Reappraising Beliefs About Losing Control: An Experimental Investigation

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ABSTRACT

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Cailyn Fridgen

Background and Objectives: Beliefs about losing control over one's thoughts, emotions, behaviours, and/or bodily functions have been shown to cause obsessive-compulsive symptoms. The cognitive model of obsessive-compulsive disorder (OCD) suggests that catastrophic misappraisals of intrusions will lessen if underlying maladaptive beliefs are effectively reduced. The primary aim of this study was to experimentally investigate whether preexisting appraisals about losing control could be reduced by reappraising a previous perceived loss of control.
Methods: A sample of (n = 52) undergraduate participants underwent either a brief cognitive intervention or a control memory task. Appraisals about losing control and anxiety were measured before and after the manipulation.
Results: In comparison to participants in the control condition, participants in the experimental condition reported a significantly greater reduction in appraisals about having lost control (F(1, 50) = 10.79, p = .002, η_p^2 = .18) and about losing control in the future (F(1, 50) = 7.82, p = .007, η_p^2 = .14) but not anxiety F(1, 50) = .81, p = .37, η_p^2 = .02).
Limitations: The absence of an impact on anxiety may be attributed to an underpowered sample size or the lack of a more robust intervention.
Conclusions: Results suggest that pre-existing beliefs about losing control can be reduced via a brief cognitive reappraisal-based intervention. Findings are discussed with respect to clinical and phenomenological implications.

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Introduction

Obsessive-compulsive disorder (OCD) is a serious and often chronic mental disorder in which a person experiences recurrent, persistent, obsessive thoughts and/or engages in compulsive behaviour (American Psychiatric Association, 2013; Rachman & Hodgson, 1980). It is estimated that OCD affects about 1-2% of the global population with some studies showing a higher prevalence in adult females compared to adult males (Fawcett, et al., 2020; Fineberg et al., 2013; Rasmussen et al., 1990). Individuals with OCD are known to suffer marked impairment in quality of life compared to the general population and to individuals with select psychiatric conditions (Huppert et al., 2009; Stengler et al., 2010; Subramaniam et al., 2013).

The prevailing cognitive-behavioural theory of OCD posits that obsessions are caused and maintained by catastrophic misinterpretations of the personal significance of one's intrusive thoughts (Rachman, 1997; 1998). Intrusive thoughts are experienced by virtually everyone (Purdon & Clark 1993, 1994a,b; Rachman & de Silva, 1978; Radomsky et al., 2014); however, only a portion of the population will develop full blown obsessions. Certain maladaptive beliefs have been proposed to be causally linked to the misappraisal of intrusive thoughts, leading to the pathogenesis of obsessions and consequently OCD (Rachman 1997, 1998; Salkovskis, 1985). Six maladaptive belief types were initially identified in individuals with OCD, later reduced to three domains: (1) inflated responsibility/threat overestimation, (2) perfectionism/intolerance of uncertainty, and (3) importance of thoughts/need to control thoughts (OCCWG, 1997).

Recently, there has been particular interest in the belief domain of importance of and need to control one's thoughts – the unrealistic or false conjecture that one must control their thoughts (Clark, 2005, 2006; Clark & Purdon 1993; Moulding & Kyrios, 2006; Purdon & Clark, 1994, 1999, 2002; Reuven-Magril, et al., 2008). Indeed, self-reports of individuals with OCD emphasize their contention that complete control over thoughts is not only possible but necessary (e.g., "I can and should assert control over my unwanted thoughts"; Salkovskis, 1985). Moreover, compulsive efforts to stop or control intrusive thoughts through thought suppression, distraction, and neutralization likely have a paradoxical result in which the thoughts may become more intrusive and/or more salient to the individual (Clark et al., 1991; Conway et al., 1991; Freeston & Ladouceur, 1997; Tolin et al., 2002; Wells & Davies, 1994). Relatedly, the fear or anticipation of the possible consequences of not being in control of one's intrusive thoughts such

as a loss of control of emotions, behaviour, or bodily functions can be of great concern (Clark & Purdon, 1993; McFall & Wollersheim, 1979; Radomsky, 2022). Specifically, individuals with OCD can perceive their inability to control their distressing and particularly repugnant intrusive thoughts as meaning they may act on/carry out the thought (e.g., "If I do not stop these thoughts of molesting a child, I may actually molest a child"; Clark, 2002). Although much of this literature focuses on efforts and beliefs surrounding controlling thoughts and the feared consequences if thought control is lost, other domains over which people may fear losses of control have been proposed.

