

An Experimental Analysis of Mental Contamination

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Abstract

An Experimental Analysis of Mental Contamination

Corinna Elliott

The fear of contamination is thought to be comprised of two separate but related fears: those pertaining to physical and mental contamination. Mental contamination is the lesser known construct of the two, and is present among individuals suffering from anxiety disorders (e.g., OCD, hypochondriasis, PTSD, etc.), as well as female victims of sexual assault. Mental contamination involves an internal, emotional feeling of dirtiness, urges to wash, internal (e.g., shame), and external (e.g., anger) negative emotions, as well as subsequent washing behaviour(s). Previous research involving mental contamination encountered limitations in that more than one independent variable was manipulated simultaneously. In particular, an immoral act (e.g., a non-consensual kiss), had been coupled with an immoral man (e.g., the person who forces the kiss). The purpose of this study was to tease apart the immorality of the man from the immorality of the situation. Female undergraduate students from Concordia University ($n = 148$), listened to an audio recording and imagined they were experiencing the event described. The audio recordings involved either sharing a consensual kiss with a man described as moral, or immoral, or receiving a forced, non-consensual kiss from a man described as moral, or immoral. Participants indicated the presence and degree of mental contamination and then completed a behavioural task for which spontaneous washing was recorded. Results indicated a non-consensual kiss from a man described as either immoral or moral before the kiss evoked the greatest feelings of mental contamination, and an interaction was present between desirability of the kiss and (im)morality of the man. Results are discussed in terms of cognitive-behavioural conceptualizations of and treatments for contamination fears.

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An Experimental Analysis of Mental Contamination

Traditionally, contamination research has involved direct physical contact with a contaminant to examine physical feelings and fears of contamination (e.g., touching a dirty animal or bodily fluids such as blood or urine) (see Dorfman & Woody, 2005). Not surprisingly, individuals who touch a contaminant feel dirty at the location of physical contact and may also experience feelings of physical disgust. More recently, however, a different type of contamination has been reported that may be experienced without physical contact (Fairbrother & Rachman, 2004; Rachman, 2004; Rachman, 2006). It is a psychological sense of contamination which involves an internal, emotional feeling of dirtiness that may be evoked for example by simply imagining certain events. This phenomenon is called mental contamination and was first identified by Rachman (1994) when he noted that some patients with Obsessive-Compulsive Disorder (OCD) experienced feelings of contamination in the absence of any physical contaminant. Compared to physical contamination, episodes of mental contamination may be more difficult to deal with as the contaminant is difficult to localise and not easily 'washed away' (Fairbrother, Newth, & Rachman, 2005). The failure to identify mental contamination when using the most common instruments (e.g., the Yale-Brown Obsessive Compulsive Scale; Goodman et al., 1989; and Obsessive-Compulsive Inventory; Foa et al., 1998) may provide a partial (yet tentative) explanation for why up to 50% of patients drop out of treatment or decline to undertake the leading effective and empirically based treatment, Exposure and Response Prevention (ERP; Foa et al., 2005). Of those who do accept this treatment, only 50-60% recover (Fisher & Wells, 2005). An improved understanding of contamination fears would consequently improve our understanding of OCD and may well prove fruitful for the development of more effective treatments.

OCD is an anxiety disorder involving obsessions (e.g., unwanted aggressive thoughts, images and/or impulses) and/or compulsions (e.g., repeated checking) (American Psychiatric Association (APA), 2000). Cleaning compulsions are the second most common type of compulsion (Rachman & Hodgson, 1980) and involve repeated, unsuccessful attempts by an individual to clean her/himself or objects perceived as contaminated. It has been estimated that roughly 50% of individuals suffering from OCD report fears of contamination (Rachman & Hodgson, 1980; Rasmussen & Eisen, 1992) that are usually found to be underlying this compulsion (Rachman, 1994). Individuals afflicted with washing compulsions will wash repeatedly yet fail to feel clean. For example, one woman who attempted to relieve herself of feelings of dirtiness by taking numerous hot showers reported, "No matter how hard I try, I can't seem to get clean!" (Rachman, 1994). An understanding of the presence of mental contamination in these situations may help to explain why attempts of this type are unsuccessful as they fail to address the underlying problem (Rachman, 1994). The most prominent example of an (albeit literary) individual who engaged in repeated washing to rid herself of pollution and guilt was Lady Macbeth. Her attempts proved fruitless and she asked in despair, "What! Will these hands ne'er be clean?" (Shakespeare, 1992). Observing this complex and puzzling behaviour in many patients led Rachman (2004) to pose the question, "How is it possible to wash repeatedly and yet remain dirty?".

Rachman (1994, 2004, 2006) has proposed the existence of two types of contamination underlying contamination fears: physical and mental. Physical contamination may be categorized into fears of disease, dirt and/or harmful substances, and usually involves direct physical contact with a contaminant resulting in a physical feeling of dirtiness. This sense of dirtiness would be experienced by most individuals who came into contact with the soiled object, should cease after

washing the point of physical contact with the contaminant, and could be objectively identified by others (Rachman, 1994). In contrast, mental contamination may be categorized into fears of mental pollution, self-contamination, physical violation, psychological violation and 'morphing', is not restricted to direct physical contact with a contaminant and may persist independently of such contact. An individual afflicted with mental contamination recognizes that the experience is unique to them (Rachman, 2006); that is those situations and thoughts which leave them feeling contaminated are readily recognized as not affecting others. Thoughts, words, memories or images (e.g., impulses to molest a child) may elicit these feelings (Rachman, 2004).

Additionally, this sense of dirtiness is not directly observable by others as physical soiling is not required and the location is primarily reported as diffuse and difficult to locate. This differs from other forms of contamination in that the location of the contamination is more easily identified at the point of physical contact with the contaminant. Consequently, individuals afflicted with mental contamination may report an urge to wash, but attempts to do so are ineffective since the contaminant is not physical in nature (Rachman, 1994).

Disgust and morality are two concepts closely related to mental contamination. Feelings of disgust are usually experienced alongside feelings of mental contamination. However, there are many situations in which an individual may feel disgusted but not mentally contaminated (e.g., handling dog feces) (Fairbrother & Rachman, 2004). In addition to feelings of disgust, mental contamination involves a moral quality that is not usually associated with physical contamination (e.g., feelings of self-disgust and guilt) (Fairbrother & Rachman, 2004). Events that are perceived as wrong, inappropriate or immoral may evoke symptoms of mental contamination. One example is when an individual experiences a feeling of responsibility or shame for participating in a situation deemed immoral, s/he will be more likely to experience

these internal, emotionally charged feelings of dirtiness. Another example is when an individual experiences unwanted, intrusive thoughts, images and/or impulses that are incompatible with her/his moral belief system, s/he may be at risk of developing feelings of mental contamination (Rachman, 2006). In addition, it is believed that mental contamination may be evoked by an “immoral human source” by way of physical (e.g., by touching), as well as non-physical (e.g., by sight), contact. Similar to contamination, it has also been proposed that disgust includes physical as well as moral components (see Rozin & Fallon, 1987).

Although disgust in the context of anxiety disorders has been receiving increasing attention, some may argue that it does not account for the whole experience in OCD. For example, one study found that individuals suffering from obsessive-compulsive symptoms demonstrated a deficit in their ability to recognize facial expressions characterized by disgust (Sprengelmeyer et al., 1997), whereas another study found that only 33% demonstrated this deficit and it was related to both a greater functional impairment and a greater degree of OCD symptoms (Corcoran, Woody, & Tolin, 2008). These findings suggest that disgust may be a (partial) mechanism underlying symptoms of OCD.

Fears of contamination are not limited to individuals with OCD as they have also been reported in related problems such as hypochondriasis, disease-phobia and post-traumatic stress disorder (PTSD). In two case series exploring connections between trauma and the onset of OCD, the majority of cases in which PTSD was followed or accompanied by comorbid OCD involved contamination in physical and mental forms (Gershuny, Baer, Radomsky, Wilson, & Jenike, 2003; de Silva & Marks, 1999). Mental contamination has also been found to be prominent in female victims of sexual assault. Fairbrother and Rachman (2004) assessed post-assault feelings of mental contamination in 50 female sexual assault victims through

questionnaires and an interview. They found that 68% of participants reported experiencing at least one of six indices of mental contamination, 70% of these women reported urges to wash, and 25% reported persistent washing behaviours for one- to three-months post-assault.

Additionally, these researchers examined whether feelings of mental contamination could be evoked from deliberate recall of the assault as opposed to deliberate recall of a pleasant memory. Women who recalled their assault experience reported greater feelings of dirtiness and urges to wash than those who recalled a pleasant experience. Interestingly, nine women washed their hands and one woman also washed her face following the deliberate recollection of the assault. These women reported they had engaged in this washing behaviour to relieve themselves of physical sensations evoked by the assault recall, and not because they had come into contact with a physical contaminant (Fairbrother & Rachman, 2004). These findings demonstrate that feelings of mental contamination are experienced by many female victims of sexual assault, these feelings can be evoked by thoughts, images and memories of the assault and these feelings may be severe enough for victims to engage in washing behaviours to relieve themselves of sensations experienced in response to deliberate recall of the assault (Fairbrother & Rachman, 2004).

In order to test this phenomenon in a laboratory setting, using a non-clinical population of undergraduate students, Fairbrother, Newth and Rachman (2005) devised a paradigm involving an *imagined* non-consensual sexual experience. Participants listened to an audio recording instructing them to imagine experiencing a consensual, desirable kiss from a man at a party. Participants were then randomly assigned to either the Consensual Condition (CC) in which they listened to the consensual kiss again, or one of three Non-Consensual Conditions (NCC's) in which they imagined experiencing a non-consensual, forced kiss from a man who restrained

them and/or who was physically disgusting (e.g., smelly and dirty). Participants in the NCC's reported significantly greater feelings of mental contamination than participants in the CC, demonstrating that these feelings can arise in a non-clinical population in response to an imagined event. Consistent with the female sexual assault victims interviewed by Fairbrother and Rachman (2004), nine women engaged in washing behaviours such as rinsing their mouth or washing their hands following the imagined event. Only one of these women was in the CC.

