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Short communication

Comparing the roles of washing and non-washing behaviour in the reduction of mental contamination

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ABSTRACT

Background and objectives: Mental contamination is the experience of feelings of dirtiness without direct physical contact with a contaminant. Imagining a non-consensual kiss from an immoral man (Dirty Kiss task) can evoke feelings of mental contamination in non-clinical female participants. We investigated whether feelings of mental contamination evoked by the Dirty Kiss task are reduced by washing behaviours.
Methods: Forty-eight female participants were split into two groups: washing ($n=24$; asked to wash their hands and mouth after the Dirty Kiss task) and non-washing ($n=24$; asked to wait without engaging in any behaviour after the Dirty Kiss task). Indices of mental contamination were administered before, immediately after, 5 min after, and 20 min after the task.
Results: Mental contamination scores did not significantly differ between the groups at any point. However, in both groups, scores immediately after the Dirty Kiss task were significantly higher than those 5 or 20 min later.
Limitations: The long-term effects of washing behaviour on mental contamination were not clarified.
Conclusions: Mental contamination can be reduced by washing behaviour, although no more effectively than waiting without washing.

1. Introduction

Obsessive–compulsive disorder (OCD) affects roughly 1–2.5% of the general population (American Psychiatric Association, 2000). Patients with OCD who experience contamination fears generally wash excessively to feel that they or others are clean and safe. *Mental contamination* (Rachman, 1994) is a psychological sense of contamination involving internal, emotional feelings of dirtiness. These are often evoked by imagining negative events (e.g. sexual assault), including memories, repugnant thoughts, or images related to sexual trauma. Mental contamination is accompanied by negative emotions (e.g. distress, disgust, shame, guilt, and anxiety; Fairbrother & Rachman, 2004; Cougle, Lee, Horowitz, Wolitzky-Taylor, & Telch, 2008; Olatunji, Elwood, Williams, & Lohr, 2008; Berman, Wheaton, Fabricant, & Abramowitz, 2012).

Mental contamination differs from the feeling of dirtiness and contamination induced by contact with soiled substances or objects (i.e. an ordinary sense of dirtiness; Fairbrother & Rachman, 2004). First, an ordinary sense of dirtiness is evoked by physical contact with soiled substances/materials/persons, while mental contamination can be evoked even without such physical contact. Second, an ordinary sense of dirtiness is rarely revived by repugnant memories, thoughts, or images, while mental contamination can be evoked by such mental phenomena. Third, an ordinary sense of dirtiness is rarely accompanied by feelings of guilt or shame, while feelings of mental contamination are accompanied by these and other negative emotions. Finally, an ordinary sense of dirtiness is immediately reduced by washing behaviours, whereas, logically, feelings of mental contamination would not respond to washing.

Coughtrey, Shafran, Knibbs, and Rachman (2012) indicated that 46% of participants with obsessive–compulsive (OC) symptoms ($N=177$) experienced mental contamination. Fairbrother and Rachman (2004) indicated that 60% of non-clinical female participants who had experienced a sexual assault at least three months before the study, reported experiencing at least one symptom of mental contamination when they deliberately recalled memories of the assault. Mental contamination can also be aroused in perpetrators of non-consensual acts, particularly those involving betrayal. Rachman, Radomsky, Elliott, and Zysk (2012) reported that

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introducing feelings of betrayal boosts the magnitude of mental contamination. In addition, threats to one's moral purity can lead to moral threat, which may stimulate a perceived need for physical cleansing. For instance, Zhong and Liljenquist (2006) demonstrated that non-clinical participants asked to copy an unethical story (e.g. sabotaging a co-worker) had stronger desires for cleansing products (e.g. shower soap) than did participants asked to copy an ethical story. Furthermore, Zhong and Liljenquist showed that physical cleansing reduces perceived threats to moral self-image, and proposed that physical cleansing may be people's way of 'washing away' moral sins through symbolic self-completion.

Feelings of dirtiness/pollution and urges to wash may also be evoked by asking participants to imagine a scenario in which a non-consensual sexual event takes place (e.g. Fairbrother, Newth, & Rachman, 2005; Elliott & Radomsky, 2009). Experiments on this topic aim to determine whether it is possible to evoke feelings of contamination without physical contact with a tangible contaminant. In the study by Fairbrother et al. (2005), 121 female volunteers were asked to imagine that while attending a party, they were given an intrusive non-consensual kiss (NCK). Their reactions, including any feelings of dirtiness, were then compared with the reactions of controls who were asked to imagine a comparable party scene involving a consensual kiss. The results of this 'dirty kiss task' consistently showed that imagining an NCK evoked feelings of dirtiness (Fairbrother et al., 2005).