Accordingly, a broader yet related control construct has been recently proposed to be relevant in OCD and transdiagnostic symptomatology - beliefs about losing control over one's thoughts, emotions, behaviours and/or bodily functions (Gagné & Radomsky, 2017; Gagné & Radomsky, 2020; Kelly-Turner & Radomsky, 2022; Radomsky, 2022). Gagné & Radomsky (2017) found that undergraduate students led to believe that they were more likely to lose control over their thoughts and behaviours engaged in more checking behaviour during a subsequent control-related task. Additionally, it was shown that negative beliefs about losing control over one's behaviour caused more anxiety, perception of experiencing more intrusive thoughts, and perceived lack of caution during knife sorting and approach tasks (Gagné & Radomsky, 2020). Relatedly, beliefs about losing control have been shown to predict obsessive-compulsive symptomatology more strongly than other control related beliefs (i.e., desire for control) and previously established maladaptive belief domains (Radomsky & Gagné, 2019). It was suggested that the belief domain of the need to control thoughts should be expanded to encompass negative beliefs and appraisals about losing control of not only thoughts, but also of emotions, behaviour, and bodily functions (Radomsky, 2022).

Although negative beliefs regarding the possibility and consequences of losing control appear to predict anxiety and other obsessive-compulsive symptoms, it has been posited that it may be impossible to truly lose control over one's mind or self; it was proposed that people may retrospectively appraise previous adverse situations (e.g., unwise decisions, outbursts of anger, etc.) as losses of control, yet upon further consideration, come to realize that their thoughts, emotions, and behaviours were purposeful, motivated, and not random (Radomsky, 2022). In support of this notion, recent qualitative analysis revealed that individuals readily provided

experiences in which they perceived themselves to have lost control, but defined their 'losses of control' based on the retrospective appraisal that they had violated some personal or societal standard (Kelly-Turner & Radomsky, 2024). If this proposition is empirically supported, it could have important clinical implications with respect to cognitive-behavioural therapy (CBT) for OCD. CBT therapists work with clients to target maladaptive beliefs (e.g., inflated responsibility, perfectionism, etc.) that underly catastrophic misappraisals of intrusive thoughts and in turn reduce obsessions (Rachman, 2003). Thus, if it is not possible to lose control and/or if negative beliefs about losing control can be successfully reduced, clinicians would be able to develop novel techniques to target maladaptive beliefs about losing control and the anticipated consequences experienced by clients with OCD.

The aim of the current experiment was to determine whether appraisals about losing control could be reduced via a brief cognitive intervention. Additionally, the study sought to determine whether targeting appraisals about losing control would also lead to reductions in associated anxiety regarding potential future losses of control.

Hypotheses

Hypothesis 1a: Appraisals About Having Lost Control

We hypothesized that participants who underwent the cognitive intervention would report diminished appraisals about having lost control during the event they recounted, compared to participants who did not undergo the intervention.

Hypothesis 1b: Appraisals About Losing Control in the Future

We also hypothesized that participants who underwent the cognitive intervention would report diminished beliefs about the likelihood of losing control in the future, compared to participants who did not undergo the intervention.

Hypothesis 2: Anxiety About Losing Control

Finally, we hypothesized that participants who underwent the cognitive intervention would report diminished anxiety about losing control in the future, compared to participants who did not undergo the intervention.

Methods

Participants

A sample of (n = 62) Concordia University students was recruited from the undergraduate research participant pool and posters put up around campus. Course credit or entry into a cash prize draw were provided as compensation. Participants were required to be over 18 years of age, able to read and speak in fluent English, reside in Québec, and report at least one previous instance in which they believed themselves to have lost control. A total of 10 participants were omitted from subsequent analysis due to missing data (n = 5) and failing the attention check (n = 5; see attention check criteria below). The final sample consisted of 52 participants with 26 participants in each of the experimental and control conditions. (The sample size was consistent with an *a priori* power analysis conducted with G*Power 3.1 (Faul et al., 2009) based on pilot data collected regarding appraisal change[1]). Mean age was 24.12 (SD = 5.76; range = 18 - 48) years and 71.20% of the sample identified as female. Demographic characteristics can be found in Table 1. There were no significant differences found between the two conditions in age $t(48)$ = 1.48, p = .15, gender $\chi^2(4) = 2.45$, p = .65, ethnicity $\chi^2(7) = 5.65$, p = .58, educational attainment $\chi^2(5) = 4.412$, p = .53, p = .52, or marital status $\chi^2(2) = 3.34$, p = .19.