These findings have been replicated by Herba and Rachman (2007) using a variation of this paradigm, in which participants imagined experiencing only a consensual kiss from an attractive man or only a non-consensual kiss from an attractive but physically disgusting man (e.g., had beer breath). Herba found participants in the NCC experienced feelings of mental contamination in that the women reported significantly greater feelings of dirtiness, urges to wash, and negative emotions (e.g., shame and anger) than women did in the CC. Further, 27 women engaged in neutralizing behaviours to relieve themselves of physical sensations induced by the manipulation. Specifically, these 27 women rinsed their mouth and one woman also washed her hands in response to the content of the audiotape. None of the women in the CC engaged in any of these neutralizing behaviours.

Herba and Rachman (in press) have since conducted a follow-up study to examine whether mental contamination could be evoked from an imagined event involving a forced sexual encounter with someone morally disgusting, but physically clean. They found that participants who imagined experiencing a non-consensual kiss from a man described as attractive but also immoral reported greater feelings of mental contamination than women who imagined experiencing a consensual kiss from a man described as attractive with no additional information provided about his character (e.g., being immoral or not). A limitation of these studies was that

the manipulations in Fairbrother, Newth and Rachman (2005), Herba and Rachman (2007), and also in Herba and Rachman (in press), were confounded in that they simultaneously manipulated more than one relevant construct. In particular, a combination of a physically disgusting male and a morally disgusting situation (e.g., he has beer breath and the kiss was non-consensual), and/or a male and situation who were both morally disgusting (e.g., he was described as clean-cut, but lies, cheats and steals and the kiss was non-consensual).

The purpose of this study was to tease apart the (im)moral aspects of the man (e.g., comes to the aid of others versus lies, cheats and steals), and the situation (e.g., a consensual kiss versus a non-consensual kiss), to examine whether the immorality of the male and/or situation in the absence of negative information about his physical appearance (e.g., has beer breath), would be enough to evoke feelings of mental contamination from an imagined event.

There were four main predictions: First, women in the NCC's would report greater feelings of mental contamination (e.g., feelings of dirtiness, urges to wash, internal negative emotions such as shame, and external negative emotions such as anger), than those in the CC's. Second, women in the Immoral Conditions (IC's) would report greater feelings of mental contamination than those in the Moral Conditions (MC's). Third, an interaction effect would be present between the nature of the kiss and the (im)morality of the man such that those in the Non-consensual Immoral (NCI) Condition would report higher ratings of mental contamination than those in the other three conditions. Fourth, women in the NCC's would be more likely to engage in washing behaviours (e.g., mouth rinsing, hand washing), in response to the audio recordings than women in the CC's.

Method

Participants

Female undergraduate students ($n = 148$; average age = 22.86, $SD = 4.46$, range = 17 to 48-years) at Concordia University participated in this study. (Only women were permitted to participate as the paradigm was designed to test the phenomenon of mental contamination specifically in women). The sexual orientation of the participants was assessed using a Kinsey-type likert scale (Kinsey, Pomeroy, & Martin, 1948), given that they were later asked to imagine experiencing a kiss from a man. Overall, 114 women reported they were exclusively heterosexual, 19 women reported they were predominantly heterosexual, only incidentally homosexual, five women reported they were predominantly heterosexual, but more than incidentally homosexual, one woman reported she was equally heterosexual and homosexual and one woman reported she was predominantly homosexual, but more than incidentally heterosexual. There were no women who reported they were predominantly homosexual, only incidentally heterosexual or exclusively homosexual and as such, all were considered appropriate for the study. Participants were randomly assigned to one of four conditions: one of two conditions of (im)morality of the man (Moral (M) versus Immoral (I)) nested within one of two conditions of desirability of the kiss (Consensual (C) versus Non-consensual (NC)), such that they were assigned to either the CM, CI, NCM or NCI Condition. Seven additional women participated in this study but were excluded from the final sample due to procedural error in that either their questionnaire responses were not retrievable from the on-line system ($n = 6$), or the questionnaire assessing mental contamination was not completed ($n = 1$). Participants received Participant Pool course credit or had their name entered into a cash draw as compensation for their participation.

Measures

Demographic & Baseline Ratings Questionnaire (DBRQ): The DBRQ is an 11-item questionnaire developed for the purposes of this study. It was adapted from oral questions asked by Fairbrother, Newth, & Rachman (2004), and contained several new items. Participants were asked to report general demographic information (e.g., age, ethnicity), as well as their sexual orientation based on ratings from 0 to 6 for which 0 represented “exclusively heterosexual” and 6 represented “exclusively homosexual” (Kinsey et al., 1948). Participants were also asked to report baseline ratings of anxiety, disgust and feelings of dirtiness based on subjective units of distress (SUDS) ratings from 0 to 100 for which 0 represented “not at all” and 100 represented “completely.” Several items were used as distracters in an attempt to disguise the items of interest (e.g., participants were asked to provide ratings of happiness in addition to anxiety). Please see Appendix A for a copy of the questionnaire.

Beck Depression Inventory - 2 (BDI-II); Beck, Steer, & Brown, 1996). The BDI-II a 21-item questionnaire that assesses symptoms of depression (e.g., feelings of sadness, loss of pleasure), including suicidal ideation, that have occurred during the past two weeks. Participants’ responses are based on a 4-point likert scale ranging from 0 to 3. Internal consistency has been demonstrated among both outpatients ($\alpha = .92$), and undergraduate students ($\alpha = .93$). Convergent and divergent validity have also been demonstrated (Beck, Steer, & Brown, 1996). Please see Appendix B for a copy of the questionnaire.

Beck Anxiety Inventory (BAI); Beck & Steer, 1990). The BAI is a 21-item questionnaire that assesses symptoms of anxiety (e.g., heart racing, fear of worst happening), that have occurred during the past week. Participants’ responses are based on a 4-point likert scale ranging from 0 to 3. Internal consistency ($\alpha = .92$) has been demonstrated and this scale has been found

to be more highly related to a measure of anxiety ($r = 0.48$), than depression ($r = 0.25$), in a clinical population (Beck, Epstein, Brown, & Steer, 1988). Most items on this scale involve somatic indicators of anxiety. Please see Appendix C for a copy of the questionnaire.

Contamination Subscale of the Vancouver Obsessional Compulsive Inventory (VOCI-CTN; Thordarson et al., 2004). The VOCI-CTN is a 12-item subscale of the VOCI questionnaire that assesses a fear of physical contamination. Items involve direct physical contact with a contaminant, (e.g., I feel very dirty after touching money), amount of time spent removing physical contaminants (e.g., I spend far too much time washing my hands), and concerns about germs and disease (e.g., I am afraid to use even well kept public toilets because I am so concerned about germs). Excellent internal consistency ($\alpha = .96$; $\alpha = .87$ for this study) and convergent and divergent validities have been demonstrated for the overall VOCI scale (Radomsky et al., 2006). In addition, internal consistency ($\alpha = .87$), convergent and divergent validities (Thordarson et al., 2004), and test-retest reliability ($r = 0.90$; Radomsky et al., 2006), have all been demonstrated for the contamination subscale in a student sample. Please see Appendix D for a copy of the questionnaire.

Mental Contamination Questionnaire (MCQ): The MCQ is a 29-item questionnaire also developed for the purposes of this study. It is a modification of the oral questions asked by Fairbrother, Newth, and Rachman (2004) and the Mental Contamination Report administered by Herba and Rachman (2007). The questions were devised using the indices of mental contamination and findings from previous research. The questionnaire assesses participants' ratings of ease to imagine the scenario, the desirability of the kiss, the man's (im)morality before and after the kiss, and SUDS of feelings of dirtiness, urges to wash, and negative emotions such as shame, anger and the degree to which participants were disgusted by the man's physical

appearance and by the man's behaviour. All ratings are based on a scale from 0 to 100 for which 0 represented "not at all" and 100 represented "completely." Please see Appendix E for a copy of the questionnaire.

Break Behaviour Questionnaire (BBQ): The BBQ is a 3-item questionnaire that is also a modification of oral questions previously asked by Fairbrother and Rachman (2004). The questionnaire assesses whether participants drink any fluids and/or wash their hands or face before or during the break and the *reasons* for engaging in this washing behaviour (e.g., they were thirsty, they attempted to remove physical sensations or they didn't know why). Please see Appendix F for a copy of the questionnaire.

Procedure

Participants were tested individually in the laboratory upon the provision of informed consent. The procedure was exactly the same for all four conditions except for the content of the audio recording. First, participants were offered a glass of water (from a bottle of water in a plastic cup). Next, participants were asked to complete the DBRQ, BDI-II, BAI and VOCl. Participants were then randomly assigned to one of the four conditions: CM, CI, NCM, or NCI. Participants were asked to listen to an audio recording that described a scenario at a party. They were instructed to imagine themselves as vividly as possible as the woman in the scenario. The experimenter was blind to the condition of each participant as a unique audio recording track number was assigned to each participant. The experimenter played the corresponding track number and the participants wore headphones that prevented the experimenter from hearing the content of the audio recording.

The audio recordings used in this study were new, with content adapted from the mental pollution audiotapes developed by Fairbrother, Newth, & Rachman (2004). Participants in the

CC's listened to a description of a physically attractive male and a consensual kiss (e.g., the woman desires to kiss the man). Participants in the NCC's also listened to a description of a physically attractive male; however, the kiss was described as non-consensual (e.g., the woman does not desire to kiss the man and the kiss is forced upon her). Further, participants in the MC's received additional information about the man's moral character (e.g., really nice guy, comes to the aid of strangers); whereas, participants in the IC's received additional information about the man's immoral character (e.g., he lies, cheats and steals). Please see Appendix G for the text of the audio recording scripts.

After listening to the audio recording, participants were asked to complete the MCQ and then seal the questionnaire in an envelope (to prevent the experimenter from seeing their responses). The following behavioural task was then administered but the purpose was not disclosed to the participants (e.g., to examine spontaneous washing behaviour(s)). Participants were offered a glass of water from a bottle of water and a plastic cup and given directions to the washroom before taking a five-minute break. After the break, all participants were asked to complete the BBQ and then were debriefed. Please see Appendix H for a copy of the Certificate of Ethical Acceptability for Research Involving Human Subjects granted by Concordia University's Human Research Ethics Committee.

