closer inspection, we saw that inference-based therapy worked best for patients with OCD with overinvested ideation - those who are convinced of the truth of their reasoning and the validity of their obsession." Encouraged by this discovery, Frederick Aardema and his team recently started a new randomized controlled trial to see if inference-based the-

Because, no matter what the patient's reasons are for checking to see if the door is locked, they are never based on real perception.

cher as part of his master's degree, a work he would continue before and during his doctoral studies. "During my PhD, I developed the model considerably, notably by creating a questionnaire to measure what is called 'inferential confusion' in OCD, that is to say the tendency of patients to confuse the imaginary and reality, explains the associate professor at the Department of Psychiatry and Addictology of the Faculty of Medicine of the University of Montreal. Because, no matter what the patient's reasons for, say, checking to see if the door is locked, they are never based on real perception. He can see and feel that the door is locked and still have doubts. A minimal doubt is enough to convince him to verify. What inference-based therapy tries to do is show her that this doubt is not rooted in reality and therefore there is no reason to give it importance. "

rapy is more effective than the other two, at least for the subgroup mentioned above, and to see if it leads to lower refusal and abandonment rates.

More than 20 years after its debut under the pen of Kieron O'Connor, the inference-based approach has continued to gain in popularity, both here and around the world. "I was very fortunate to be able to be part of this adventure from the start," says Aardema. Although I only met Mr. O'Connor eight years after reading his articles, our professional relationship has been truly fruitful and continues to be very inspiring to me. " As chance would have it...

Originally published at <https://medecine.umontreal.ca/recherche/les-chercheurs-de-la-faculte/portraits-chercheurs/frederick-aardema-le-hasard-fait-bien-les-choses/>

The Inference-Based Approach throughout the world

Since its creating in 1995 in Montreal, inference-based therapy has continued to expand. First utilized in a private clinic, it has gradually spread in the Quebec public network. It is now also delivered in many parts of the world, including specialist clinics in Holland and Scotland with encouragement and support from OCD-RL.



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Trial of a new psychological treatment for OCD

Article résumé by Jean-Sébastien Audet

The treatment of choice for obsessive-compulsive disorder (OCD) is cognitive behavioural therapy. This treatment usually consists of two components: cognitive restructuring and exposure with response prevention. Cognitive restructuring targets beliefs that are said to be obsessional, which would be at the root of obsessions. However, the evidence for this is very limited. While exposure with response prevention is an effective treatment for OCD, a large number of people undergoing treatment does not finish it because of the intense distress they experience. Others, which show a strong conviction in the reality of their obsessions show less improvement. In order to fill in these gaps, a new treatment for OCD was created, the inference-based therapy (IBT).

Contrary to standard cognitive behaviour therapy, IBT does not target obsessive beliefs, but rather targets inferential confusion, a style of reasoning characterized by a distrust of the senses

Contrary to standard cognitive behaviour therapy, IBT does not target obsessive beliefs, but rather targets inferential confusion, a style of reasoning characterized by a distrust of the senses or self. of the senses for the benefit of the imagination. Concretely, this therapy helps patients to trust their senses again. In order to do so, the reasoning which leads the person to give credibility to his OCD is examined and replaced by a reasoning which shows the person that his OCD is not based in reality.

In order to verify if this new therapy is effective, 102 participants completed 24 sessions of IBT. Results of

the study show that IBT is effective in reducing OCD symptoms, with results comparable with those obtained with cognitive behavioural therapy. All subtypes of OCD showed comparable improvements during therapy, but those suffering from checking concerns showed the best results. Therapeutic gains were generally maintained 6 months after the end of IBT. Finally, decrease in inferential confusion during treatment was the best predictor of OCD symptoms decrease. Furthermore, IBT's effectiveness was



similar regardless of the level of overvalued ideation. This study shows that IBT is an effective treatment for all subtypes of OCD and other studies are necessary to validate if this treatment is at least as effective as cognitive behaviour therapy.

This article is based on: Aardema, F., O'Connor, K. P., DeLorme, M.-E., & Audet, J.-S. (2017). The Inference-Based Approach (IBA) to the Treatment of Obsessive-Compulsive Disorder: An Open Trial Across Symptom Subtypes and Treatment-Resistant Cases. *Clinical Psychology and Psychotherapy*, 24, 289-301. DOI: 10.1002/cpp.2024

In the media: Interview of Dr. Natalia Koszegi on Savoir média

Natalia Koszegi, doctor in psychology and clinical coordinator at OCD-RL was interviewed for a new series on the topic of mental health. She discussed her expertise on obsessive compulsive disorder. The interview was aired in the series *Vivre en funambule* by Savoir Media and it is available in French at the following address: <https://savoir.media/vivre-en-funambule/clip/trouble-obsessionnel-compulsif>



The Feared Self: Latest Findings from Two Studies at the Obsessive Compulsive Disorder Research Laboratory

Article résumé by Louis-Philippe Baraby

Cognitive-behavioural models have been increasingly considering the potentially causal role of vulnerable self-themes and beliefs about the self in the development and maintenance of obsessive-compulsive disorder (OCD). These models hold that obsessions find their origin in unwelcome involuntary thoughts, images, and impulses that, if interpreted negatively, give rise to distress and attempts by the person to get rid of the thought.

Most recently, the role of sensitive domains of self-concept and feared self-perceptions have been studied. The notion of “feared self” refers to a set of attributes that a person fears they might possess; in other words, “the fear of who one might be or become.” A type of feared self attributes has been named “repugnant obsessions”, which refers to intrusions an individual believes might reveal something negative and hidden about their own character.

Several studies have supported the view that the feared self of individuals with OCD is more likely to consist of a self that is bad, immoral, dangerous, or insane.

The concept of “feared self” has recently been suggested to be a central cognitive construct in OCD. In fact, several studies have supported the view that the feared self of individuals with OCD is more likely to consist of a self that is bad, immoral, dangerous, or insane. Considering that the prevalence of repugnant obsessions is estimated at 73% amongst those with lifetime OCD, further research is thus needed to advance innovative treatments for patients who suffer from such obsessions.

Considering these findings, the Obsessive Compulsive Disorder Research Laboratory (OCDRL), led by Dr Frederick Aardema, developed a questionnaire in 2013, the Fear of Self Questionnaire (FSQ), to study the construct of the feared self. The FSQ was found to be a

major predictor of unwanted thoughts and impulses, like repugnant obsessions. We now present you two studies that have been conducted at our research center to further our comprehension of the feared self concept.



The role of feared possible selves in obsessive-compulsive and related disorders

A 2017 study at the OCD-RL aimed to further investigate fear of self-perceptions using the FSQ in an OCD sample and related psychological disorders (eating disorders and body dysmorphic disorder), in comparison to a non-clinical and a clinical comparison group with anxiety and depressive disorders.

Results showed that participants with OCD in general did not score significantly higher on fear of self-perceptions than did the clinical comparison participants. However, consistent with previous findings, fear of self was highly characteristic among OCD patients with unwanted repugnant thoughts and impulses. In addition, fear of self-perceptions were significantly more elevated in those with eating or body dysmorphic disorders relative to the other non-clinical and clinical groups.

Overall, results from this study support the use of the FSQ in both research and clinical settings to measure fear of self-perceptions in OCD and potentially its usefulness in other disorders as well where shame and self-loathing stand at the foreground of symptomatology. A fear of self appears to apply especially to those with repugnant obsessions where the obsessions themselves are of a self-referential nature and often stand in sharp (and tragic) contrast with the person's actual self and reality. Given this, it is our hope that this study helps to inform and to ultimately enhance the efficacy of cognitive interventions for OCD and related disorders.

Fear-of-Self and therapeutic improvements

This 2018 longitudinal study currently in press aimed to provide converging evidence on the relevance

of the feared self in OCD, by examining whether improvements in symptoms associated with repugnant obsessions would be predicted by reduced feared self-perceptions, as measured by the FSQ. This study used a sample of 93 patients receiving psychotherapy for OCD.