To assess for differences between the control and experimental conditions with respect to relevant psychopathology symptoms and beliefs about losing control, the Beliefs About Losing Control Inventory Second Edition[2] (BALCI - II; Kelly-Turner & Radomsky, under review), Depression Anxiety Stress Scales (DASS-21; Lovibond & Lovibond, 1995), Obsessive Beliefs Questionnaire (OBQ-44; OCCWG, 2005), and Vancouver Obsessional Compulsive Inventory (VOCI; Thordarson et al., 2004), were administered (see measure descriptions below, and Table 1 for descriptive statistics). No significant differences were found between conditions, p's > 0.05.

Measures

Demographic Questionnaire

[1] The effect size observed in appraisal change within a pilot sample of n = 22 participants was $\eta_p^2 = .14$; therefore, the sample size for the current experiment was calculated using the effect size $\eta_p^2 = .14$ and a mixed methods multivariate analysis of variance (MANOVA) design. This yielded a desired n of 52 participants for the current study.

[2] Means and standard deviations of BALCI-II scores were calculated based on incomplete scale administration, as data for one item (question 4) failed to be recorded by Qualtrics software.

Basic demographic information about age, gender, ethnicity, marital status, and educational attainment was collected.

Appraisal of Past and Potential Loss of Control Questionnaire

A novel measure of appraisals about losing control was developed for the current study. Items measured two constructs: (1) the degree to which participants believe they lost control of their thoughts, emotions, behaviours, and/or bodily functions during the adverse event (Losing Control Appraisals of Past Event (LCA-P)) and (2) the degree to which participants believe they will lose control of their thoughts, emotions, behaviours, and/or bodily functions in the future (Losing Control Appraisals of Future Events (LCA-F)). LCA-P were measured via ratings of how much participants agreed with 12 statements (e.g., "During the experience I described, I believe that I lost control of my behaviours") using Likert-type scales with anchors at 0 and 10 (0 = completely disagree; 10 = completely agree) (See Appendix). Similarly, participants' beliefs about the degree to which they believe they will lose control over their thoughts, emotions, behaviours, and bodily functions in the future were measured by asking participants to rate how much they agree with 12 statements (e.g., "I believe I will lose control of my thoughts in the future") using Likert-type scales with anchors at 0 and 10 (0 = completely disagree; 10 = completely agree) (See Appendix). All items developed for this measure were adapted from similar Likert-type scales used in Kelly-Turner & Radomsky, 2019.

Overall, the questionnaire demonstrated good internal consistency (α = .84). Items measuring LCA-P demonstrated good internal consistency (α = .84) and items measuring LCA-F demonstrated excellent internal consistency (α = .94).

Anxiety about Losing Control Questionnaire

Participants' anxiety about whether they will lose control of their thoughts, emotions, behaviours, and/or bodily functions was also measured by asking participants to rate how much they agree with three statements ((1) "I experience anxiety about losing control of my thoughts, emotions, behaviours, and/or bodily functions", (2) "I experience fear about losing control of my thoughts, emotions, behaviours, and/or bodily functions", and (3) "I worry about losing control of my thoughts, emotions, behaviours, and/or bodily functions") using Likert-type scales with

anchors at 0 and 10 (0 = I completely disagree; 10 = I completely agree). The Anxiety about Losing Control Questionnaire demonstrated excellent internal consistency (α = .92).

Attention Check

To assess whether participants were attentive during the interview, they were administered a bogus questionnaire that they were told was meant to assess interviewer professionalism (adapted from Gagné & Radomsky, 2020). This was comprised of questions such as, "How professional was the interviewer?", "How clear were the questions that were asked?", and "Do you have any other comments about the interviewer?". Key questions assessing attentiveness were: "During the interview, were you asked about your goals and intentions during the story you provided?", "During the interview, did the interviewer ask you about whether or not control can truly be lost?", "During the interview, did the interviewer ask you about what you ate for breakfast on the day of the memory you provided?", and "During the interview, were you asked about what you were wearing during the story you provided?".