Results

The main purpose of this study was to examine whether mental contamination could be evoked from imagined events involving one of two different degrees of desirability of a kiss implemented by a man characterized by one of two different degrees of (im)morality.

Outliers

The raw data was examined to identify potential outliers by calculating z-scores for each of the dependent variables except washing behaviour(s). One participant in the CMC was identified as having z-scores of 5.18, 3.42 and 3.22 standard deviations above the mean of this condition for urges to wash, and internal and external negative emotions, respectively. This participant was removed from the final sample to prevent a distortion in the data. There were no other participants in any of the four conditions who had z-scores three or more standard deviations from the mean of their corresponding condition for any of the dependent variables.

Sample characteristics

Randomized assignment of participants to the conditions was then assessed in respect to demographic and baseline characteristics, and ease to imagine the scenario ratings. A univariate ANOVA indicated that there were no group differences in age ($F(3, 136) = 1.12, p = 0.34, \eta^2 = 0.02$). Please see Table 1 for means and standard deviations of age for each condition.

In this sample, 43.6% ($n = 61$) of the women reported that they had experienced a prior non-consensual sexual encounter. Of the women who reported a prior incident, 41% ($n = 25$) reported the incident had occurred at a party, whereas 59% ($n = 36$) reported the incident had not occurred at a party. A univariate ANOVA indicated that there were no group differences for the experience of a prior unwanted sexual encounter ($F < 1.0$). Please see Table 1 for means and standard deviations of a prior non-consensual sexual encounter for each condition.

Univariate ANOVAs conducted individually for each baseline rating indicated that there were no group differences for ratings of anxiety, disgust or feelings of dirtiness (all F 's < 1.0). Univariate ANOVAs conducted individually for each of the questionnaire measures indicated that there were no group differences for BDI-II ($F(3, 136) = 1.08, p = 0.36, \eta^2 = 0.02$), BAI ($F < 1.0$), or VOICI-CTN ($F(3, 136) = 1.51, p = 0.21, \eta^2 = 0.0$), scores. In addition, the overall sample

means of BDI-II, BAI and VOCI-CTN scores were assessed (mean = 10.74, $SD = 8.08$; mean = 13.23, $SD = 9.30$; mean = 6.26, $SD = 7.49$, respectively), to confirm the non-clinical nature of this sample. Please see Table 1 for means and standard deviations of the baseline ratings and questionnaire scores for each condition.

A univariate ANOVA indicated that there were no group differences on ease to imagine the scenario described on the corresponding audio recording ($F(3, 136) = 1.99, p = 0.12, \eta^2 = 0.04$). Please see Table 1 for means and standard deviations of the ease to imagine ratings for each condition. In general, randomization of participants to the conditions was achieved in regards to demographic, baseline and ease to imagine the scenario ratings.

Manipulation checks

We assessed participants' retrospective ratings of the degree to which they found either the consensual or the non-consensual kiss to be desirable and the degree to which they believed the man described in the scenario to be immoral before *and* after they imagined experiencing either a consensual or a non-consensual kiss.

1. Perceived desirability of the kiss

A univariate ANOVA indicated that there were group differences on how desirable participants considered the kiss to be ($F(3, 136) = 52.81, p < 0.001, \eta^2 = 0.54$). Pair-wise comparisons revealed that participants in the CM Condition rated the kiss significantly more desirable than did women in the NCM Condition ($p < 0.001$), as did participants in the CI Condition compared to the NCI Condition ($p < 0.001$). Further, participants in the CM Condition rated the kiss as significantly more desirable than participants in the CI Condition ($p = 0.01$), whereas, the two NCC's did not differ significantly from each other ($p = 0.84$). These results suggest that desirability of the kiss is low when the kiss is non-consensual or when pre-

kiss immoral information is provided. Please see Table 2 for means and standard deviations of desirability of the kiss ratings for each condition.

2. *Pre-kiss perceived immorality of the man*

A univariate ANOVA indicated there were group differences on how immoral participants considered the man to be *before* experiencing the kiss ($F(3, 136) = 66.32, p < 0.001, \eta^2 = 0.59$). Pair-wise comparisons revealed that the two conditions for which the man was described as moral before the kiss did not differ significantly from each other ($p = 0.92$). Similarly, the two conditions for which the man was described as immoral before the kiss did not differ significantly from each other ($p = 0.90$). In contrast, participants in the CI and NCI Conditions rated the man significantly more immoral than participants in both the CM and NCM Conditions. Further, participants in the CI Condition rated the man significantly more immoral than participants in the CM Condition ($p < 0.001$), as did the NCI Condition compared to the NCM Condition ($p < 0.001$). These results suggest that participants based their ratings on the pre-kiss (im)moral information they were provided with, regardless of the desirability of the kiss. Please see Table 2 for means and standard deviations of immorality of the man pre-kiss ratings for each condition.

3. *Post-kiss perceived immorality of the man*

A univariate ANOVA indicated that there were group differences on how immoral participants considered the man to be *after* experiencing the kiss ($F(3, 136) = 86.86, p < 0.001, \eta^2 = 0.66$). Pair-wise comparisons revealed that participants in the NCM condition rated the man significantly more immoral than participants in the CM Condition ($p < 0.001$). Additionally, the participants in the NCI condition rated the man as significantly more immoral than participants in the CI Condition ($p < 0.001$). Further, participants in the CI Condition rated the man

significantly more immoral than women in the CM condition ($p < 0.001$), whereas, participants' in the two NCC's did not differ significantly from each other on post-kiss immorality ratings of the man ($p = 0.17$). These results suggest that participants in the NCC's based their post-kiss immorality ratings of the man on the situation, whereas participants in the CI Condition appeared to base their ratings on the pre-kiss immoral information. Please see Table 2 for means and standard deviations of immorality of the man post-kiss ratings for each condition.

4. Changes in perceived immorality over time

To examine this further, we performed one-sample t-tests (two-tailed) individually for each of the CM, CI, NCM and NCI conditions with the difference score from pre- to post-kiss ratings of immorality of the man (mean = -14.54, $SD = 24.76$; mean = 0.26, $SD = 26.23$; mean = -80.00, $SD = 20.76$; and mean = -27.71, $SD = 32.26$, respectively). Results indicated that the pre- and post-kiss ratings of immorality were significantly different for the CM ($t(34) = -3.48, p = 0.001$), NCM ($t(34) = -22.80, p < 0.001$), and NCI ($t(34) = -5.08, p < 0.001$), Conditions, but not significantly different for the CI Condition ($t(34) = 0.06, p = 0.95$), suggesting the participants in this condition did indeed base their post-kiss ratings of immorality of the man on the information they received prior to experiencing the kiss, whereas participants in the other conditions appear to base their ratings of post-kiss immorality on the degree of desirability of the kiss. Please see Table 2 for means and standard deviations of immorality of the man post-kiss ratings for each condition. In general, the manipulation proved successful.

Feelings of mental contamination

To examine whether and to what degree mental contamination had been evoked by the content of the audio recordings, we assessed four indices of mental contamination: Feelings of dirtiness, urges to wash, negative internal emotions (e.g., shame), and negative external emotions

(e.g., anger). The average of an aggregate measure of five items (e.g., rinse mouth/spit/drink something, brush teeth/use mouthwash, wash face, wash hands and take a shower), was used (coefficient $\alpha = 0.91$ in this study), to assess participants' ratings of urge to wash. Following the work of Herba (2005), ratings of negative emotions were based on two components: internal (e.g., feelings of being ashamed, guilty, humiliated, afraid, sad, cheap and sleazy), and external (e.g., feelings of being anxious, distressed, angry, disgusted by the man's physical appearance and disgusted by the man's behaviour), negative emotions. The average of the aggregate measures were used to assess participants' ratings of internal (coefficient $\alpha = 0.91$ in this study), and external (coefficient $\alpha = 0.90$ in this study), negative emotions. Please see Table 3 for means and standard deviations of the indices of mental contamination ratings for each condition.

Next, to examine how well the indices of mental contamination were related to each other, correlation coefficients (one-tailed) were calculated. All four of the measures of mental contamination were highly related to each other (all r 's > 0.59 ; all p 's < 0.01). Please see Table 4 for correlation coefficients among indices of mental contamination across all conditions.

A multivariate repeated measures ANOVA was then conducted to assess the impact of the desirability of the kiss, the (im)morality of the man and their interaction on the dependent variables (Bonferroni corrected confidence intervals were used to provide a conservative estimate; however, $\alpha = 0.05$ as these tests were planned before the manipulation). Mauchly's test of Sphericity was significant ($p < 0.001$), so the Greenhouse-Geisser F -value was used. Results indicated there was a main effect of desirability of the kiss ($F(1, 136) = 71.42, p < 0.001, \eta^2 = 0.34$), such that the less desirable the kiss, the greater the presence of mental contamination; a main effect of (im)morality of the man ($F(1, 136) = 5.09, p = 0.026, \eta^2 = 0.04$), such that pre-kiss immoral information led to feelings of mental contamination; and an interaction between

them ($F(1, 136) = 10.69, p = 0.001, \eta^2 = 0.07$), such that women in the NCM Condition reported the greatest feelings of mental contamination, whereas women in the CM Condition reported the least.

Univariate ANOVAs and pair-wise comparisons were then performed for each of the indices of mental contamination individually. Results indicated there were group differences on feelings of dirtiness ($F(1, 136) = 15.65, p < 0.001, \eta^2 = 0.26$), such that participants in the NCM and NCI Conditions did not differ from each other ($p = 0.15$), but they did report significantly greater feelings of dirtiness than participants in the CI Condition, who reported significantly greater feelings of dirtiness than women in the CM Condition (all p 's ≤ 0.034).

There were also group differences for urges to wash ($F(1, 136) = 20.90, p < 0.001, \eta^2 = 0.32$). In particular, participants in the NCM and NCI Conditions did not differ significantly from each other ($p = 0.53$); however, they reported significantly greater urges to wash than participants in the CI Condition, who reported significantly greater urges to wash than participants in the CM Condition (both p 's < 0.01).