Results showed that treatment-related reductions on the FSQ significantly and uniquely predicted reductions on the OCD self-report measure.

This latest study from our research center thus replicated previous research suggesting the relevance of the feared possible self in psychological disorders such as OCD, where negative self-perception is a dominant theme. This validates the increasingly explicit focus on modifying vulnerable self-themes in existing cognitive-behavioural treatments for OCD, such as the inference-based cognitive therapy used in the current study. This treatment explicitly addresses feared self-perceptions in OCD, and aims to help clients develop a greater level of self-trust by utilising more reality-based criteria in

defining their sense of self, and most importantly, showing them that their feared possible self solely arises on the basis of an imaginary narrative that stands in sharp opposition to their actual self.

This text is based on results reported in the following scientific articles:

Aardema, F., Wong, S. F., Audet, J.-S., Melli, G., & Baraby, L.-P. (2018, in press). Reduced Fear of Self is Associated with Improvement in Concerns Related to Repugnant Obsessions in Obsessive-Compulsive Disorder. *British Journal of Clinical Psychology*.

Aardema, F., Moulding, R., Melli, G., Radomsky, A. S., Doron, G., Audet, J. S., & Purcell-Lalonde, M. (2018). The role of feared possible selves in obsessive-compulsive and related disorders: A comparative analysis of a core cognitive self-construct in clinical samples. *Clinical psychology & psychotherapy*, 25(1), e19-e29.

In the media: The link between fear of self and OCD

You check your oven ten times to make sure it's off, place your cans in the pantry in alphabetical order and are terrified of germs. You're likely suffering from obsessive compulsive disorder, or OCD, which affects 750 000 Canadians. For 40% of them, cognitive-behavioural therapy does not help control their obsessive behaviours. According to Frederick Aardema, researcher at the Institut universitaire en santé mentale de Montréal Research Centre, part of the solution lies in addressing a fear of self, which therapy does not currently consider.

Fear of self appears to be at the root of a number of OCD subtypes, including aggressive obsession and impulse phobia. Some sufferers may stay away from children because they are convinced they could abuse them. Others never keep knives in their home because they believe they could use them to attack someone. These individuals have developed a fear of self: anxiety about what they could do if they acted on their thoughts.

Frederick Aardema and his team looked to a literature review and clinical studies to develop a questionnaire to diagnose and change this false self-perception. They then tested their therapeutic approach on 93 patients to determine whether it helps reduce fear of self



and alleviate OCD symptoms. The findings are conclusive: by combining the questionnaire and cognitive-behavioural therapy, patients are better able to distinguish the obsessive doubts they imagine from normal ones and better control their OCD.

The approach could also be used to treat eating disorders, anxiety and body dysmorphic disorder—an obsession with a perceived physical flaw—which are linked to a fear of self.

Originally published at : <http://www.frqs.gouv.qc.ca/la-recherche/la-recherche-en-vedette/histoire?id=yjup0ax81556109746882&>

The relationship of inferential confusion and obsessive beliefs with specific obsessive-compulsive symptoms

Article résumé by Louis-Philippe Baraby

Cognitive-behavioral models emphasize the role of obsessive beliefs and the appraisal of intrusive cognitions in the development and maintenance of Obsessive-Compulsive Disorder (OCD). One cognitive domain that is received increasing attention in its ability to explain unique variance in OC symptoms is grounded in an Inference-Based Approach (IBA) to OCD. A key aspect of this model is that the obsessional doubt is constructed upon an imaginary, inferential basis giving rise to pathological doubt. In this cognitive model, whether the obsessions revolve around forbidden thoughts, checking, contamination or symmetry, they are hypothesized to develop as the result of dysfunctional reasoning that is characterized by a distrust of the senses and an overreliance on hypothetical possibilities, a process that has broadly been referred to as “inferential confusion”

The Inference-Based Approach (IBA) to the study of OCD maintains that dysfunctional reasoning plays a central role in its development, whereas other cognitive models have emphasized the role of obsessive beliefs in the escalation of intrusive thoughts into obsessions. This study thus aimed to investigate the specificity of inferential confusion and obsessive beliefs to symptoms of obsessive-compulsive disorder (OCD).

To investigate the role of inferential confusion and obsessive beliefs, a group of individuals diagnosed with OCD completed the Inferential Confusion Questionnaire (ICQ-EV) and the Obsessive Beliefs Questionnaire (OBQ-44).

Results showed that inferential confusion and obsessive beliefs uniquely predicted OCD symptoms. Specifically, importance and control of thoughts was particularly relevant to obsessions, perfectionism and certainty to precision, and just right and inferential confusion to indecision and rumination. Beliefs about responsibility and threat did not uniquely predict any symptoms of OCD.

Overall, our results showed inferential confusion contributes unique variance to the prediction of some OC symptom domains, and therefore deserves further consideration as a cognitive domain relevant to OCD, in particular for symptoms where doubt stands at the foreground of the experience.

Although the construct of inferential confusion is conceptually and empirically distinct from other cognitive constructs and symptoms proposed to be relevant to OCD, it is not incompatible with existing appraisal-based models of OCD. An inference-based approach focuses on the inappropriate context in which obsessional thoughts arise as the result of reasoning errors, whereas an appraisal model focuses on how these thoughts are interpreted and their ensuing consequences. Hence, research in obsessive beliefs and inferential confusion may further refine and inform cognitive-behavioral models of OCD.

This text is based on results reported in the following article: Aardema, F., Wu, K., Moulding, R., Audet, J. S., & Baraby, L. P. (2018). The relationship of inferential confusion and obsessive beliefs with specific obsessive-compulsive symptoms. *Journal of Obsessive-Compulsive and Related Disorders*, 18(7), 98–105.

When mental health and new technologies come together

Article by William Djomo

Since the advent of the internet, new technologies have become increasingly important in our lives, especially with the arrival and increasing sophistication of smartphones. These days, they offer a large number of applications that are supposed to offer us useful and quickly accessible services.

The field of health, and mental health in particular, is not left out. More and more researchers are interested in using these technologies to help people with various conditions. The advantages that this approach

could provide are numerous; we can cite accessibility, lower cost, the possibility of intervening remotely, and self-management.

The MUZZZ application, which I will be testing as part of my master's degree in biomedical sciences, psychiatric sciences option, is situated in this context. It aims to help people from the general population with symp-



toms belonging to the spectrum of anxiety associated or not with insomnia.

We know that anxiety disorders are among the most common psychiatric disorders that can affect, according to some statistics, more than 20% of the population. The consequences of these conditions are numerous, either at the personal level (suffering, isolation, loss of productivity, etc.), at the family level or even in society in general (costs for the health system, social costs caused, for example, by absenteeism at work). Very often, anxiety disorders are associated with sleep disorders which complicates the situation of those affected by exacerbating the difficulties already present.

The management of anxiety disorders and insomnia can be done with pharmacological treatment, but the most frequently used molecules, such as benzodiazepines, have their share of undesirable effects and tend to lose effectiveness over time because of the installation of a certain tolerance. The most effective therapies for dealing with these disorders are within the family of cognitive behavioral therapies. Unfortunately, the waiting times are often long so that those affected have to endure their condition untreated for many months, suffering all the consequences already mentioned.

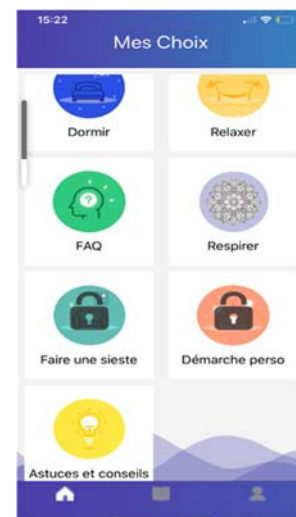
MUZZ wants to be part of the solution to this problem. After a few weeks of use, it proposes a reduction in anxiety and an improvement in the quality of sleep. Its operation is based on listening to positive suggestions every day gradually masked by relaxing music. These suggestions thus masked are qualified as preconscious or subliminal. The listener does not need to focus their attention on suggestions that operate in the

background in a modality that is closer to emotion and therefore more effective.