Participants in the control group were deemed to have passed the attention check if they responded "yes" to at least one of two questions that were asked during the control task and "no" or "I can't remember" to at least one of two questions that were asked during the cognitive intervention. Participants in the experimental group were deemed to have passed the attention check if they responded "no" or "I can't remember" to at least one of two questions that were asked during the control task and "yes" to at least one of two questions that were asked during the cognitive intervention.

Beliefs About Losing Control Inventory Second Edition (BALCI - II; Kelly-Turner & Radomsky, under review)

The BALCI-II is a 32-item self report questionnaire developed to assess maladaptive beliefs about feared consequences of losing control. A revision of the BALCI (Radomsky & Gagné, 2020), it was designed to capture a broader array of beliefs and consequences associated with losing control. The BALCI-II consists of 4 subscales: (1) overwhelming emotions, (2) dangerous behaviours, (3) madness, and (4) probability/severity. Each item is rated on a 4-point Likert-type scale ranging from 0 ("None at all") to 4 ("A great deal"). It has good convergent (r's = .71 to .63) and divergent (r's = .46 to .19) validity, and good to excellent internal (α = .96) and

retest reliability (r = .88) (Kelly-Turner & Radomsky, under review). In the current sample, the measure had excellent internal consistency (α = 0.97).

Depression Anxiety Stress Scales (DASS-21; Lovibond & Lovibond, 1995)

The DASS-21 is a 21-item self report questionnaire, created to assess levels of depression, anxiety, and stress. Each item is rated on a four-point Likert-type scale with anchors at 0 ("Did not apply to me at all) to 3 ("Applied to me very much, or most of the time"). The DASS-21 has good-to-excellent internal consistency (α's = .87 to .94), and good convergent and divergent validity (Antony, Cox, Enns, Bieling, & Swinson, 1998; Crawford & Henry, 2003; Henry & Crawford, 2005). In the current sample, the measure had excellent internal consistency (α = 0.94).

Obsessive Beliefs Questionnaire (OBQ-44; OCCWG, 2005)

The OBQ-44 is a 44-item questionnaire designed to measure maladaptive beliefs identified as relevant to the development and maintenance of OCD. This questionnaire consists of three subscales: (1) responsibility and threat overestimation, (2) perfectionism and intolerance of uncertainty, and (3) importance of thoughts and importance of controlling thoughts. All items are rated on a seven-point Likert-type scale ranging from 1 ("Disagree very much") to 7 ("Agree very much"). The OBQ-44 subscales have good criterion, convergent and divergent validity, as well as, good to excellent internal consistency (α's = .89 to .93). In the current sample, the measure had excellent internal consistency (α = 0.92).

Vancouver Obsessional Compulsive Inventory (VOCI; Thordarson et al., 2004)

The VOCI is composed of 55 self-report items designed to assess OCD symptoms. It is comprised of six subscales: contamination, checking, obsessions, hoarding, indecisiveness, and 'just right' experiences. All items are rated on a five-point Likert-type scale ranging from 0 ("Not at all") to 4 ("Very much"). The VOCI has strong psychometric properties, including excellent convergent and divergent validity, excellent internal consistency (α's = .94 to .98), and excellent retest reliability (r = .91) (Radomsky et al., 2006; Thordarson et al., 2004). In the current sample, the measure had excellent internal consistency (α = 0.95).

Procedure

This experiment was approved by the Research Ethics Committee at Concordia University, and pre-registered on Open Science (https://doi.org/10.17605/OSF.IO/2HT6C). The experiment was conducted remotely using Zoom video conferencing platform and Qualtrics survey software. Participants signed up for a 45-minute individual time slot. Participants completed an informed consent form and demographics questionnaire. All interviews with participants in both the experimental and control condition were conducted by CF to optimize standardization. CF is a graduate student and therapist training in the clinical psychology program at Concordia University and had received sufficient training and supervision from AR to conduct the brief cognitive intervention. Participants were told that the purpose of the study was to examine individuals' abilities to remember details about life events or situations in which they believe themselves to have lost control.