There were also group differences for internal negative emotions ($F(1, 136) = 11.19, p < 0.001, \eta^2 = 0.20$). In particular, participants in the CM Condition reported significantly less internal negative emotions than participants in the CI, NCM and NCI Conditions (all p 's < 0.001), who did not differ from each other (all p 's > 0.28).

Finally, there were also group differences for external negative emotions ($F(1, 136) = 50.76, p < 0.001, \eta^2 = 0.53$), such that participants in the NCM and NCI Conditions did not differ from each other ($p = 0.58$), but they reported significantly greater external negative emotions than participants in the CI Condition who in turn reported significantly greater external negative emotions than participants in the CM Condition (all p 's ≤ 0.001).

Subsequent washing behaviours

Assessment of whether participants in the NCC's engaged in washing behaviours such as rinsing their mouth and/or washing their hands and/or face to relieve themselves of physical sensations evoked by the audio recordings at a greater rate than those in the Consensual conditions was then conducted. Participants were categorized as "Washers" or "Non-washers" across all four conditions. "Washers" ($n = 11$) were defined as having rinsed their mouth and/or washed their hands and/or face during the break to relieve themselves of physical sensations and not because they were thirsty, had just used the washroom or didn't know why they had engaged in these behaviours. "Non-washers" ($n = 129$) were defined as having rinsed their mouth and/or washed their hands and/or face during the break for reasons other than to relieve themselves of physical sensations, or having not engaged in any of these behaviours. There were no participants who washed their face in response to the audio recording, and no participants rinsed their mouth *and* washed their hands.

There were three Washers in the CI Conditions and eight Washers across the NCC's (no participants washed in the CM Condition). An independent samples t-test indicated that there were no significant differences between the Consensual and NCC's for washing behaviours ($t(138) = -1.53, p = 0.12$).

Feelings of disgust

To further examine feelings of disgust separate from external negative emotions, participants' ratings for disgust of the man's physical appearance and behaviour were also assessed. Recall that the man was described as physically attractive in each of the audio recordings. A MANOVA indicated that for desirability of the kiss there was a main effect for physical disgust ($F(1, 136) = 79.44, p < 0.001, \eta^2 = 0.37$), and for behavioural disgust ($F(1,$

136) = 195.45, $p < 0.001$, $\eta^2 = 0.59$), in that the less desirable the participants found the kiss to be, the more physically and behaviourally disgusting they rated the man. Further, for (im)morality of the man, there was no main effect present for physical disgust ($F(1, 136) = 0.54$, $p = 0.46$, $\eta^2 < 0.001$), however, there was a main effect for behavioural disgust ($F(1, 136) = 10.68$, $p = 0.001$, $\eta^2 = 0.07$), suggesting pre-kiss immoral information led to greater feelings of behavioural disgust for the man than physical disgust. Finally, results also indicated an interaction effect between desirability of the kiss and (im)morality of the man for both behavioural ($F(1, 136) = 8.39$, $p = 0.004$, $\eta^2 = 0.06$), and physical disgust ($F(1, 136) = 5.13$, $p = 0.03$, $\eta^2 = 0.04$), suggesting a less desirable kiss coupled with pre-kiss immoral information led to greater feelings of physical and behavioural disgust for the man.

Univariate ANOVAs (Bonferroni corrected confidence intervals and α set at 0.0125) indicated group differences on ratings of physical disgust ($F(1, 136) = 28.37$, $p < 0.001$, $\eta^2 = 0.39$), such that participants' ratings of physical disgust in each of the CC's were significantly less than participants in each of the NCC's (all p 's < 0.001). However, participants in the CC's did not differ from each other ($p = 0.21$), and neither did participants in the NCC's ($p = 1.00$).

There were also group differences for behavioural disgust ($F(1, 136) = 71.51$, $p < 0.001$, $\eta^2 = 0.61$). Participants in the two NCC's did not differ from each other for ratings of behavioural disgust ($p = 1.00$), however their ratings were greater than those in the CI Condition, whose ratings were greater than those in the CM Condition (all p 's < 0.001). Please see Table 5 for means and standard deviations of the disgust ratings for each condition.

Next, whether physical or behavioural disgust could predict washing behaviour was then assessed. A correlation matrix (one-tailed) was conducted across the three conditions that included Washers (CI, NCM and NCI). Physical disgust for the man was related to washing

behaviour ($r = 0.16, p = 0.049$), whereas behavioural disgust for the man was not ($r = 0.05, p = 0.31$). The fact that behavioural disgust was not related to washing behaviour may indicate a ceiling effect for this variable; however, it likely indicates that behavioural disgust is not unique to those who engage in washing behaviours associated with mental contamination. In other words, participants in the NCC's provided higher ratings of behavioural disgust in general, but this did not lead to washing behaviours in particular.

Finally, a regression analysis was conducted involving all four conditions in order to control for the manipulation in each group (e.g., desirability of the kiss and (im)morality of the man). Please note that BDI-II, BAI and VOCI-CTN scores were not included in the regression analysis as they were not related to washing behaviour ($r = -0.17, p = 0.43, r = 0.002, p = 0.49, r = -0.002, p = 0.49$, respectively), and doing so may have compromised the results if any of these scores accounted for irrelevant variance. Dummy coding for desirability of the kiss (Consensual = 0, Non-consensual = 1), and (im)morality of the man (Moral = 0, Immoral = 1) was performed and entered into Step 1 to account for condition. An interaction term was then constructed by multiplying the dummy coded variables together (CM = 0, CI = 0, NCM = 0, and NCI = 1), and entered into Step 2 to account for, and thus, determine whether there was an interaction between desirability of the kiss and (im)morality of the man. Ratings of physical disgust for the man were then entered into Step 3.

Results of the regression analysis indicated that neither desirability of the kiss ($B = 0.07, SE B = 0.05, \beta = 0.13, p = 0.12; R^2 = 0.02$, and $F(2, 137)$ for $R^2\Delta = 1.68, p = 0.19$), nor immorality of the man ($B = 0.04, SE B = 0.05, \beta = 0.08, p = 0.35; R^2 = 0.02$, and $F(2, 137)$ for $R^2\Delta = 1.68, p = 0.19$), could predict washing behaviour, and there was no interaction between the two ($B = -0.09, SE B = 0.09, \beta = -0.14, p = 0.35; R^2 = 0.03$, and F for $R^2\Delta = 0.89, p = 0.35$),

regarding the conditional factors of those who engaged in washing behaviour. However, there was a trend for ratings of physical disgust for the man to predict washing behaviour ($B = 0.002$, $SE B = 0.001$, $\beta = 0.20$, $p = 0.06$; $R^2 = 0.06$, and F for $R^2\Delta = 3.59$, $p = 0.06$), suggesting that women who reported higher ratings of physical disgust for the man's appearance, despite pre-kiss instructions to imagine him as being physically attractive, had a tendency to rinse their mouth or wash their hands in response to the *imagined* event.

Discussion

We examined women's responses to an imagined sexual encounter involving varying degrees of desirability (e.g., consensual vs. non-consensual), and a man who was described as physically attractive but whose character involved varying degrees of (im)morality (e.g. moral vs. immoral), to assess whether mental contamination could be evoked in this context, and whether women would engage in rinsing behaviours such as rinsing their mouth or washing their hands in response to the manipulation.

Feelings of mental contamination

In general, the results from this study are highly consistent with previous studies conducted involving mental contamination. Results indicated that the imagined occurrence of a non-consensual kiss was sufficient to evoke significant feelings of mental contamination, regardless of whether the pre-kiss information the women received about the man's character was moral or immoral. In addition, the imagined occurrence of a consensual kiss was also sufficient to evoke mental contamination, but only when the women received pre-kiss information as to the man's immoral character. Women in the NCC's felt more internally dirty, had greater urges to wash and experienced external negative emotions to a greater degree than women did in the CC's. In addition, women in the CM Condition for which participants were

provided with pre-kiss moral information about the man's character reported internal negative emotions to a lesser degree than women in the three other conditions, who did not differ significantly from each other.

Interestingly, fewer women in this study engaged in washing behaviours to relieve themselves of physical sensations evoked by the audio recording. Recall that Herba & Rachman (2007) found 27 women (out of 100), who listened to only one version of the audio recording including an extensive physical disgust component, displayed these behaviours. Perhaps these women were morally affected, but it is likely that disgust played a greater role because when we removed the physical description component, women didn't wash at a near equivalent rate. These results are consistent, however, with findings reported by Fairbrother, Newth and Rachman (2005), when only 8 women (out of 91) who listened to an audio recording involving a non-consensual kiss engaged in such behaviour – roughly 30 women imagined a scenario involving the physical disgust component (the researchers did not report the exact number of participants who listened to each of the three different non-consensual audio recordings used in this study, nor the exact number of participants who washed following the recording in each of the three NCC's of this study as the final results were collapsed across the three NCC's). In the current study, 3 women (out of 35) in the CI Condition, and 8 women (out of 70) across the two NCC's, engaged in washing behaviour.

Situational versus character immorality

In the context of a woman being kissed by a man, findings from this study suggest that when the desirability of the kiss is low (e.g., non-consensual), the immorality of the man will be high after experiencing the kiss, irrespective of receiving prior information that he is moral. Additionally, these findings also suggest that when the desirability of the kiss is high (e.g.,

consensual), the rating of immorality of the man post-kiss will be reflective of prior information received as to his immorality, but this rating of immorality is not as great as when the desirability of the kiss is low. In other words, the immoral act appears to override the moral information, yet the seemingly moral act appears not to override the immoral information. This phenomenon is akin to the asymmetrical relationship present between ‘contaminated’ substances and ‘non-contaminated’ substances. For example, a drop of blood could ‘contaminate’ a glass of purified water; however, a drop of purified water could not ‘de-contaminate’ a glass of blood.