This application was designed on the basis of the IPPP program (Increase in Psychotherapy by Preconscious Priming) developed by Dr François Borgeat, which is an approach used in cognitive therapy for which 2 scientific publications have shown that the effects of cognitive behavioral psychotherapy can be amplified if people with residual follow the IPPP program.

The design of the application is almost completed and it will soon be tested on a sample of 20 people from the general population who have shown symptoms similar to those of anxiety, associated or not with insomnia, and who are on a primary care waitlist. Once participants have downloaded the application to their smartphone, they will be invited to listen to the suggestions on a daily basis. The effect of this intervention will be assessed by measuring the scores obtained by these participants in tests measuring anxiety, worry and sleep before and after the intervention.

The editorial team congratulates William for the completion of his memoir on IPPP and MUZZ supervised by Dr. Frederick Aardema et Dr. François Borgeat.



The inference-based approach and the evidence supporting its validity for obsessive-compulsive disorder

Article résumé by **Jean-Sébastien Audet**

Obsessive-compulsive disorder (OCD) treatment of choice is cognitive behaviour therapy which postulates that obsessions are intrusions that have been subjected to misappraisals (for example, thinking that one must control his thoughts to prevent them from becoming a reality). These misappraisals would come from dysfunctional beliefs which would be at the root of OCD. Cognitive

behaviour therapy targets these dysfunctional beliefs by putting them to the test with the OCD suffering clients. However, 25 to 76% of people suffering from OCD do not report more dysfunctional beliefs related to OCD than the general population. These observations show that it is important to consider other theoretical models that could potentially explain OCD, such as the inference-based approach. Contrary to cognitive behaviour therapy, the inference-based approach starts with the subjective experience of the person suffering

from OCD. This approach started by looking that the narrative of people suffering from OCD, which is constituted from the history or the reasons with justifying, for that particular person, the presence of the obsessions and the necessity of accomplishing compulsions.

What's striking about these narratives is that they maintain doubt. However, it is not the same doubt then the one we have when we ask ourselves whether rain or icy rain is going to fall down when the temperature is near freezing, but rather a doubt based on the imagination. This doubt is not based on sense information and therefore reasoning related to this doubt does not follow either logic or common sense. Reasoning processes which calls upon the imagination (regrouped under the general name of inferential confusion) can be found in the narrative of people suffering from OCD. These processes are: inverse inference (reasoning based on the imagination, rather than reali-

Inference-based therapy is effective in diminishing OCD symptoms, anxiety, depression and inferential confusion.

ty, to understand that which is taking place in reality), distrust of the senses, category errors (confusing or "fusing" categories of objects with different attributes), apparently comparable events (confusing or "fusing" different events which can be distinguished in time or space), selective use of out of context facts (using general facts and using them in an unrelated personal situation) and purely imaginative sequences (imagining stories or scenarios and being so absorbed into them that they are "lived"). This narrative would be rooted in a feared quality or attribute the person think he possesses (but in reality, does not possess), called the feared self.

The OCD narrative promotes doubt (maybe X...) from which an anticipated consequence follows (... then Y will happen...), which results in the obsession (maybe my hands are contaminated, then I could contaminate my children by touching them). Both components of the obsession would provoke emotion that the person does not want to experience (mainly anxiety, but others as well, such as shame, guilt and disgust). In turn, these emotions are neutralized by the person's compulsions.

Research has shown that people suffering from OCD judged their obsessions has being primarily present with direct links supporting their presence, which supports the affirmation that obsessions do not arise from sense information. People with OCD also have a tendency to use a style of reasoning which goes from the

particular to the general compared to those suffering from an anxiety disorder or those from the general community. This style of reasoning is related to the reasoning processes of OCD outlined above, given that the processes of inferential confusion make a generality of a particular (actual or imagined) event. Finally, people suffering from OCD are also more likely than people not suffering from OCD to rely on hypothetical possibilities. Some have interpreted these results to mean that those suffering from OCD were mainly exhibition prudential seeking attitudes rather than inferential confusion. However, no convincing proof was brought forth to support this point.

When we measure inferential confusion (the reasoning processes of OCD) using a questionnaire, we notice that people with OCD present this type of reasoning more frequently than people suffering from another anxiety disorder or those not suffering from any

psychiatric disorder. Inferential confusion is related to all symptoms of OCD, even while taking into account the depression and anxiety which is often present in those suffering from OCD. Finally, the doubt/anticipated consequence models presented above can be used to analyze obsessions and results show that both conviction in the doubt and belief in the anticipated consequences are related.

Finally, inference-based therapy (the treatment following from the inference-based approach) is effective in diminishing OCD symptoms, anxiety symptoms related to OCD, depression symptoms related to OCD and inferential confusion. This treatment helps people suffering from OCD to give credibility to their senses in an attempt to diminish the investment in the OCD narrative. Consequently, this brings a decrease of investment in the doubt and a reduction of beliefs in the anticipated consequences, which decreases compulsions. The inference-based approach is therefore a sound theoretical model for which the treatment could be useful for those suffering from OCD.

This article is based on: Julien, D., O'Connor, K. & Aardema, F. (2016). The inference-based approach to obsessive-compulsive disorder: A comprehensive review of its etiological model, treatment efficacy, and model of change. *Journal of Affective Disorders*, 202, 187-196. doi:10.1016/j.jad.2016.05.060

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Aardema, F. Development and validation of the multidimensional feared self questionnaire. 50th Annual Conference of the European Association for Behavioral and Cognitive Therapies. September, 2020, Athens, Greece.

Audet J-S, Wong SF, Radomsky, AS, Aardema F. Not all intrusions are created equal: The role of context, feared-self perceptions and inferential confusion in the occurrence of abnormal intrusions. 50th Congress of the European Association of Behavioral and Cognitive Therapy. September, 2020 Athens, Greece

Baraby, L-P., Wong, S.F., Radomsky, A.S., & Aardema, F.. Dysfunctional reasoning processes and their relationship with feared self-perceptions and obsessive-compulsive symptoms. 50th Annual Conference of the European Association for Behavioral and Cognitive Therapies. September, 2020, Athens, Greece.

Giraldo-O'Meara, M., Aardema, F., Wong, S-F & Radomsky, A.S. Exploring the role of fear of self in body dysmorphic disorder. 50th Annual Conference of the European Association for Behavioral and Cognitive Therapies. September 2020, Athens, Greece.

Wong, S.F., Aardema, F., Mendel, B., Trespalacios, F., & Radomsky, A.S. Manipulating feared self-perceptions in virtual reality and its impact on obsessive-compulsive symptoms in an analogue sample. 50th Annual Conference of the European Association for Behavioral and Cognitive Therapies. September, 2020, Athens, Greece.



Manipulating feared self-perceptions in virtual reality and its impact on obsessive-compulsive symptoms in an analogue sample

Article résumé by Shiu F. Wong

A better understanding of what causes and maintains obsessive-compulsive disorder (OCD) is crucial for effectively treating this disorder. Traditional cognitive theories suggest that the misinterpretation of universally experienced intrusions as personally significant is the key factor in their transition into obsessions. However, since intrusions are not universal in terms of content, these cognitive theories have begun to recognise the potential role of vulnerable self-themes as an earlier determinant of intrusive content and thus the genesis of clinical obsessions. Indeed, individuals with OCD tend to display an idea or fear of who they could be or become (e.g., a murderer), and it is proposed that this fear-of-self dictates intrusive content (e.g., thoughts about stabbing a loved one), obsessional frequency and distress, and motivates repetitive efforts to prevent one from becoming their feared self (e.g., compulsively hiding away knives).