Participants were then asked to provide a detailed description of a time in which they believed themselves to have lost control of their thoughts, emotions, behaviours, and/or bodily functions. The interviewer probed for additional details if necessary (e.g., when and where the event took place, circumstances leading up to it, what happened after, and subsequent consequences of their behaviour during the event). Next, the interviewer sent a link in the Zoom chat to the appraisal of past and potential loss of control and anxiety questionnaires. Once these measures were completed, participants were provided the definition of a true loss of control – "A loss of control is the complete and total inability to inhibit stop or change, one's thoughts, emotions, behaviours, and/or bodily functions. When control is lost, one's behaviours are completely random, without purpose or cause and are not congruent with the individuals current state of mind at that moment in time".

Next, participants were pseudo-randomly assigned to the control or experimental condition depending on the time slot they signed up for. Those in the experimental condition then underwent the cognitive intervention for a period of 10 to 15 minutes. The cognitive intervention was manualized (see below), and entailed the use of guided discovery and reflective listening to encourage participants to thoughtfully consider the situation in which they perceived themselves to have lost control as involving behaviour and other factors that were motivated, purposeful, and/or not random. Specifically, the interviewer questioned participants about the reasons why

they engaged in the behaviours they did in efforts to demonstrate to the participant that their behaviours were congruent with the circumstances of the situation, their thoughts and/or their emotions in that moment. For example, “What was the purpose of behaving like that?”. Additionally, the interviewer asked questions about whether the participant held the belief that they were in control of their thoughts, emotions, and body/bodily functions at all times, and relatedly, whether it is possible to completely lose control over domains in which people do not have control in the first place. For example, “If you’re not always in control of the thoughts that enter your mind, is it really possible to lose control over thoughts you did not have control over in the first place?”. Finally, participants were also questioned about whether they believed that they could simultaneously have and not have control over certain thoughts, emotions, or bodily functions. For example, “You may not have been in control of that emotion that was evoked, but what did you do to control/inhibit this emotional response?”.

In contrast, participants in the control condition underwent a memory task, wherein they were asked about certain details of the event they recounted that did *not* have anything to do with whether or not they lost control. For example, “What were you wearing during this memory?”, “What did you have for breakfast during the day this memory took place?”, “What day of the week did this memory happen?”. This control memory task also lasted for 10 to 15 minutes. Manuals for both the experimental (i.e., cognitive intervention) and control (i.e., memory task) conditions are available from the corresponding author upon request.

At the end of the cognitive intervention or memory task, participants were asked to provide a brief recap of the interview. The interviewer then provided their own recap of the session wherein the definition of a true loss of control was repeated to participants. Participants were then asked to complete a battery of questionnaires via another link sent in the Zoom chat. The battery of questionnaires included the appraisal of past and potential loss of control and anxiety questionnaires, bogus professionalism questionnaire (i.e., attention check), BALCI-II, VOCI, OBQ-44, and DASS-21. After completing the questionnaires, participants were verbally debriefed, informed of the true purpose of the study and bogus professionalism questionnaire, and given an opportunity to provide informed consent to the use of their data in the study.

Results

Data Screening

The data were tested for assumptions of a mixed methods multivariate analysis of variance (ANOVA) and screened for univariate and multivariate outliers, neither of which were detected in the data set. Based on guidelines indicated by Kline (2016) (i.e., skewness < |3|, kurtosis < |10|), there was no evidence of non-normality present among the dependent variables.

Hypothesis 1a & 1b: Appraisal and Belief Change

A 2 (condition) x 2 (time) mixed methods multivariate analysis of variance (MANOVA) was conducted to examine the impact of condition on appraisals about losing control pre and post manipulation (Figure 1). As hypothesized, there was a significant interaction between condition and time on appraisals of past and potential losses of control such that overall appraisals about losing control decreased significantly more in the experimental condition compared to the control condition ($F(1, 50) = 5.93$, $p = .005$, $\eta_p^2 = .20$).

Two planned 2 (condition) x 2 (time) univariate analyses of variance (ANOVA's) were conducted to determine the impact of the condition on LCA-P and LCA-F. As hypothesized, there was a significant interaction between condition and time on LCA-P during the recounted scenario, such that appraisals significantly decreased more in the experimental condition compared to the control condition ($F(1, 50) = 10.79$, $p = .002$, $\eta_p^2 = .18$) (see Figure 2). Also as hypothesized, there was a significant interaction between condition and time on LCA-F, such that appraisals significantly decreased more in the experimental condition compared to the control condition ($F(1, 50) = 7.82$, $p = .007$, $\eta_p^2 = .14$) (Figure 3) (see Table 2 for descriptive statistics).