Rachman and Hodgson (1980) established that compulsions such as cleansing reinforce OC symptoms because they seem to work by reducing discomfort in the short term. Salkovskis and Clark (1991) and Salkovskis (1996) also suggested that compulsions, in order to neutralise discomfort, prevent the person with OCD from discovering that his or her fears do not actually come to pass (e.g. 'I did not get sick because I washed my hands repeatedly'). Thus, cognitive-behavioural perspectives suggest that neutralising behaviours aimed at reducing fear of contamination, such as washing, do not actually reduce this fear for long; indeed, they may increase the urge to perform the compulsion, resulting in a vicious circle whereby OC symptoms remain and even increase in severity. If feelings of mental contamination were also reduced by washing behaviour in the short-term, the general cognitive-behavioural model of OCD would apply. Conversely, if feelings of mental contamination are not alleviated by washing behaviour, as hypothesised by Fairbrother and Rachman (2004), then other factors (e.g. cognitive factors) may better explain the psychopathology of mental contamination. However, no studies have empirically examined whether mental contamination is responsive to washing behaviour.

Additionally, feelings of dirtiness may be subject to spontaneous decay if the affected person refrains from neutralising behaviour (Rachman, de Silva, & Roper, 1976; de Silva, Menzies, & Shafran, 2003). This finding provides the experimental underpinning for the exposure and response prevention (ERP) treatment of OCD. In this treatment, the patient's urge to engage in compulsive behaviour (e.g. hand washing) is provoked by exposure to trigger stimuli (e.g. contact with a 'contaminating' object) followed by a period in which the patient is prevented from yielding to this urge. However, no studies have examined whether the subjective feeling of mental contamination is subject to spontaneous decay if the person experiencing the contamination does not engage in washing behaviour.

2. Purpose

The present study investigated whether feelings of mental contamination are reduced by washing behaviour or waiting without washing. We hypothesized that if these feelings are reduced by washing behaviour to a greater degree than by waiting without washing, this will be expressed as significant differences in mental contamination levels between individuals asked to engage in washing behaviour and individuals prevented from engaging in washing behaviour.

In addition, we examined whether the subjective feeling of mental contamination is reduced if the person experiencing the contamination does not engage in washing behaviour. If washing behaviour is unnecessary for reducing feelings of mental contamination, the non-washing group will show significant declines in mental contamination levels over time.

3. Method

3.1. Participants

Participants were recruited through snowball sampling via informational handouts. Interested participants could also attend informational group presentations in university lecture rooms. Potential participants had to state in writing that they had never undergone mental health treatment nor been diagnosed with a mental illness. Prospective participants were asked to contact the researchers to schedule participation in the experiment. Forty-eight Japanese female undergraduates (age range: 18–25 years; $M=18.36$, $SD=2.31$) enrolled in psychology classes at a Japanese university participated in this study. All participants signed informed consent forms, and were informed that their participation was voluntary and that they could leave the study at any point without penalty. All procedures were approved by the Ethics Committee of Chiba University Graduate School of Medicine.

3.2. Assessments

3.2.1. Indices of mental contamination

The Mental Contamination Report (MCR; Elliott & Radomsky, 2009) assesses participants in terms of subjective units of distress (SUDs) regarding feelings of dirtiness (one item); urge to wash (five items: mouth-rinsing, teeth brushing, face and hand washing, and showering); internal negative emotions (INEs; seven items: shame, guilt, humiliation, fear, sadness, and self-perception as cheap or sleazy); and external negative emotions (ENEs; five items: anxiety, distress, anger, and disgusted by the offender's physical appearance or behaviour). INEs involve assessments of how participants felt about themselves, while ENEs may reflect people's assessments of the man they imagined in the scenario. In addition to indices of mental contamination, the MCR assesses how easily participants can imagine the scenario (one item). The possible score of each item ranges from 0 to 100. The Japanese version of this scale has adequate internal reliability and convergent validity (Ishikawa, Kobori, & Shimizu, 2013).

3.2.2. Obsessive washing for physical contamination

The Obsessive Compulsive Inventory (OCI; Foa, Kozak, Salkovskis, Coles, & Amir, 1998) is a 42-item self-report measure designed to assess OCD symptoms; we used only the 8-item washing compulsion subscale, which measures the extent to which washing is used to counteract fear of physical contamination (e.g. 'I find it difficult to touch rubbish or dirty things'). The Japanese version of the OCI has adequate internal reliability, test–retest reliability, and convergent validity (Ishikawa et al., 2013, manuscript submitted for publication).

3.3. Depression

To measure depressive symptoms, we used the Japanese version of the Beck Depression Inventory, version 2 (BDI-II; Beck, Steer & Brown, 1996). This is a 21-item self-report measure designed to assess symptoms of major depression. The reliability and validity of the Japanese version were verified by Kojima et al. (2002). Responses are given on a 4-point Likert-type scale from 1 ('not at all') to 4 ('severely').

3.4. Anxiety

We used the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988) to assess participants' feelings of anxiety. This is a 21-item multiple-choice self-report inventory measuring anxiety symptoms (e.g. numbness, hot and cold sweats) experienced during the preceding week. Responses are given on a 4-point Likert-type scale from 1 ('not at all') to 4 ('severely'). The reliability and validity of the Japanese version were verified by Ishikawa, Kobori, and Shimizu (2013).