The current study aimed to test whether a fear-of-self causes OCD symptoms by manipulating these using a novel virtual reality-based task. One hundred and thirty participants were randomly assigned to receive the manipulation to induce a fear-of-self or the control manipulation. To induce a fear-of-self, participants viewed multiple first-person videos of OCD-relevant scenarios (repugnant obsessions, harm to self or others, contamination) in virtual reality where it seemed like they were personally interacting with people or objects in the virtual environment. For example, one video had participants interacting with an elderly man before being given the choice to throw hot coffee on the man (congruent with the feared self) or to hand him the coffee (incongruent with the feared self). Through a point-scoring objective, participants in the fear-of-self condition were encouraged to choose the congruent action whereas participants in the control

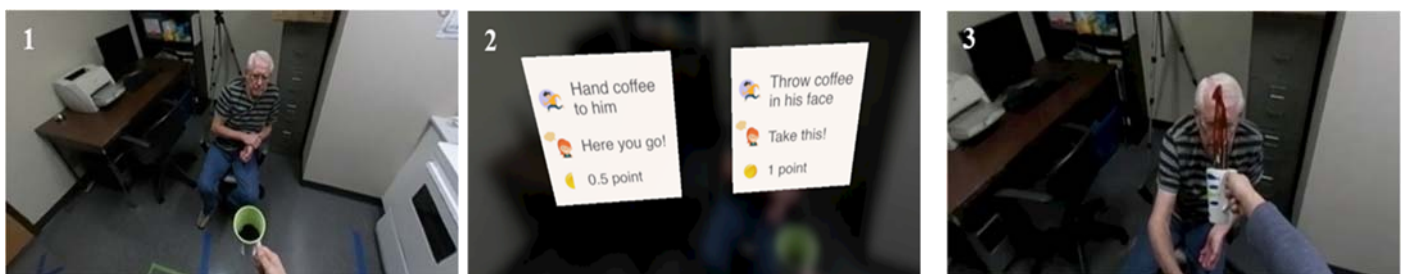
condition were encouraged to choose the incongruent action. A confederate, posing as an expert on personality psychology and virtual reality, then informed participants that the choices they made in virtual reality reflected actual hidden desires and characteristics.



Participants in the fear-of-self condition, relative to the control condition, reported significantly more fears around who they could be or become. On a behavioural measure of OCD symptoms, they demonstrated a greater number of intrusions related to harm and a greater urge to suppress these. Exploratory analyses also showed that younger adults, who are expected to have a more vulnerable self-identity, were more affected by our manipulation of this fear-of-self.

In sum, the results provide preliminary evidence for the proposed causal relationship between a fear-of-self and OCD symptoms. This supports the need to target these in cognitive-behavioural treatments. Furthermore, the current study adds to the growing literature on using virtual reality-based treatments in modifying an individual's negative self-perceptions and their emotional and behavioural consequences.

This article is based on: Wong, S.F., Aardema, F., Mendel, B., Trespacios, F., & Radomsky, A. (2020). Manipulating feared self-perceptions in an analogue sample using virtual reality and its impact on harm-related intrusions and urges to neutralise. *Journal of Obsessive Compulsive and Related Disorders*, 27. doi: 10.1016/j.jocrd.2020.100585



Feared outcomes and feared identities in bulimia nervosa

Article résumé by Samantha Wilson

Eating disorders are severe mental health disorders that disproportionately affect women. Though effective treatments exist, eating disorders can also have a chronic course and can have significant psychosocial and medical consequences. As such, it is important that we continue to investigate the factors contributing to the development and maintenance of these disorders so as to facilitate the refinement of treatment strategies.

Bulimia nervosa (BN) is a type of eating disorder that is characterized by recurrent binge eating (i.e., eating an objectively large amount of food while experiencing a sense of loss of control) as well as the use of compensatory behaviours (ex: vomiting, laxative use, excessive exercise, etc.). BN has been found to have a high rate of co-occurrence with obsessive compulsive disorder (OCD), this means that many people who are diagnosed with BN also have a diagnosis of OCD. This high rate of co-occurrence suggests that similar processes may be implicated in both BN and OCD. In support of this, past research has identified similarities in terms of symptom presentation and cognitive processes between these disorders. As such, research into OCD can be used to help guide research into BN, providing a map to potential relevant processes common to both disorders.

Inferential confusion is a reasoning process characterized by two interrelated components: distrust of the senses and the over-investment in possibility-based information. This reasoning process has been studied extensively in individuals with OCD and has been found to be associated with OCD symptoms. For example, someone with OCD may distrust their senses (ex: I can see that the door is locked...) and invest in remote possibilities instead (ex: ...but maybe the mechanism inside the door is faulty). Consequently, inferential confusion may lead a person to act as if an unlikely possibility is true (ex: check the door many times) despite what their senses are telling them.

In a study conducted at the Centre d'études sur les troubles obsessionnels compulsifs et les tics, a reasoning task measuring the over-investment in possibility-based information component of inferential confusion was administered to 25 women with BN and 25 women without any mental health diagnoses. In this task, participants were presented with a scenario that described going to a fast food restaurant and were then asked to rate the probability of a feared outcome (i.e., gaining

weight after eating the meal). They were then presented with 12 alternating pieces of reality-based information (ex: You look down at your body and see that it is the same size as before) and possibility-based information (ex: It may be that you just can't tell how much weight you've gained because you're wearing loose clothing). Following the presentation of each piece of information, participants



were asked to re-rate the probability of the feared outcome. In this study, it was found that participants with BN were more influenced by possibility-based information than by reality-based information as compared to participants without any mental health diagnoses, and therefore, believed the feared outcome to be more probable. Furthermore, the results obtained by participants with BN in the present study were similar to those found in other studies using this task with individuals with OCD. This suggests that people with BN may also have a reasoning style characterized by inferential confusion as has been documented in OCD.

This study also measured a concept known as the 'fear of self', which refers to the fear of possessing unwanted qualities or characteristics. As has been found in studies of OCD, this study also found that individuals with BN reported greater levels of the fear of self than did participants without any mental health diagnoses. This suggests that BN may be associated with investment in a feared possible identity (ex: someone who may become overweight).

Overall, the results of this study suggest that individuals with BN may be influenced at least in part by investment in feared outcomes and feared identities. The role of reasoning processes such as inferential confusion in BN and other eating disorders warrants further investigation. Research of this kind contributes to our understanding of these mental health disorders and, ideally, to the development of more effective treatment strategies.

This text is based on results reported in the following article: Wilson, S., Aardema, F., & O'Connor, K. (2017). Doubt and fear of self in bulimia nervosa. *International Journal of Eating Disorders*, 50, 1437-1441. doi: 10.1002/eat.22789

The Padua Inventory and the Yale-Brown Obsessive-Compulsive

By Louis-Philippe Baraby

Obsessive-Compulsive Disorder (OCD) is a highly disabling mental illness and disrupts the functioning of people with it in all areas of their lives. Since OCD is often chronic in nature, it is essential for healthcare professionals to have the right tools to make an early diagnosis and treat the disease. But can we trust the existing tools?

This is why researchers are striving to create sensitive, valid, and reliable tools to properly measure the severity and complexity of symptoms. One of the most widely used self-reported questionnaires is called the Padua Inventory, and this one comes in three versions. On the other hand, the most widely used clinician-administered questionnaire is called the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS).

Although they have been used for many years, little is yet known about their sensitivity to measuring the results of psychotherapy. Additionally, several studies have found weak links between Padua and Y-BOCS, but no adequate justification has yet been advanced to ex-

plain this. The objectives of this study were therefore to 1) compare the sensitivity of these instruments to measure treatment outcomes, and 2) examine whether a difference in their way of measuring symptoms could explain the weak correlations between the instruments.

To this end, our team administered Y-BOCS and Padua to 118 participants before and after 24 cognitive-behavioral therapy sessions. The results demonstrated that 1) Y-BOCS was significantly more sensitive to measuring treatment outcomes than Padua, and 2) differences between questionnaires in how they measured symptoms with or without their content partially explained the weak correlations. Overall, our study supports the use of Y-BOCS more than Padua to effectively measure the severity of OCD symptoms in people with it.

Source: Baraby, L.-P., Audet, J.-S., et Aardema, F. (2018). The sensitivity of three versions of the Padua Inventory to measuring treatment outcome and their relationship to the Yale-Brown Obsessive Compulsive Scale. *Behaviour Change*.