Hypothesis 2: Anxiety Change

A 2 (condition) x 2 (time) mixed methods ANOVA was conducted to examine the impact of condition on ratings of anxiety pre and post manipulation (see Figure 4). In contrast to our hypothesis, there was no significant difference between changes in anxiety between the experimental and control conditions ($F(1, 50) = .81$, $p = .37$, $\eta_p^2 = .02$) (see table 2 for descriptive statistics).

Discussion

Recent experiments have successfully demonstrated the ability to influence individuals' beliefs and appraisals about the likelihood of losing control (Gagné & Radomsky, 2017, 2020; Kelly-Turner & Radomsky, 2020; Sandstrom & Radomsky, 2024). However, it had yet to be determined whether pre-existing beliefs about losing control could be mitigated. The primary aim of this experiment was to test whether appraisals about losing control could be reduced via a brief cognitive intervention. Additionally, we sought to determine whether a reduction in these appraisals would lead to decreased self-reported anxiety. As hypothesized, participants in the experimental condition reported a significantly greater reduction in appraisals about the past recounted loss of control and potential future losses of control from pre- to post-manipulation compared to the control condition. However, contrary to our predictions, no significant difference in reported anxiety change from pre- to post-manipulation was observed between the experimental and control condition, indicating that there was no significant effect of the cognitive intervention on anxiety.

The significant interaction between time and condition demonstrates that cognitive reappraisal, employed as the intervention in this experiment, was sufficient to change individuals' appraisals that they had lost control during the recounted event and would lose control in the future. Cognitive reappraisal involves altering one's interpretation of a situation to a more objective perspective in an attempt to diminish the elicitation of unhelpful emotions (Beck, 1979; Clark, 2022). In the context of OCD, cognitive reappraisal has successfully alleviated feelings of disgust by prompting participants to reflect on and answer questions about the objective nature of the disgust-eliciting stimuli (Fink et al., 2018). Relatedly, reappraisal-based strategies targeted at reducing beliefs about memory have successfully reduced checking and associated symptoms in individuals diagnosed with OCD (Alcolado & Radomsky, 2016). The premise of the cognitive reappraisal intervention developed for this experiment was consistent with this approach. That is, the interviewer guided participants to reinterpret their memory of a 'loss of control' by reflecting upon their motivations and/or the causes behind their actions, thoughts, emotions, and bodily functions. By leading participants to recognize that they may have mistakenly appraised the recalled event as a loss of control, they were more likely to consider that similar perceived instances of a 'loss of control' may also have been misjudged, ultimately reducing appraisals that they can and/or will lose control in the future.

From a phenomenological perspective, results are consistent with the recent hypothesis that losing control of one's thoughts, emotions, behaviours, and/or bodily functions *may not actually occur* (Radomsky, 2022). A theme of questions used during the cognitive intervention to influence participants to reappraise losses of control of their *thoughts, emotions, and bodily functions* specifically addressed whether these domains are exclusively under one's control in the first place. In this sense, participants came to consider the notion that it is not possible to lose control over domains not inherently under one's control. Taken together, we believe that the success of the brief cognitive intervention supports that individuals may retrospectively appraise the recalled adverse situation as a 'loss of control' when in fact it may be more accurate that they acted aligned with their mindset at the time or that their described thoughts, emotions, and bodily functions were not entirely under their control to begin with. To provide further evidence for this hypothesis, future research should empirically investigate behavioural experiments such as asking individuals to try their best to lose control.

According to the cognitive-behavioural model of OCD, adequately targeting underlying maladaptive beliefs about losing control should lead to a reduction in associated anxiety and other related emotions (Beck, et al., 1985; Rachman, 1993, 1997, 1998; Salkovskis et al., 1998). Moreover, experimental, correlational, and psychometric research has demonstrated that more strongly held negative beliefs about losing control are linked to heightened fears regarding the potential and catastrophic consequences of losing control (Froreich et al., 2016; Radomsky & Gagné, 2020; Gagné & Radomsky, 2020). In contrast with these findings, the cognitive intervention did not lead to a significant reduction in anxiety even though appraisals about losing control did diminish. One limitation that might explain this nonsignificant finding is that the study was underpowered to detect changes in reported anxiety between groups. That is, the sample size was determined using a large effect size derived from pilot data related appraisal change (rather than emotional change). Since changes in anxiety were a secondary analysis, the sample size was likely insufficient to detect true effects of the intervention on anxiety ratings. Accordingly, future studies would benefit from the use of a larger sample. In addition, both appraisals and anxiety were assessed using Likert-type scales that were adapted from relatively novel measures. Although these scales were adapted from similar experimental studies (Kelly-Turner & Radomsky, 2019) and demonstrated good to excellent internal consistency, there

remains a possibility that these questionnaires may not adequately capture the intended constructs.