It is interesting that the women in the CM Condition reported a significant increase in their pre- to post-kiss immorality ratings of the man. One explanation may be that some of the women in this condition indicated that they felt the man had ‘used’ them because he walks away at the end of the recording without a ‘proper good-bye.’ Results suggest that receiving a consensual kiss from a man thought to be moral is more desirable than receiving a consensual kiss from a man thought to be immoral; however, both of these situations are more desirable than receiving a non-consensual kiss from a man thought to be either moral or immoral (before the kiss). These findings are consistent with the fundamental attribution error (Ross, 1977) theory stating that individuals are more likely to be judged by their *behaviour* in a particular situation rather than *disposition*, due to an underestimation of the situational factors that may have led to their behaviour and an underestimation of the dispositional factors that may indicate their behaviour is inconsistent with their actual disposition.

Physical and behavioural disgust

As to be expected, women in the NCC’s reported they were disgusted by the behaviour of the man in the imagined scenario. Yet, these women also found the man to be physically disgusting despite an explicit description of the man as physically attractive. There appears to be

a striking phenomenon that in the context of this study, women tend to associate morally disgusting behaviour and/or character with a physically disgusting appearance. In particular, women in the two NCC's reported significantly greater feelings of mental contamination in terms of feelings of dirtiness, urges to wash and external negative emotions, including significantly greater feelings of physical and behavioural disgust for the man, than women in the two CCs. Additionally, those who perceived the man to be more physically disgusting had a tendency to engage in washing behaviours to relieve themselves from physical sensations after *imagining* the scenario described on the audio recording.

One interpretation of these findings is that the women were unable to envision a stranger. Rozin and Fallon (1987) proposed the law of similarity in regards to the transmission of disgust that is likely to play a role in mental contamination (Rachman, 2004). In the context of interpersonal contamination, feelings of disgust may be transferred to people or objects that are perceived to be similar, with or without physical contact. Perhaps the women were reminded of a man whom they were familiar with, someone who was similar to the man in the scenario whom they genuinely considered to be physically disgusting. By default, the women may have transferred the disgust component from a familiar man to this unfamiliar, but similar man. This possibility is not inconceivable as 43.6% of the women reported having previously experienced a non-consensual sexual encounter such as a kiss.

Another interpretation of these findings is consistent with the idea that mental contamination is subsumed within the emotion of disgust (Fairbrother & Rachman, 2004). In other words, where there are feelings of mental contamination, feelings of disgust must also exist. A natural relationship unaffected by descriptions provided prior to the induction of mental contamination. These findings raise questions about the complexity of teasing apart components

of physical and moral disgust. For example, women who experience a non-consensual sexual encounter may fear contracting a sexually transmitted disease from their assailant regardless of whether or not they were forewarned that the man had previously engaged in immoral sexual behaviours.

In addition to the above-mentioned limitations of imagining a stranger and teasing apart physical and moral disgust, there are several other limitations of this study. First, the results from this study may have been influenced by demand characteristics. However, measures were implemented in an attempt to decrease these in this experiment. One such measure involved asking the women to complete a questionnaire rather than allowing the experimenter to ask them directly about washing behaviour(s) they may have engaged in during the break. Another measure utilized was the development of a blind design. In this study, the experimenter was not aware to which condition each participant had been randomly assigned. Therefore, when the experimenter administered the audio recording and questionnaires, she provided each participant with exactly the same instructions, as she did not know to which condition they belonged. Second, the nature of the non-clinical sample of young, female undergraduate students used in this study limits the generalizability of the findings. Third, the manipulation relies heavily on participants' ability to imagine they are experiencing the situation described on the audio recording at that moment in the laboratory. Although no group differences were present between conditions for ease to imagine the scenario ratings, it may have been difficult for participants to fully experience the situation described. Fourth, only physical washing behaviours during the break were assessed. It is possible that women engaged in other cognitive and physical behaviours in response to the manipulation. For example, two participants reported after the

experiment that they had smoked a cigarette during the break, and one participant reported she had chewed gum, to decrease feelings of anxiety that had been evoked from the audio recording.

Clinical implications

These internal feelings of dirtiness assume an important role in sexual assault victims who experience feelings of mental contamination, as well as in individuals with OCD in that they are similarly not treatable at a substantial rate through response prevention techniques (Fairbrother & Rachman, 2004). Identifying predictor variables of those who may feel mentally contaminated and individual differences of those who may engage in washing behaviours may aid therapists when dealing with this resistant sense of dirtiness in cases of sexual assault and reduce treatment failures in cases of OCD. In other words, methods to identify mental contamination and treat such feelings of internal dirtiness should “facilitate recovery” (Fairbrother & Rachman, 2004). Therapists should be aware of the existence of these feelings in women who have undergone a sexual assault.

Further, a form of OCD called Primary Obsessions (PO) is of interest in terms of washing compulsions. PO involves unwanted, intrusive thoughts, but few or no compulsions. The thoughts are primarily characterized by three main categories: sexual (e.g., inappropriate sexual thoughts about children); violent (e.g., thoughts about harming one’s spouse); and blasphemous (e.g., thoughts about calling out obscenities during a church service) (APA, 2000). Experiencing unwanted, intrusive thoughts of this nature is very distressing because these situations are often labelled by the individual as wrong, inappropriate or immoral. The lack of compulsions associated with this form of the disorder relative to a more traditional form of OCD is of interest when assessing why some patients present symptoms of a compulsive type while others do not. Mental contamination in OCD, PO and PTSD may present an obstacle when administering

traditional therapeutic strategies, as it may be difficult to expose individuals suffering from these disorders to the thing that they fear.

Conclusions

In sum, the findings from this study serve to correct limitations/confounds present in previous studies examining the evocation of mental contamination from an imagined non-consensual kiss. In particular, these findings suggest that mental contamination may be evoked by an imagined event involving an attractive man who is described as moral or immoral before forcing a non-consensual kiss upon a woman, as well as an attractive man who is described as immoral before sharing a consensual kiss with a woman, but to a lesser degree than when the kiss is described as non-consensual. These results are consistent with the results reported in previous studies in that an imagined non-consensual kiss is a sufficient condition to evoke mental contamination. These findings also expand on previous findings in that women perceived the man as immoral regardless of the type of pre-kiss information they received about the man (e.g., moral or immoral character), and that pre-kiss immoral information about the man may be a sufficient condition to evoke mental contamination in the context of a consensual kiss, but to a lesser extent. What these findings do not tell us is why so many women in the NCC's imagined him as physically disgusting despite explicit instructions to imagine him as physically attractive. Future studies should further explore the connections between feelings of mental contamination and feelings of disgust, as well as cognitive and other mechanisms underlying the evocation of mental contamination.

Additionally, to allow for a more comprehensive picture of mental contamination, paradigms should be designed to enable researchers to examine this phenomenon with men as both victims and perpetrators of sexual assault as well as involve different negative imagined

events to examine whether feelings of mental contamination may be evoked in other negative situations (for men and women). Although not the focus of this paper, future research should also examine individual differences associated with the evocation of mental contamination (e.g., anxiety sensitivity, disgust sensitivity, etc.), and subsequent washing behaviour(s). Future research in this area may have a positive impact on clinical strategies aimed at the treatment of OCD, PTSD, etc., in that it may aid researchers and clinicians to better identify and target mental contamination.

Table 1

Mean Scores and Standard Deviations on Demographic and Baseline Ratings, Questionnaire Scores and Ease to Imagine Scenario Ratings for each Condition

Variable	Condition							
	CM		CI		NCM		NCI	
	M	SD	M	SD	M	SD	M	SD
Age	22.74	3.41	22.09	4.76	22.63	4.29	23.97	5.18
Prior Non-consensual Sexual Encounter	0.77	0.91	0.57	0.78	0.60	0.81	0.83	0.92
Anxiety	25.06	24.74	23.17	28.11	21.37	28.28	18.31	22.23
Disgust	2.86	13.56	5.00	12.95	3.06	9.55	4.09	9.74
Feelings of Dirtiness	8.09	13.47	6.86	13.18	10.66	17.81	10.57	20.89
BDI-II	12.31	8.91	9.11	7.28	10.09	6.60	11.43	9.21
BAI	12.97	8.29	11.74	8.53	14.14	10.45	14.06	9.96
VOCI-CTN	5.26	5.76	5.54	6.05	8.57	10.21	5.69	6.91
Ease to Imagine Scenario	77.10	16.77	78.08	17.18	75.70	18.17	84.47	12.41

$n = 35$ for each condition. Demographic and Baseline ratings are based on ratings from 0 (“not at all”) to 100 (“completely”). BDI-II = Beck Depression Inventory-2; items from 0 to 3 (indicating the degree of each symptom). BAI = Beck Anxiety Inventory; items from 0 (“not at all”) to 3 (“severely, I could barely stand it”). VOCI-CTN = Contamination Subscale of the Vancouver Obsessional Compulsive Inventory; items from 0 (“not at all”) to 4 (“very much”).

Table 2

Mean Scores and Standard Deviations on Manipulation Checks Ratings for each Condition

Variable	Condition							
	CM		CI		NCM		NCI	
	M	SD	M	SD	M	SD	M	SD
Man Immoral Before	10.03	14.69	67.80	31.64	9.43	11.30	68.57	32.56
Man Immoral After	24.57	27.85	67.54	26.11	89.43	13.76	96.29	6.23
Kiss Desirability	80.00	19.55	64.00	28.36	18.20	25.31	19.43	28.04

$n = 35$ for each condition. Variable scores are based on ratings from 0 (“not at all”) to 100 (“completely”).

Table 3

Mean Scores and Standard Deviations on Indices of Mental Contamination for each Condition

Variable	Condition							
	CM		CI		NCM		NCI	
	M	SD	M	SD	M	SD	M	SD
Feelings of Dirtiness	9.77	19.49	31.03	35.04	57.57	38.07	46.91	28.48
Urges to Wash	1.97	5.45	19.37	25.55	41.91	32.76	45.94	32.72
Internal Negative Emotions	10.74	17.09	35.96	26.62	42.33	29.29	36.85	25.12
External Negative Emotions	16.17	16.58	34.27	24.99	70.78	25.98	67.83	19.16

$n = 35$ for each condition. Variable scores are based on ratings from 0 (“not at all”) to 100 (“completely”).