Catherine Ouellet-Courtois, supervised by Frederick Aardema, during her thesis defense. OCD-RL offers its congratulations for her graduation!

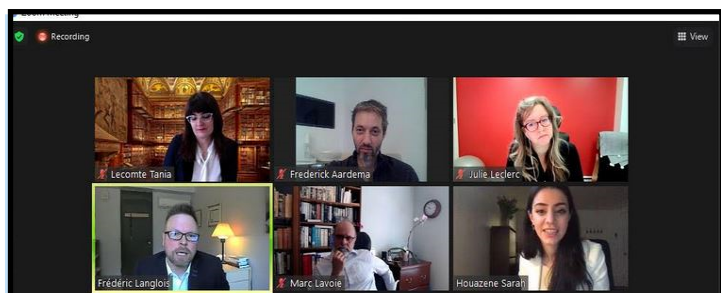


Fernand-Séguin prizes ceremony. From left to right: Stéphane Guay, Jean-Sebastien Audet (recipient) et Frederick Aardema.

News from our team



Fernand-Séguin prizes ceremony. From left to right: Stéphane Guay, Louis-Philippe Baraby (recipient) et Frederick Aardema.



Sarah Houazene, supervised by Frederick Aardema, during her thesis defense. OCD-RL offers its congratulations for her graduation!

Presented at



9th World Congress of
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COGNITIVE AND BEHAVIOURAL
THERAPIES AT THE **CROSSROADS**

- Baraby, P., Aardema, F., Wong, S.F., Audet, J-S, Melli, G., & Baraby, P. (2019). Reduced fear-of-self is associated with improvement in concerns related to repugnant obsessions in obsessive-compulsive symptoms. *Présentation orale au World Congress of Behavioral and Cognitive Therapies*, Berlin.
- Baraby, L-P., Aardema, F., Moulding, R., & Wu, K., Audet, J-S., & (2019). The relationship of inferential confusion and obsessive beliefs with symptom severity across obsessive-compulsive spectrum groups. *Présentation orale au World Congress of Behavioral and Cognitive Therapies*, Berlin.
- Baraby, L-P., Wong, S. F., Radomsky, A.S. & Aardema, F. (2019). Feared self-perception interacts with dysfunctional reasoning in the prediction of obsessive-compulsive symptoms. *Affiche présenté au World Congress of Behavioral and Cognitive Therapies*, Berlin.
- Krause, S., Wong, S. F., Radomsky, A.S. & Aardema, F. (2019). I might be disgusting: An investigation of fear of self, disgust sensitivity and mental contamination. *Affiche présenté au World Congress of Behavioral and Cognitive Therapies*, Berlin.
- O'Meara, M.G., Wong, S., Radomsky, A.S., & Aardema, F. (2019). The Feared Self: A Multidimensional Construct. *World Congress of Behavioral and Cognitive Therapies*, Berlin.
- Wilson, S., Aardema, F. & O'Connor, K. Inferential Confusion in Bulimia Nervosa: The Role of Over-Investment in Possibility and Distrust of the Senses. (2019). *Présentation orale au World Congress of Behavioral and Cognitive Therapies*, Berlin.

Interview with Natalia Koszegi – Clinical coordinator at OCD-RL

This interview was conducted with Natalia Koszegi, D. Psy., clinical psychologist and clinical coordinator at OCD-RL cumulating over 20 years experience in the treatment of obsessive compulsive disorder.

Question: *What prompted you to provide therapy for OCD?*

Natalia: In fact, it was by accident that I became interested in OCD. I was mainly interested in anxiety disorders, but it happened that I met Kieron O'Connor and he explained to me the conceptual model of OCD according to the inference-based approach (model he had developed with his team in the late 1990s, early 2000). It was a kind of revelation to me. I was already inclined to focus on cognitions in therapy rather than behaviors and emotions, although all of these are inseparable in reality. I had been fascinated by Dr. O'Connor's model because it identified a process that explained a lot of things in OCD: it was the confusion between the imaginary and the reality. I think if I hadn't known this model, I wouldn't have been so interested in OCD. There is a completely new, completely innova-

tive side to this model which led to a new way of working with clients.

Q: *What is the biggest difficulty for a therapist when using IBT for OCD?*

N: I think the difficulty may come from the fact that the therapist himself may be grappling with the confusion between the imaginary and the reality (what is called inferential confusion). When this happens, the therapist finds himself in an impasse with his client and does not know how to get out. This is a reasoning dead end. It's normal for this to happen; we are not always aware of our reasoning processes. We must then take a brief step back and ask ourselves the question: What did we not see?



Where did we get lost?

Another difficulty arises when a therapist is accustomed to using other intervention techniques (such as classical cognitive restructuring). Sometimes he doesn't realize that he is no longer in the IBT model. There may be subtle shifts that take us outside the IBT.

Also, at times, IBT can seem counterintuitive. For example, when a client tells us that we are not safe from the risk of contamination because germs are invisible, we tend to want to prove them right. Nevertheless, it is not the case; you can be safe even if you can't see them, without having any compulsions. So in the beginning, you have to trust the model and stick to it. Later, after using it with several clients, we understand the angle in which we should orient our interventions.

Q: *What is most important when doing therapy with people with OCD?*

N: As with any form of therapy, you first need a good bond of trust and a working alliance. This is acquired through good, empathetic, non-judgmental listening. The client's goals as well as the means to achieve them should be discussed and everyone should agree on these points before starting therapy.

Then, you have to get to understand the factors at play in the client's OCD: his reasoning and the elements that maintain his OCD. For this, it is important for the therapist to be familiar with OCD. Otherwise, he may not recognize the various obsessive and compulsive manifestations well, especially those which are more subtle, and which prevent the client from benefiting from the therapy (for example, subtle requests

Q: *How does IBT differ during the COVID-19 pandemic?*

N: I do not think it differs, on the contrary. I believe it is in contexts like COVID-19 that IBT brings the angle that can really help the client. In IBT, the client will not be told to avoid hand washing. We will not discuss with him the likelihood of contracting the virus, or we will not try to minimize the consequences of real contamination with the virus. What we will do, however, will be to examine the client's reasoning and differentiate between imagination and reality. Thus, washing your hands often and maintaining a social distance of 2 meters are behaviors based on real information. On the other hand, to think that the virus can jump on oneself like an insect would come from the imagination (since this has never been affirmed by credible sources and especially, that it contradicts the few clear information that we have on COVID-19's virus).

Q: *What is the impact of social distancing on the treat-*

ment of OCD and on IBT?

N: Basically, I see two categories of impacts, one negative and the other half / half.

Firstly, the distancing on the one hand has reduced anxiety, which is beneficial for therapy when trying to convey concepts to clients. Not being overwhelmed by their obsessions and not being parasitized by compulsions, they are more willing to focus and integrate these concepts. On the other hand, when the obsessions / compulsions are lessened, one has the impression of going thru the issues more quickly and one must wait for situations triggering the OCD to collect the elements more relevant to these situations (the client does not seem to be aware when not in contact with these situations). Eg. I have a client who goes back on his steps a lot, but it only happens at work. By the time he arrived home he would tell me he had no thoughts associated with his compulsions. Since he has Tourette syndrome, he wondered if these were tics. It was necessary for him to get back to work for me to ask him to push a little deeper and observe what was going on just before he wanted to go back on his steps. So, distancing can decrease anxiety and obsessions / compulsions which is good to some extent but slows down awareness.

Second, the distancing meant that we have to deliver therapy by phone or video conference. For IBT I find a slight disadvantage. It's not insurmountable though. In fact, since concepts are often abstract, I find it helpful to use the board to draw or write concepts. The visual helps to illustrate the symptoms and place them somewhere outside the client's head and helps integrate the concepts. Emailing a drawing or showing it on the ZOOM camera doesn't quite create the same effect in my opinion but can still help. Another point: face to face, I allow myself to do mini experiments that it would be possible to do remotely, but less effective in my opinion. For example, to show the client that he can trust his senses, I can open my door very slightly and ask him if he can judge whether it is open or not. It doesn't work as well if you ask the customer to look around and notice if their door is properly closed or if their light is on. I don't know why, but I find that the impact is not the same. Maybe the client's attention doesn't strike me as sharp. Not being in my office, there is an automatic distance and the client is in his environment. He is more relaxed, in slippers, he sometimes has little distractions around him. One of my clients sits in her bed for therapy when her children are at home. So the experiential exercises are less pronounced I find; clients "get on board" less.