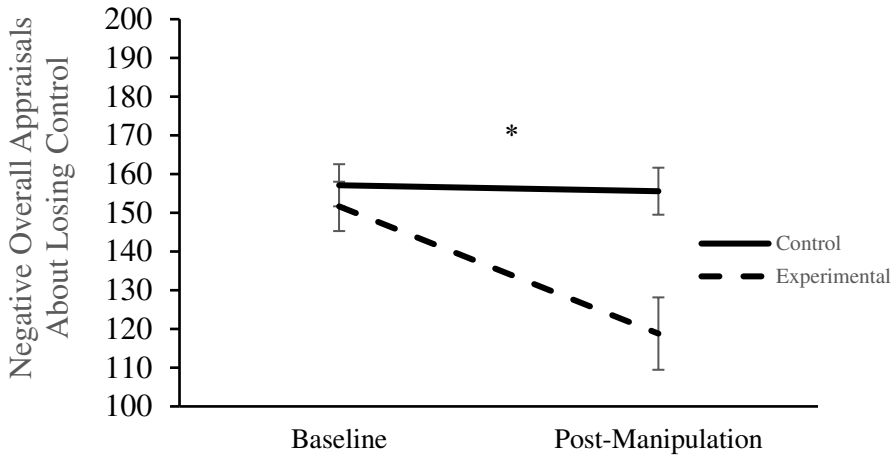
Several additional limitations should also be mentioned. First, the intervention employed was specifically designed to target *appraisals and beliefs* about losing control, rather than directly addressing negative emotions. Although it is likely that a reduction in appraisals about losing control should lead to diminished associated negative emotions (Rachman 1997, 1998), the interviewer did not explicitly discuss participants' anxiety or worry about the potential of losing control in the future. A longer intervention akin to a session of CBT may build upon or amplify the observed reduction in appraisals, in turn resulting in a significant reduction in fears and worries about losing control. Another methodological limitation may be associated with the nature of the scenarios recalled by participants. While it is true that clinical samples of individuals with OCD experience significant anxiety and other negative emotions due to strongly held beliefs that they can and will lose control (Clark & Purdon, 1993; Reuvin-Magril et al., 2008), these fears predominately revolve around acting on their intrusive thoughts (e.g., "What if I actually cheat on my partner?") or 'going crazy' (e.g., "What if I completely lose my mind?") (Clark & Purdon, 1993; Reuvin-Magril et al., 2008; Radomsky & Gagné, 2020). In the analogue sample used in this study, many of the scenario's recounting losing control appeared to involve strong emotional reactions (e.g., "I was so angry I punched a hole in the wall") or a single bout of anxiety during particularly stressful circumstances (e.g., "I felt like I couldn't think during my exam"). Consequently, the feared consequences of losing control in clinical samples, may or may not be more severe; although the nature of the episodes reported was not a focus of the current study. Although analogue populations have been shown to be efficient samples for studying the beliefs and symptomology commonly present in OCD (Abramowitz et al., 2014; De Putter et al., 2017; Gagné, Kelly-Turner, & Radomsky, 2018), it is possible that greater effects of the manipulation on secondary reports of anxiety may be detected in a clinical sample. To this end, future research should seek to replicate and extend the findings of this experiment by testing affective changes due to a cognitive reappraisal intervention in clinical and subclinical samples and via treatment studies and clinical trials.

Despite these limitations, the results of the experiment may well have meaningful clinical implications. As researchers identify new (especially cognitively based) candidates as

maintenance factors of psychopathology, treatment adaptations should be pursued if psychometric and experimental evidence suggests they may be warranted (e.g., Alcolado & Radomsky, 2016; Gagné et al., 2018). To the best of the authors' knowledge, the current study is the first to reduce appraisals about past and future perceived losses of control within a sample of participants who report a previous perceived loss of control. This study provides preliminary evidence suggesting that individuals may not actually 'lose control' of themselves. If further supported by future studies, psychoeducation about this key aspect of losing control may well prove helpful in reducing efforts to prevent losses of control and associated with a broad range of mental health problems.