Table 4

Correlation Coefficients among Indices of Mental Contamination across all Conditions

Variable	Variable			
	Dirtiness	Urge to Wash	INE	ENE
Feelings of Dirtiness	1.00	0.80*	0.70*	0.68*
Urges to Wash	0.80*	1.00	0.59*	0.69*
Internal Negative Emotions (INE)	0.70*	0.59*	1.00	0.67*
External Negative Emotions (ENE)	0.68*	0.69*	0.67*	1.00

* $p < 0.01$.

Variable scores are based on ratings from 0 ("not at all") to 100 ("completely").

Table 5

Mean Scores and Standard Deviations on Disgust Ratings for each Condition

Variable	Condition							
	CM		CI		NCM		NCI	
	M	SD	M	SD	M	SD	M	SD
Physical Appearance Disgust	1.06	3.39	15.66	27.08	55.43	34.97	48.00	36.69
Physical Behaviour Disgust	17.91	26.76	44.43	36.56	90.51	19.31	92.11	12.87

$n = 35$ for each condition. Variable scores are based on ratings from 0 (“not at all”) to 100 (“completely”).

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Appendix A

Please provide the following information about yourself in the space provided.

1. Age _____ 2. Gender (circle one): Male / Female 3. Years in university _____
 4. Language spoken at home _____ 5. Length of time speaking English _____
 6. Ethnicity _____ 7. Country of birth _____
 8. Length of time in Canada _____
 9. Are you currently involved in a romantic relationship? Yes No

If so, how long have you been involved in this relationship? _____

10. Please indicate the most accurate description of your sexual orientation based on the following scale (circle one):

- 0 - Exclusively heterosexual
 1 - Predominantly heterosexual, only incidentally homosexual
 2 - Predominantly heterosexual, but more than incidentally homosexual
 3 - Equally heterosexual and homosexual
 4 - Predominantly homosexual, but more than incidentally heterosexual
 5 - Predominantly homosexual, only incidentally heterosexual
 6 - Exclusively homosexual

11. On a scale from 0 to 100, where 0 represents "not at all" and 100 represents "completely", please rate the extent to which you feel **at this moment**:

Happy _____	Anxious _____	Hungry _____
Bored _____	Joyous _____	Dirty _____
Afraid _____	Thirsty _____	Angry _____
Sad _____	Clean _____	Disgusted _____
Sleepy _____	Surprised _____	Guilty _____

Appendix B

Beck Depression Inventory - 2

This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the one statement in each group that best describes the way you have been feeling during the past two weeks, including today. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for each group.

1) Sadness

0	I do not feel sad.	0	I feel the same about myself as ever.
1	I feel sad much of the time.	1	I have lost confidence in myself.
2	I am sad all the time.	2	I am disappointed in myself.
3	I am so sad or unhappy that I can't stand it.	3	I dislike myself.

7) Self-Dislike**2) Pessimism**

0	I am not discouraged about my future.	0	I don't criticize or blame myself more than usual.
1	I feel more discouraged about my future than I used to be.	1	I am more critical of myself than I used to be.
2	I do not expect things to work out for me.	2	I criticize myself for all the faults.
3	I feel my future is hopeless and will only get worse.	3	I blame myself for everything bad that happens.

8) Self-Criticalness**3) Past Failure**

0	I do not feel like a failure.	0	I don't have any thoughts of killing myself.
1	I have failed more than I should have.	1	I have thoughts of killing myself, but I would not carry them out.
2	As I look back, I see a lot of failures.	2	I would like to kill myself.
3	I feel I am a total failure as a person.	3	I would kill myself if I had the chance.

9) Suicidal Thoughts or Wishes**4) Loss of Pleasure**

0	I get as much pleasure as I ever did from the things I enjoy.	0	I don't cry any more than I used to.
1	I don't enjoy things as much as I used to.	1	I cry more now than I used to.
2	I get very little pleasure from the things I used to enjoy.	2	I cry over every little thing.
3	I can't get any pleasure from the things I used to enjoy.	3	I feel like crying but I can't.

10) Crying**5) Guilty Feelings**

0	I don't feel particularly guilty.	0	I am no more restless or wound up than usual.
1	I feel guilty over many things I have done or should have done.	1	I feel more restless or wound up than usual.
2	I feel quite guilty most of the time.	2	I am so restless or agitated that it's hard to stay still.
3	I feel guilty all the time.	3	I am so restless or agitated that I have to keep moving or doing something.

11) Agitation

6) Punishment Feelings

0	I don't feel I am being punished.
1	I feel I may be punished.
2	I expect to be punished.
3	I feel I am being punished.

12) Loss of Interest

0	I have not lost interest in people or activities.
1	I am less interested in other people or things than before.
2	I have lost most of my interest in other people or things.
3	It's hard to get interested in anything.

13) Indecisiveness

0	I make decisions about as well as ever.
1	I find it more difficult to make decisions than usual.
2	I have much greater difficulty in making decisions than I used to.
3	I have trouble making any decision.

18) Changes in Appetite

0	I have not experienced any changes in my appetite.
1a	My appetite is somewhat less than usual.
1b	My appetite is somewhat greater than usual.
2a	My appetite is much less than usual.
2b	My appetite is much greater than usual.
3a	I have no appetite at all.
3a	I crave food all the time.

14) Worthlessness

0	I do not feel I am worthless.
1	I don't consider myself as worthwhile and useful as I used to.
2	I feel more worthless as compared to other people.
3	I feel utterly worthless.

19) Concentration Difficulty

0	I can concentrate as well as usual.
1	I can't concentrate as well as usual.
2	It's hard to keep my mind on anything for very long.
3	I find I can't concentrate on anything.

15) Loss of Energy

0	I have as much energy as ever.
1	I have less energy than I used to have.
2	I don't have enough energy to do very much.
3	I don't have enough energy to do anything.

20) Tiredness or Fatigue

0	I am no more tired or fatigued than usual.
1	I get more tired or fatigued more easily than usual.
2	I am too tired or fatigued to do a lot of the things I used to do.
3	I am too tired or fatigued to do most of the things I used to do.

16) Changes in Sleeping Pattern

0	I have not experienced any changes in my sleeping pattern.
1a	I sleep somewhat more than usual.
1b	I sleep somewhat less than usual.
2a	I sleep a lot more than usual.
2b	I sleep a lot less than usual.
3a	I sleep most of the day.
3b	I wake up 1-2 hours early and can't get back to sleep.

21) Loss of Interest in Sex

0	I have not noticed any recent change in my interest in sex.
1	I am less interested in sex than I used to be.
2	I am much less interested in sex now.
3	I have lost interest in sex completely.

17) Irritability

0	I am no more irritable than usual.
1	I am more irritable than usual.
2	I am much more irritable than usual.
3	I am irritable all the time.

Appendix C

Beck Anxiety Inventory

Below is a list of common symptoms of anxiety. Please read each item in the list carefully. Indicate how much you have been bothered by each symptom during the PAST WEEK, INCLUDING TODAY by placing an X in the corresponding space in the column next to each symptom.

		Not at all	Mildly. It did not bother me much	Moderately. It was very unpleasant but I could stand it	Severely I could barely stand it
1	Numbness or tingling				
2	Feeling hot				
3	Wobbliness in legs				
4	Unable to relax				
5	Fear of worst happening				
6	Dizzy or lightheaded				
7	Heart pounding or racing				
8	Unsteady				
9	Terrified				
10	Nervous				
11	Feelings of choking				
12	Hands trembling				
13	Shaky				
14	Fear of losing control				
15	Difficulty breathing				
16	Fear of dying				
17	Scared				
18	Indigestion or discomfort in abdomen				
19	Faint				
20	Face flushed				
21	Sweating (not due to heat)				

Appendix D

Contamination Subscale of the Vancouver Obsessional Compulsive Inventory

Please rate each statement by putting a circle around the number that best describes how much the statement is true of you. Please answer every item, without spending too much time on any particular item.

How much is each of the following statements true of you?	Not at all	A little	Some	Much	Very Much
1. I feel compelled to check letters over and over before mailing them.	0	1	2	3	4
2. I am often upset by my unwanted thoughts of using a sharp weapon.	0	1	2	3	4
3. * I feel very dirty after touching money.	0	1	2	3	4
4. I find it very difficult to make even trivial decisions.	0	1	2	3	4
5. I feel compelled to be absolutely perfect.	0	1	2	3	4
6. I repeatedly experience the same unwanted thought or image about an accident.	0	1	2	3	4
7. I repeatedly check and recheck things like taps and switches after turning them off.	0	1	2	3	4
8. * I use an excessive amount of disinfectants to keep my home or myself safe from germs.	0	1	2	3	4
9. I often feel compelled to memorize trivial things (e.g., licence plate numbers, instructions on labels).	0	1	2	3	4
10. I have trouble carrying out normal household activities because my home is so cluttered with things I have collected.	0	1	2	3	4
11. After I have decided something, I usually worry about my decision for a long time.	0	1	2	3	4
12. I find that almost every day I am upset by unpleasant thoughts that come into my mind against my will.	0	1	2	3	4
13. * I spend far too much time washing my hands.	0	1	2	3	4
14. I often have trouble getting things done because I try to do everything exactly right.	0	1	2	3	4
15. * Touching the bottom of my shoes makes me very anxious.	0	1	2	3	4
16. I am often upset by my unwanted thoughts or images of sexual acts.	0	1	2	3	4
17. I become very anxious when I have to make even a minor decision.	0	1	2	3	4
18. I feel compelled to follow a very strict routine when doing ordinary things.	0	1	2	3	4
19. I feel upset if my furniture or other possessions are not always in exactly the same position.	0	1	2	3	4