COVID-19, Obsessive-Compulsive Disorder and Invisible Life Forms that Threaten the Self

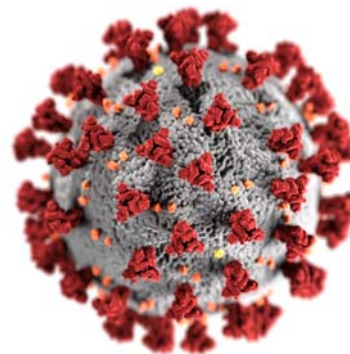
Original article by Frederick Aardema

In the eyes of the general public, those with Obsessive-Compulsive Disorder (OCD) are commonly viewed as germophobic and excessive cleaners who compulsively wash their hands. The same behaviors are now encouraged to lower one's risk of infection and the spreading of COVID-19. Not surprisingly, alarming media reports have referred to the current epidemic as a "personal nightmare" or "worst-case scenario" for those with OCD (Collie, 2020; Kingkade, 2020). A recent clinical guide on how to manage OCD under COVID-19 echoes similar anxieties, suggesting that those with OCD might be more affected than any other group of individuals with a mental illness (Fineberg, Van Ameringen, Drummond, et al, 2020).

It is a reasonable hypothesis that stress and anxiety as the result of the current pandemic may worsen mental health issues, or even cause mental problems among those previously unaffected. The 2013 SARS outbreak had an immediate and longer-term psychological impact among health care workers (Nickell et al., 2004; Maunder et al. 2014). Likewise, a significant negative psychological impact is anticipated among the general public given experience from previous pandemics (Brooks et al., 2020; Taylor, 2019). However, the extent to which these effects are particularly relevant to those with OCD is not known.

Irrational fear of contamination is only one specific manifestation of OCD. Other common forms of OCD have little direct relationship to viruses and germs, including those with harm-related obsessions, concerns about symmetry, and checking related compulsions. Even among those with obsessional fears of contamination, it's not all about viruses and germs, but it may also revolve around an entirely different categories of contaminants (e.g. pesticides, mold, radioactivity, chemicals, lead, asbestos, electromagnetic energy, and even disinfectants). In other words, the high level of heterogeneity and selectivity both across and within symptom subtypes is incongruent with the notion that COVID-19 is always directly relevant to OCD.

It is quite possible that the negative effects of the current pandemic will be stronger in some individuals with OCD. As a clinician, it is not difficult to imagine that those with harm-related obsessions may suddenly



start to develop obsessions about infecting others. Likewise, those with contamination fears may have a more difficult time than usual as current events squeeze their way into the obsessional narrative. Yet, even here, we have to be careful not to overgeneralize.

For example, one client with contamination fears was pleasantly surprised to see everyone else engage in the same behaviors as herself. She no longer had to feel embarrassed using protective gloves, or refusing to shake hands. It was a welcome reprieve from the usual stigma, self-blame and shame that the disorder tends to bring along. However, she took protective measures for a different reason than COVID-19. She washed her hands because of a fear of acquiring Hep C. She had no obsessional concerns about the coronavirus. In effect, she was protected from any negative effects thanks to the high "resilience" and "impermeability" of her specific obsession.

OCD is an extremely slippery disorder, immune to generalizations, always stubbornly refusing to be boxed into a corner. This is also reflected in the aforementioned clinical guide, noting difficulties with disentangling normal and abnormal fears of contamination, thereby raising concerns on how to deal with symptoms of OCD during the current pandemic (Fineberg, Van Ameringen, Drummond, et al, 2020). On the surface, there appears to be a "new normal" where that what was previously considered exaggerated and abnormal, now seems entirely justified and normal. Indeed, when do irrational fears of contamination start to diverge from entirely normal and rational fears? What is it exactly that makes an entirely justified fear of contagion different from *obsessional* fears of contamination?

The current communication will address these questions through a consideration of recent developments

in research on feared-self perceptions in OCD (Aardema & Wong, 2020). First, it will be shown that the personalized meaning attached to viruses and germs, including the personification of viruses as entities that possess human-like characteristics, allows for a positioning towards these life forms that enable them to not only threaten the physical body, but also the self. Second, it will be argued that a fear of contamination becomes obsessional due to a fear of inner corruption where compulsions serve to safeguard the self rather than just the body. Third, the differences between normal and abnormal fears of contamination will be illustrated through the specific manner that OCD clinically manifests itself in comparison to normal, and even exaggerated non-obsessional fears of contagion. Finally, the paper concludes with some clinical recommendations for psychoeducation and specific cognitive interventions during treatment for OCD in the context of the current pandemic.

The Personal Meaning Ascribed to Viruses and Germs

As pointed out by Schlozman (2014), on any objective level, viruses and germs are “interpersonally boring”. They do not have any personality or volition. They just are what they are; microscopic entities that do whatever they do, sometimes causing disease and death. None of these characteristics are likely to cause OCD. If they did, then most infectious disease specialists would suffer from this disorder, and apart from seeing the value of frequent handwashing, sneezing in your elbow, and not touching your face, there is no evidence they are more likely to suffer from OCD than anyone else. Yet, the meaning we can attach to these life forms is quite different. In our imagination, they can be like monsters out to get us, and even though the “bogey man” did not get you today, it might always do so tomorrow (Schlozman, 2014).

We all tend to personify viruses and germs. Early on, the Chinese president Xi labelled the coronavirus a “devil virus” as if it were a malevolent entity out to get us with the intent to wipe out humanity (Blanchard, 2020). Likewise, other politicians and decision makers have referred to the coronavirus as “the invisible enemy” or “the hidden enemy” while simultaneously developing “battle plans” and “going to war” to fight an enemy that is unable to return the same sentiment (Serhan, 2020).

The current coronavirus has also been ascribed local identity and nationality as the “Wuhan virus” and the “Chinese virus”. The naming of viruses after their place of origin has occurred throughout history in the personification of viruses (e.g. “Middle East respiratory

syndrome coronavirus”), although more recently formally abandoned because of unnecessary stigmatizing effects on nations and its people (World Health Organization, 2015). Yet, these names continue to be used even though viruses and germs do not have a nationality, nor do they carry any passports. It gives them a lot more identity than they “deserve” (which incidentally is a phrasing that inadvertently gives them identity as well).

The personification of disease allows these life forms to threaten and psychologically “pollute” the self

It is quite difficult to talk about germs and viruses without simultaneously implying they have sentience, volition and personality. It is not unique to those with OCD alone and occurs throughout the general population. In many situations, it seems relatively harmless, like in children’s cartoons that show naughty, delinquent germs running across the screen being chased by heroic white blood cells. Although the personification of viruses and germs has been found to be associated with heightened fears of contamination among non-clinical controls (Riskind & Richards, 2018), it is unlikely to play any direct causal role in OCD, nor would a tendency to personify viruses and germs be necessarily expected to differentiate between normal and obsessional fears of contamination. However, the personification of viruses and germs illustrates how these life forms are not only a physical threat, but can also represent a psychological threat as an enemy or invader able to threaten the self (Connelly and Macleod, 2004). Indeed, the wider literature suggests that those with OCD might be particularly vulnerable to experience viruses and germs as a psychological threat due to an already fragile and incoherent identity (Aardema & Wong, 2020). This brings us to a historical fear of inner corruption among those with OCD.

A Historical Fear of Inner Corruption

In a recent historical analysis of obsessions, Aardema and Wong (2020) observe that while fears of contagion and disease have always existed, a fear of viruses and germs did not exist until the end of the 19th century until germ theory became more widely accepted as a scientific account on the spread of disease. Before this time, ideas on the origin of disease were not as established, either viewed as the result of evil influences, or considered to spread through bad air from decaying

organic matter. In addition, views on what constituted a contaminant was quite different in earlier times. Prior to the 17th century, historical records that describe obsessive-compulsive fears of contamination are scarce to non-existent. Instead, earlier accounts more commonly describe a fear of inner corruption as the result of evil influences (Luibheid & Russell, 1982; p. 212; Kempe, 1436/2015), and later on in theological doctrines derived from the notion of original sin (Bunyan, 1666), as well as secular notions of inner corruption as the “devil” that exists inside all of us (McAdams, 1993). In other words, the historical evolution of OCD suggests that a fear of mental contamination might be more central to an understanding of this disorder than fears of physical contamination. That is, in the obsessional case, physically oriented forms of contamination represent a historical continuation of a fear of inner corruption through other means.

Germ theory, while providing a scientific, objective account of disease, has never completely succeeded in depersonalizing the origins of disease in the eyes of the general public, allowing microscopic life to not only threaten the physical body, but personal identity as well. In lessons learned from the 2014 Ebola outbreak, Schlozman (2014) observed the following on the true insidious danger of infection:

“We personify an illness and then we attribute the “personality” of the illness to those who are unlucky enough to have the disease. The infected individuals go from being unique person to simply persons with Ebola...The disease, which we have personified, becomes the person himself, and the person therefore loses his personhood.”

The personification of disease, including the viruses and germs that cause them, allows these life forms to not only threaten the physical body, but also to threaten and psychologically “pollute” the self. This issue is particularly germane to OCD, which has been proposed to be characterized by feared self-perceptions driving their symptoms, both with regards to the occurrence of repugnant obsessions, and more recently, obsessional fears of contamination (Aardema & O’Connor, 2007; Aardema, Wong, Audet, Melli & Baraby, 2018). The specific traits and self-related qualities feared by those with OCD are varied and diverse, but a fear of inner corruption is a common theme throughout the historical, clinical and empirical literature on OCD (Aardema & Wong, 2020).

In particular, the seminal work of Rachman (1994) has highlighted constructs closely related to a fear of

inner corruption, especially in relation to the notions of “pollution of the mind” and “mental contamination”, representing a sense of inner dirtiness arising from sources other than visible physical contaminants (Radomksy, Coughtrey, Sahfran, Rachman, 2017). In other words, in the case of obsessional fears of contamination, it may not really be about any of the objective characteristics of viruses and germs, but instead, how these personified life forms desecrate and violate one’s own self and personhood, not dissimilar from feelings of contamination that may arise following imagined or actual violation (Fairbrother & Rachman, 2004; Elliott & Radomsky, 2012).

Indeed, despite the allowances provided by germ theory for an objective fear of microscopic life, early accounts of “germaphobia” do not always clearly identify a genuine fear of viruses or germs, or even any specific disease resulting from it, but instead, they appear to describe an intangible fear revolving around the desecration and violation of the self (Hammond, 1883; as cited in Aardema and Wong, 2020).

“I have no particular apprehension of contracting smallpox or any other disease I can specify. It is an overpowering feeling that I shall be defiled in some mysterious way, that presses me with a force I cannot resist...a subtle influence, whatever it may be, (that) is capable of passing through (my gloves) to my hands.”

Those with fears of physical contamination are often unable to exactly describe what they might be contaminated with, nor do they necessarily express any obvious concerns with the consequences of contracting viruses and germs like death or disease. This difficulty with expressing fears in concrete terms is consistent with the notion of feelings of contamination arising from a fear of inner corruption and the perceived violation of the embodied self. It may also help to explain the ego-dystonic nature of obsessions, where the person is able to intellectually recognize that the objective characteristics and consequences of germs and viruses form no realistic basis for their fears, yet at the same, unable to distance from the intense feelings of contamination that arises from their association with the psychological underlying theme of inner corruption.

Recent evidence supports the notion that concerns about physical or contact contamination resulting in washing behaviors is closely intertwined with feelings of mental contamination or pollution that arises from a fear of one’s own identity being tainted or corrupted (Krause, Wong, Giraldo-O’Meara, Aardema & Radomksy, 2020). In addition, improvements in feared

self-perceptions during psychological treatment is significantly associated with lessened concerns about physical contamination (Aardema, Wong, Audet, Melli & Baraby, 2018). This suggests that an obsessional fear of germs and viruses is something entirely different than any normal fears and washing behaviors that arise due to a pandemic. It is not even the same as an exaggerated fear of contamination. Phobic-like responses to a pandemic due to overestimating the probability of danger likely exists, but these tendencies are not unique to OCD and are present in a variety of anxiety disorders (Tolin, Worhunsky, & Matlby, 2004). Instead, what makes a fear of contamination truly obsessional is when this threat becomes personal, not solely in terms

This high level of selectivity can even have a protective effect against the negative effects of a pandemic .

of its potential objective outcomes, but how it is perceived to corrupt and taint the self via the psychological meaning attached to contracting viruses and germs.

The Specific Nature of OCD

OCD is unique in comparison to other disorders characterized by high levels of anxiety, yet at the same time, is able to masquerade as a normal fear, and even as a phobic aversion. This makes it easy to assume those with OCD will be particularly affected by the current pandemic as the result of a catastrophic or exaggerated reaction similar to those with a phobia. However, OCD is not a phobia.

The early work of O'Connor & Robillard (1995) reports several inconsistencies in the notion of a parallel between phobic aversion and OCD. The first inconsistency is that OCD is highly selective within a particular category of feared objects and substances, where for example, a person checks for the presence of pieces of paper near a radiator for fear of fire, yet is unconcerned whether or not the stove is left on. Those with phobia do not show the same degree of selectivity. Fears revolve around a consistent objectively quantifiable category of objects or situations where they avoid all spiders, or all heights, or all planes. In contrast, obsessional fears are highly idiosyncratic and domain-specific with variations within even specific subdomains of any particular subtype, like the case of the client who feared the Hep C virus, but showed no heightened concerns about the coronavirus. This high level of selectivity can even have a protective effect against the negative effects of a pandemic as compared to other disorders that are characterized by a more generalized tendency to overestimate threat.

The second inconsistency is that in OCD the selective categorization of aversive stimuli is in association with another theme where, for example, "dirt" is only classified as dirt if associated with any particular person. Obsessional fears are conditional on the idiosyncratic meaning attached to feared objects, substances or events above and beyond the objective and visible features of an object or event. Hence, on the surface, it may appear that those with OCD fear dirt, viruses and germs, but it is really about what these represent or symbolize, especially in relation to an underlying feared self-theme that allows them to threaten the self beyond any potential objective effects like disease or death.

Third, those with OCD often do not pay any attention to reality, and may not even be able to report what they try to accomplish by washing or cleaning. They do not necessarily know what a virus or germ looks like anymore than a regular person, while those with a simple phobia know exactly what they fear. While threat itself is almost always a concern in OCD, this relates to how the aversive stimulus is perceived to threaten the underlying self-theme. Consequently, the function of washing behaviors among those with OCD is entirely different from any normal, or even exaggerated reactions to the current pandemic. First and foremost, they are carried out to safeguard and protect against dangers to the self, as opposed to the physical body.

Finally, obsessional fears are the result of a running narrative that is grounded in the imagination as opposed to reality. Those with OCD are not actually acting upon the demands of the real world when engaging in rituals and compulsive behaviors. The person with OCD may act as if, or even believe that they are acting upon reality when they fear contagion, but they are really acting upon their own imagination. The symbolic nature of their fear is confused with reality in a failure to fully appreciate the imaginary origin of obsessional fears. It is for the same reason that obsessional concerns typically arise in inappropriate contexts that are not directly related to events and situations occurring in the here and now.