How much is each of the following statements true of you?	Not at all	A little	Some	Much	Very Much
20. I repeatedly check that my doors or windows are locked, even though I try to resist the urge to do so.	0	1	2	3	4
21. * I find it very difficult to touch garbage or garbage bins.	0	1	2	3	4
22. I become very tense or upset when I think about throwing anything away.	0	1	2	3	4
23. * I am excessively concerned about germs and disease.	0	1	2	3	4
24. I am often very late because I can't get through ordinary tasks on time.	0	1	2	3	4
25. * I avoid using public telephones because of possible contamination.	0	1	2	3	4
26. I am embarrassed to invite people to my home because it is full of piles of worthless things I have saved.	0	1	2	3	4
27. I repeatedly experience the same upsetting thought or image about death.	0	1	2	3	4
28. I am often upset by unwanted thoughts or images of blurting out obscenities or insults in public.	0	1	2	3	4
29. I worry far too much that I might upset other people.	0	1	2	3	4
30. I am often frightened by unwanted urges to drive or run into oncoming traffic.	0	1	2	3	4
31. I almost always count when doing a routine task.	0	1	2	3	4
32. * I feel very contaminated if I touch an animal.	0	1	2	3	4
33. One of my major problems is repeated checking.	0	1	2	3	4
34. I often experience upsetting and unwanted thoughts about losing control.	0	1	2	3	4
35. I find it almost impossible to decide what to keep and what to throw away.	0	1	2	3	4
36. I am strongly compelled to count things.	0	1	2	3	4
37. I repeatedly check that my stove is turned off, even though I resist the urge to do so.	0	1	2	3	4
38. I get very upset if I can't complete my bedtime routine in exactly the same way every night.	0	1	2	3	4
39. * I am very afraid of having even slight contact with bodily secretions (blood, urine, sweat, etc.).	0	1	2	3	4

How much is each of the following statements true of you?	Not at all	A little	Some	Much	Very Much
40. I am often very upset by my unwanted impulses to harm other people.	0	1	2	3	4
41. I spend a lot of time every day checking things over and over again.	0	1	2	3	4
42. I have great trouble throwing anything away because I am very afraid of being wasteful.	0	1	2	3	4
43. I frequently have to check things like switches, faucets, appliances and doors several times.	0	1	2	3	4
44. * One of my major problems is that I am excessively concerned about cleanliness.	0	1	2	3	4
45. I feel compelled to keep far too many things like old magazines, newspapers, and receipts because I am afraid I might need them in the future.	0	1	2	3	4
46. I repeatedly experience upsetting and unacceptable thoughts of a religious nature.	0	1	2	3	4
47. I tend to get behind in my work because I repeat the same thing over and over again.	0	1	2	3	4
48. I try to put off making decisions because I'm so afraid of making a mistake.	0	1	2	3	4
49. * I often experience upsetting and unwanted thoughts about illness.	0	1	2	3	4
50. * I am afraid to use even well-kept public toilets because I am so concerned about germs.	0	1	2	3	4
51. Although I try to resist, I feel compelled to collect a large quantity of things I never actually use.	0	1	2	3	4
52. I repeatedly experience upsetting and unwanted immoral thoughts.	0	1	2	3	4
53. One of my major problems is that I pay far too much attention to detail.	0	1	2	3	4
54. I am often upset by unwanted urges to harm myself.	0	1	2	3	4
55. I spend far too long getting ready to leave home each day because I have to do everything exactly right.	0	1	2	3	4

* Contamination subscale items.

Appendix E

Mental Contamination Questionnaire

Now that you have imagined yourself in that scenario, please answer the following questions about how you feel **at this moment**:

1. On a scale from 0 to 100, where 0 represents “not at all” and 100 represents “completely”, please rate the extent to which you feel:

Distressed _____ Anxious _____ Angry _____

Disgusted--by the man's physical attributes _____

Disgusted--by the man's behaviour _____

Ashamed _____ Guilty _____ Humiliated _____

Afraid _____ Sad _____ Cheap _____

Sleazy _____

2. Do you feel dirty or unclean? Please rate the extent to which you feel dirty/unclean on a scale from 0 to 100.

Rating: _____

3. If you feel dirty, can you locate this feeling of dirtiness? -- Please **check** (✓) where you feel dirty:

Mouth

Arms

Tongue

Diffuse (all over)

Face

Difficult to locate

Hands

Internal

Stomach

Other _____

4. If you feel dirty, do you have an urge to do anything about this feeling of dirtiness? Please rate each urge on a scale from 0 to 100.

Rinse mouth/spit/drink something _____ Wash my face _____

Brush teeth/use mouthwash _____ Wash my hands _____

Try to think about something else _____ Take a shower _____

Other (please specify) _____

5. For the urges you endorsed in question 4, think about why you want to do this. **Check (✓)** off the statement(s) that most apply to you:

I am worried that, when I leave this room, other people will be able to tell that I feel dirty.

It would make me feel less distressed or anxious.

I am worried about spreading this dirtiness to other things or people.

It would prevent me from getting sick.

It would make me stop thinking about it.

I cannot think of a reason.

I have another reason (please specify) _____

6. How easy was it to imagine the scenario in your mind?

(0-100)_____

7. How clear/vivid was the imagined scenario?

(0-100)_____

8. How realistic was the imagined scenario?

(0-100)_____

9. Have you ever been to a party like the one described in the tape? (Circle one)

Never Rarely Sometimes Often

10. Have you ever experienced a non-consensual (i.e., forced) sexual encounter, such as a kiss?

Yes No

If so, did it occur at a party? Yes No

11. Has a friend of yours ever experienced a non-consensual (i.e., forced) sexual encounter?

Yes No

If so, did it occur at a party? Yes No

12. Have you ever witnessed a non-consensual (i.e., forced) sexual encounter, such as a kiss?

Yes No

If so, did it occur at a party? Yes No

On a scale from 0 to 100, where 0 represents “not at all” and 100 represents “completely”, please answer the following questions:

13. Based on your impression of the man in the scenario **before** you experience the kiss, how immoral would you say the man is?

(0-100)_____

14. Based on your impression of the man in the scenario **after** you experience the kiss, how immoral would you say the man is?

(0-100)_____

15. At the moment that you experience the kiss in the recording, how much would you say that you wanted the kiss to happen?

(0-100)_____

16. How inappropriate (socially/morally wrong) would you rate the man’s behaviour?

(0-100)_____

17. Do you think this man is trustworthy?

(0-100)_____

18. Do you think this man would help someone if they were in need?

(0-100)_____

19. Do you think this man would take advantage of a vulnerable or defenseless person?

(0-100)_____

20. Do you think this man would risk harming someone else in order to get something he wanted?

(0-100)_____

21. Do you think this man would decide not to do something immoral if he thought it might harm someone else?

(0-100)_____

On a scale from 0 to 100, where 0 represents “not at all” and 100 represents “completely”, please answer the following questions:

22. Do you think this man would choose to do the “right” thing even though he didn’t want to do it?

(0-100) _____

23. Do you think this man would decide not to do something he thought was wrong even though he really wanted to do it?

(0-100) _____

24. Do you think you did anything wrong in this situation? (0-100) _____

Why or why not? _____

25. Do you think the man in the scenario did anything wrong in this situation? (0-100) _____

Why or why not? _____

26. How responsible do you feel for the events that occurred in this situation?

(0-100) _____

27. Do you think you could have prevented this situation?

(0-100) _____

28. Would you expect this type of behaviour from this man?

(0-100) _____

29. Do you feel violated by this man’s behaviour?

(0-100) _____

Appendix F

Break Behaviour Questionnaire

1. a) Before listening to the tape, did you drink anything? Y N

1. b) If you drank, was it (**Check (✓)** off the statement that most applies to you):

- because you were thirsty
- to get rid of physical sensations in your mouth
- I don't know

1. c) If it was to get rid of physical sensations in your mouth, did it help? Y N

2. a) After listening to the tape (e.g., during the break), did you drink anything? Y N

2. b) If you drank, was it (**Check (✓)** off the statement that most applies to you):

- because you were thirsty
- to get rid of physical sensations in your mouth
- I don't know

2. c) If it was to get rid of physical sensations in your mouth, did it help? Y N

3. a) After listening to the tape (e.g., during the break), did you wash:
your hands? Y N
your face? Y N

3. b) If yes, was it because (**Check (✓)** off the statement that most applies to you):

- you had just used the washroom
- to get rid of feelings of dirtiness
- I don't know

3. c) If it was to get rid of feelings of dirtiness, did it help? Y N

Appendix G

Mental Contamination Audio Recording Scripts

Consensual Moral Condition

Narrator: Please take a moment to make yourself comfortable in your chair. Close your eyes, relax, and take a few slow deep breaths. Slowly breathe in and out. As you exhale, allow yourself to become more and more relaxed. As I describe the scenario to you, try to imagine it as clearly and in as much detail as you are able to. I will describe slowly so that you have time to fully picture it in your mind. Try to imagine that you are the woman in the scenario and that the events I am describing are happening right now. Try not to picture yourself in the scene. Instead, try to imagine you are seeing it through your own eyes. You are at a party.

[Background music and conversation murmur sounds begin].

It is a big party and there are at least 100 people there, including some of your friends. You've come with a girlfriend who knows the host.

[Background sounds fade out].

Friend: This is going to be fun! She always throws the best parties!

[Background sounds return].

Narrator: In fact, it is a house party and you are having fun. The music is pretty loud and some people are dancing in the living room. The lights are low everywhere except in the kitchen.

Around 11 o'clock, you end up alone in the hallway with a guy you met earlier in the evening.

Man: Hey. I remember you.

Narrator: You are leaning against the wall and he is standing in front of you as you both make conversation. You have never seen him before tonight, and you think he is really cute. You're having a bit of trouble concentrating on the conversation because

you're thinking of what it would be like to kiss him.

Then you realize that although you have never met this guy before, you have heard about him from some of your friends. In fact, on your way to the party tonight, the friend you came with said to you [Background sounds fade out]

Friend: There may be a guy here tonight that I hope you meet. Apparently, he's really nice, a really great guy. He never tries to pick up girls with cheap pick-up lines or made-up stories, and he never spreads rumours about his experiences with girls. He's the type of guy who would go out of his way to help other people no matter what their race is or how old they are, like helping an elderly person cross the street and then carry their groceries home for them. In fact, a friend told me that he volunteers at a homeless shelter and I think he sometimes stays home on the weekend to look after his sick mom. One time my cousin's wallet fell out of his pocket on the bus. He was sitting next to this guy who returned it to my cousin with the money still inside. He just sounds like a wonderful person.