The out-of-context occurrence of obsessions has recently found empirical support in a recent experimental task that found intrusions occurring without evidence significantly predict symptoms of OCD (Audet, Wong, Radomsky, & Aardema, 2020). In contrast, intru-

sions occurring with evidence did not predict symptoms even though these were associated with higher levels of distress. In other words, obsessional fears arise without there being any direct evidence for risk of infection. For example, a fear of a virus finding its way through the walls, as opposed to feelings of discomfort when someone walks up to you to shake your hands in the middle of a pandemic. In the case of the latter, someone with obsessional fears of contamination will obviously experience anxiety, but this reaction does not necessarily indicate OCD. The thought about being contaminated would be an entirely normal intrusive thought even when it occurs to someone with obsessional fears of contamination. In other words, a truly obsessional reaction occurs not on the basis of direct evidence pertinent to the here and now, but as the result of an overreliance on the imagination that takes real objects, events and facts out of context due to its association with the vulnerable self-theme of inner corruption.

Some Clinical Implications

Recent clinical guidelines on how to manage OCD under COVID-19 advise to pause or adapt ongoing cognitive-behavioral therapy during the current pandemic, at least for those with fears of contamination. These guidelines note how the difference between normal and abnormal fears of contamination can be difficult to tell, and given potential risks to clients with engaging in exposure and response prevention (ERP), pharmacotherapy is proposed as a first option for clients with contamination fears. However, the unique features of OCD make a different set of recommendations possible. In particular, there are evidence-based cognitive approaches that align strongly with a cognitive formulation of fears of contamination as outlined in the current paper (O'Connor, Aardema & Pelissier, 2005; Julien, O'Connor, & Aardema, 2016)

First and foremost, it would advise that therapists engage in psychoeducational efforts that highlight the difference between normal and obsessional fears of contamination. Learning how to tell the difference between normal and obsessional doubts is already an intrinsic part of inference-based cognitive therapy for OCD (O'Connor & Aardema, 2012). It teaches those with OCD that obsessions typically occur out-of-context and without any direct evidence justifying the doubt. Specific examples in line with recent events can be provided that illustrate the differences between normal and obsessional fears of contamination. For example, an urge to wash one's hands following grocery deliveries, or after physically bumping into another person in

the street, is entirely justified in the context of the current pandemic. It is a concern that occurs in-context with direct evidence for potential contamination, and aligns with the facts about possible contamination. Next, examples can be provided highlighting the unique features of obsessional concerns, but applied to a situation that is neutral to the client.

For example, in the case of the client with highly specific fears of acquiring the Hep-C virus, a parallel was drawn with COVID-19, referring to one of the

Since obsessional fears are irrational fears that occur out-of-context and without any direct evidence, there should be no risks in exposing individuals to situations where this applies.

many possible scenarios that the client believed might result in acquiring Hep-C. The proposed (obsessional) scenario by which she might acquire COVID-19 included someone walking by in front of the house; who looked pretty old; might perhaps live in residency for the elderly with other contaminated individuals; may have touched things outside of the house; which then could have been somehow brought into the house by the children; resulting in the entire family being infected. When applied in this manner, clients are usually readily able to recognize the imaginary nature of the reasoning, while also realizing that they justify their own fears in a similar manner thereby reducing the credibility of their own obsession. In the words of the client:

"In a way, I can see how all these COVID fears invalidate my concerns about Hep C. It makes sense people take measures to protect themselves from COVID. There is real evidence to be concerned about COVID, but with Hep C there is nothing like that. There's no epidemic, it does not spread easily and I have no specific risk for getting it. It's a fine line between reality and imagination, and yet for some reason, it does not cross over into COVID-19. When I see people walking less than 6 feet away from me, my OCD does not latch onto that. It does seem like this COVID thing puts the OCD in context. It makes me ask myself, do I really need to wash my hands for Hep C?"

It deserves to be noted that this client had already significantly improved as the result of cognitive therapy, and psychoeducation efforts can be more challenging earlier in treatment. However, none of this retracts

from the message that cognitive interventions can be successfully utilized in treatment during the current pandemic to illustrate the falsehood of obsessions, alongside with other cognitive techniques and interventions that aim to reduce the credibility of the obsession (O'Connor & Robillard, 1999; O'Connor, Koszegi, Aardema, Van Niekerk & Taillon, 2009). In addition, cognitive interventions addressing the underlying vulnerable self-themes have been successfully incorporated into an inference-based approach to OCD (Aardema & O'Connor, 2007).

While inference-based cognitive therapy does not include exposure, it is an approach that has been successfully combined with ERP (Van Niekerk, Brown, Aardema, & O'Connor (2014). The current pandemic has raised specific concerns about ERP where exposure exercises might put patients at risk. Indeed, in the context of the current pandemic, some forms of exposure for fears of contamination go against social distancing guidelines and might reasonably be expected to increase one's risk of contagion if not followed. Yet, an inference-based perspective would expect less problems in the administration of ERP if exposure exercises align themselves fully with the differences between normal and abnormal fears of contamination as outlined in the current paper. That is, since obsessional fears are irrational fears of contamination that occur out-of-context and without any direct evidence, there should be no risks in exposing individuals to situations where this applies. This is not exposure with safety behaviors included, but exposure that more specifically target the unique characteristics of obsessional fears. After all, the whole point of exposure is to relieve those with OCD from fears that occur in unrealistic situations, not to get rid of adaptive fears and expose them to risk.

Social distancing measures might make devising exposure exercises more difficult, but those with obsessional fears of contamination are quite capable of fearing situations without any actual risk or physical contact, so there should be plenty of opportunities for exposure that are safe for the patient to perform. ERP does not necessarily need to include putting one's hand in the toilet, or hugging random people on the street. The differences between normal and obsessional fears of contamination outlined in the current paper may help to assist with devising appropriate exposure exercises. One might even hypothesize that targeted exposure exercises that are based on the differences between normal and abnormal contamination will be more effective than those that haphazardly target contamination in an exaggerated manner, although this is an empirical question that requires further testing.

Conclusion

The current paper has explored fears of contamination in the context of the current pandemic drawing upon the historical and recent empirical literature emphasizing the role of feared-self-perceptions, and in particular, a fear of inner corruption giving rise to obsessions. It proposes that obsessional fears of contamination can be explained by the interaction between the psychological meaning attached to contracting viruses and germs, the specific feared qualities that the person most fears acquiring, and the ensuing imagined effect of corrupting the self. It is not the objective features of viruses and germs that underlie obsessional fears, nor is it an exaggerated fear, but rather how these life forms threaten the self. Consequently, those with OCD are never "right" about washing their hands in response to an obsession. In effect, they are trying to remove "dirt" that is not really there.

While the current communication is based on recent empirical evidence on the role of feared self-perceptions in OCD, there is a need for both cross-sectional and experimental research to test some of the ideas and predictions derived from the current conceptualization. The model would predict that a fear of inner corruption, and the specific qualities and traits they fear acquiring, is closely aligned with the negative qualities and psychological meaning ascribed to contracting contaminants like viruses and germs, resulting in the occurrence of out-of-context obsessions and compulsive urges to wash and clean to preserve a normal, unblemished sense of self. In addition, in line with recent findings, it would predict that therapy specifically targeting a fear of inner corruption results in reduced physical contamination fears mediated by reductions in mental contamination (Aardema, Wong, Audet, Melli & Baraby, 2018; Krause, Wong, Giraldo-O'Meara, Aardema & Radomksy, 2020).

The potential effects of the current pandemic on mental health should not be underestimated. The current paper does not deny that current concerns and anxieties about COVID-19 may cause, contribute to, or worsen symptoms in individuals. However, this effect may not be as specific to OCD as assumed, since it is not just a heightened concern about danger that characterizes this disorder, but rather, whether or not threats are associated with an underlying vulnerable self-theme. In some individuals with OCD, recent events might be incorporated or strengthen obsessional narratives leading up to obsessional fears of contamination and contagion, but these can never form any real justification for the reality of an obsession that arises from the imagination. For any specific obsessional-

al effect to occur, a fear of viruses and germs has to hit the person's vulnerable self-theme, and the extent to which it is able to do so remains to be seen. For the same reason, therapy addressing feared self-perceptions might be particularly beneficial for those with obsessional fears of contamination.

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