[Background sounds return]

Narrator: As he's talking to you, you notice that he appears normal and clean-cut, and you think about how he seems to have a strong moral conscience as he never lies, cheats or steals and genuinely cares about people.

Gradually you and he move closer to each other. You start to get the feeling he would like to kiss you too. There is a brief pause in conversation and he leans towards you and begins to kiss you on the mouth. You return his kiss and your bodies press together. As he holds you in his arms, your back presses against the wall. It feels nice to have his mouth against yours and you notice what a good kisser he is. This is exactly the kiss you wanted to share with him. You continue to kiss until someone else comes down the hallway and he stops kissing you.

[Background sounds fade out].

Before he walks away he turns to you and says

Male: That was nice. Come find me later.

Narrator: The person coming down the hallway turns out to be your friend and she asks you

Friend: How did you end up kissing that guy?

[Pause in recording]

Narrator: Please take off the headphones and complete the questionnaire inside of the envelope.

Consensual Immoral Condition

Narrator: Please take a moment to make yourself comfortable in your chair. Close your eyes, relax, and take a few slow deep breaths. Slowly breathe in and out. As you exhale, allow yourself to become more and more relaxed. As I describe the scenario to you, try to imagine it as clearly and in as much detail as you are able to. I will describe slowly so that you have time to fully picture it in your mind. Try to imagine that you are the woman in the scenario and that the events I am describing are happening right now. Try not to picture yourself in the scene. Instead, try to imagine you are seeing it through your own eyes. You are at a party.

[Background music and conversation murmur sounds begin].

It is a big party and there are at least 100 people there, including some of your friends. You've come with a girlfriend who knows the host.

[Background sounds fade out].

Friend: This is going to be fun! She always throws the best parties!

[Background sounds return].

Narrator: In fact, it is a house party and you are having fun. The music is pretty loud and some people are dancing in the living room. The lights are low everywhere except in the kitchen.

Around 11 o'clock, you end up alone in the hallway with a guy you met earlier in the evening.

Man: Hey. I remember you.

Narrator: You are leaning against the wall and he is standing in front of you as you both make conversation. You have never seen him before tonight, and you think he is really cute. You're having a bit of trouble concentrating on the conversation because you're thinking of what it would be like to kiss him.

Then you realize that although you have never met this guy before, you have heard about him from some of your friends. In fact, on your way to the party tonight, the friend you came with said to you

[Background sounds fade out]

Friend: There may be a guy here tonight that I hope you don't meet. Apparently, he's really weird and a major jerk. He tries to pick up every girl he sees with cheap pick-up lines or made-up stories, and he spreads rumours that he has slept with girls he has never even met. He's the type of guy who would go out of his way to hurt other people, especially people of a different race. I heard a few times that he's tried to take advantage of girls while they were drunk and I think he has recently been spending a lot of time around underage girls. One time my cousin's wallet fell out of his pocket on the bus. He was sitting next to this guy who returned it to my cousin but stole the money out first. He just sounds like a horrible person.

[Background sounds return]

Narrator: As he's talking to you, you notice that he appears normal and clean-cut, but you think about how he doesn't seem to have any moral conscience; he lies, cheats and steals without any remorse and he doesn't care about other people.

Gradually you and he move closer to each other. You start to get the feeling he would like to kiss you too. There is a brief pause in conversation and he leans towards you and begins to kiss you on the mouth. You return his kiss and your bodies press together. As he holds you in his arms, your back presses against the wall. It feels nice to have his mouth against yours and you notice what a good kisser he is. This is exactly the kiss you wanted to share with him. You continue to kiss until someone else comes down the hallway and he stops kissing you.

[Background sounds fade out].

Before he walks away he turns to you and says

Male: That was nice. Come find me later.

Narrator: The person coming down the hallway turns out to be your friend and she asks you

Friend: How did you end up kissing that guy?

[Pause in recording]

Narrator: Please take off the headphones and complete the questionnaire inside of the envelope.

Non-consensual Moral Condition

Narrator: Please take a moment to make yourself comfortable in your chair. Close your eyes, relax, and take a few slow deep breaths. Slowly breathe in and out. As you exhale, allow yourself to become more and more relaxed. As I describe the scenario to you, try to imagine it as clearly and in as much detail as you are able to. I will describe slowly so that you have time to fully picture it in your mind. Try to imagine that you are the woman in the scenario and that the events

I am describing are happening right now. Try not to picture yourself in the scene. Instead, try to imagine you are seeing it through your own eyes. You are at a party.

[Background music and conversation murmur sounds begin].

It is a big party and there are at least 100 people there, including some of your friends. You've come with a girlfriend who knows the host.

[Background sounds fade out].

Friend: This is going to be fun! She always throws the best parties!

[Background sounds return].

Narrator: In fact, it is a house party and you are having fun. The music is pretty loud and some people are dancing in the living room. The lights are low everywhere except in the kitchen.

Around 11 o'clock, you end up alone in the hallway with a guy you met earlier in the evening.

Man: Hey. I remember you.

Narrator: You are leaning against the wall and he is standing in front of you as you both make conversation. You have never seen him before tonight, and you think he is really cute. You're having a bit of trouble concentrating on the conversation because you're thinking that, even though he's cute, you're not that interested in him.

Then you realize that although you have never met this guy before, you have heard about him from some of your friends. In fact, on your way to the party tonight, the friend you came with said to you

[Background sounds fade out]

Friend: There may be a guy here tonight that I hope you meet. Apparently, he's really nice, a really great guy. He never tries to pick up girls with cheap pick-up lines or made-up stories, and he never spreads rumours about his experiences with girls. He's the type of guy who would go

out of his way to help other people no matter what their race is or how old they are, like helping an elderly person cross the street and then carry their groceries home for them. In fact, a friend told me that he volunteers at a homeless shelter and I think he sometimes stays home on the weekend to look after his sick mom. One time my cousin's wallet fell out of his pocket on the bus. He was sitting next to this guy who returned it to my cousin with the money still inside. He just sounds like a wonderful person.

[Background sounds return]

Narrator: As he's talking to you, you notice that he appears normal and clean-cut, and you think about how he seems to have a strong moral conscience as he never lies, cheats or steals and genuinely cares about people.

Gradually he moves closer to you. You get the feeling he would like to kiss you. You are not interested in him sexually, so you begin to walk away. But he grabs you and begins to kiss you on the mouth. You try to push him away, but are unable to and he presses his body against yours. As he restrains you with his hands and arms, your back presses against the wall. You feel his tongue press against your tongue and move to the back corners of your mouth. You do not want this kiss to happen. He continues to kiss you aggressively, but you cannot push him off you. Eventually someone else comes down the hallway, and he stops forcefully kissing you and releases you from his grip.

[Background sounds fade out].

Before he walks away he turns to you and says

Male: That was nice. I'm going to find you later.

Narrator: The person coming down the hallway turns out to be your friend and she asks you

Friend: How did you end up kissing that guy?

[Pause in recording]

Narrator: Please take off the headphones and complete the questionnaire inside of the envelope.

Non-consensual Immoral Condition

Narrator: Please take a moment to make yourself comfortable in your chair. Close your eyes, relax, and take a few slow deep breaths. Slowly breathe in and out. As you exhale, allow yourself to become more and more relaxed. As I describe the scenario to you, try to imagine it as clearly and in as much detail as you are able to. I will describe slowly so that you have time to fully picture it in your mind. Try to imagine that you are the woman in the scenario and that the events I am describing are happening right now. Try not to picture yourself in the scene. Instead, try to imagine you are seeing it through your own eyes. You are at a party.

[Background music and conversation murmur sounds begin].

It is a big party and there are at least 100 people there, including some of your friends. You've come with a girlfriend who knows the host.

[Background sounds fade out].

Friend: This is going to be fun! She always throws the best parties!

[Background sounds return].

Narrator: In fact, it is a house party and you are having fun. The music is pretty loud and some people are dancing in the living room. The lights are low everywhere except in the kitchen. Around 11 o'clock, you end up alone in the hallway with a guy you met earlier in the evening.

Man: Hey. I remember you.

Narrator: You are leaning against the wall and he is standing in front of you as you both make conversation. You have never seen him before tonight, and you think he is really cute. You're having a bit of trouble concentrating on the conversation because

you're thinking that, even though he's cute, you're not that interested in him.

Then you realize that although you have never met this guy before, you have heard about him from some of your friends. In fact, on your way to the party tonight, the friend you came with said to you

[Background sounds fade out]

Friend: There may be a guy here tonight that I hope you don't meet. Apparently, he's really weird and a major jerk. He tries to pick up every girl he sees with cheap pick-up lines or made-up stories, and he spreads rumours that he has slept with girls he has never even met. He's the type of guy who would go out of his way to hurt other people, especially people of a different race. I heard a few times that he's tried to take advantage of girls while they were drunk and I think he has recently been spending a lot of time around underage girls. One time my cousin's wallet fell out of his pocket on the bus. He was sitting next to this guy who returned it to my cousin but stole the money out first. He just sounds like a horrible person.

[Background sounds return]

Narrator: As he's talking to you, you notice that he appears normal and clean-cut, but you think about how he doesn't seem to have any moral conscience; he lies, cheats and steals without any remorse and he doesn't care about other people.

Gradually he moves closer to you. You get the feeling he would like to kiss you. You are not interested in him sexually, so you begin to walk away. But he grabs you and begins to kiss you on the mouth. You try to push him away, but are unable to and he presses his body against yours. As he restrains you with his hands and arms, your back presses against the wall. You feel his tongue press against your tongue and move to the back corners of your mouth. You do not want this kiss to happen. He continues to kiss you aggressively, but you cannot push him off you.

Eventually someone else comes down the hallway, and he stops forcefully kissing you and releases you from his grip.

[Background sounds fade out].

Before he walks away he turns to you and says

Male: That was nice. I'm going to find you later.

Narrator: The person coming down the hallway turns out to be your friend and she asks you

Friend: How did you end up kissing that guy?

[Pause in recording]

Narrator: Please take off the headphones and complete the questionnaire inside of the envelope.

Appendix H

Certificate of Ethical Acceptability for Research Involving Human Subjects