Figure 1

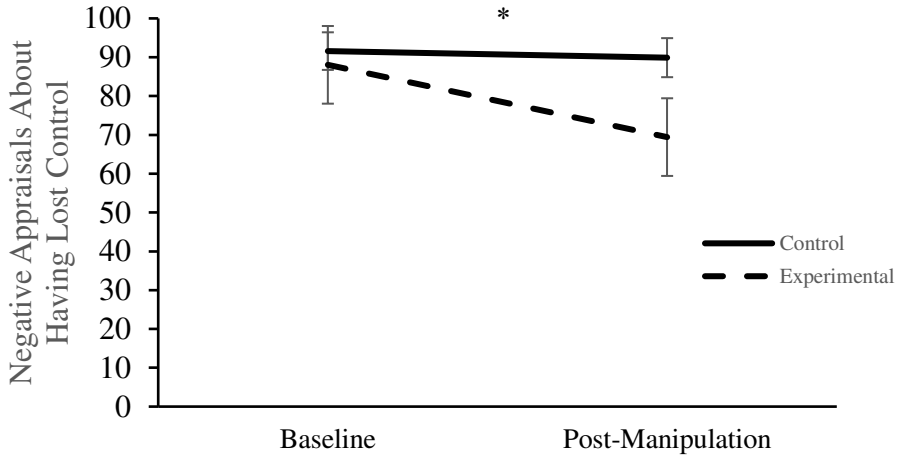
Overall Appraisals About Losing Control



Note. ($F(1, 50) = 5.93$, $p = .005$, $\eta_p^2 = .20$), * $p = .005$

Figure 2

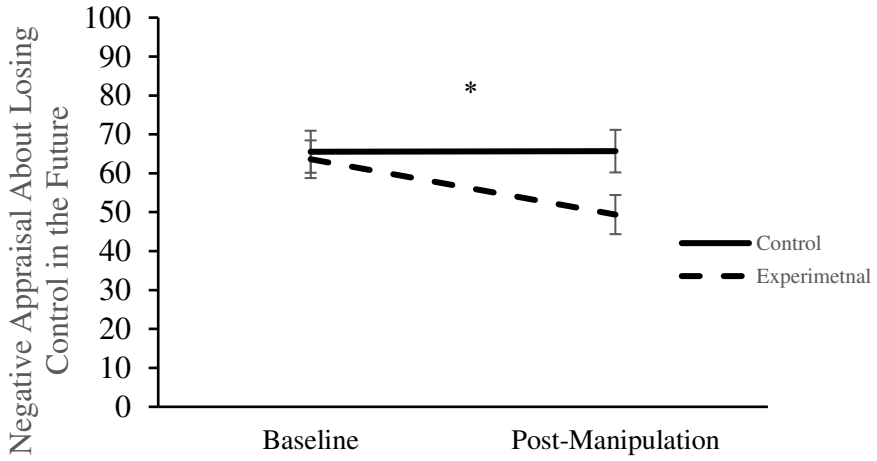
Appraisals About Having Lost Control



Note. ($F(1, 50) = 10.79$, $p = .002$, $\eta_p^2 = .18$),* $p < .01$

Figure 3

Appraisals About Losing Control in the Future



Note. ($F(1, 50) = 7.82$, $p = .007$, $\eta_p^2 = .14$), * $p < .01$

Table 1

Demographics by Condition

	Condition	
Demographics	Control[a]	Experimental[b]
Age *M(SD)*	23.0 (3.38)	23.1 (4.6)
Gender (% women)	72.0	73.1
Ethnicity (%)		
White	36.0	57.7
Chinese	4.0	3.8
South Asian	20.0	3.8
Black	16.0	11.5
Arab/West Asian	16.0	7.7
Latin-American	4.0	15.4
Japanese	4.0	0
Marital Status (%)		
Single	88.0	96.2
Married or Domestic Partnership	16.0	3.8
Divorced	4.0	0
Education (%)		
High School Diploma	20.8	19.2
Some College/CEGEP	8.3	3.8
College/CEGEP Diploma	33.3	15.4

Some Undergraduate School	33.3	50
Undergraduate Degree	4.2	7.7
Some Graduate School	0	0
Graduate-Level Degree	0	1.9
Questionnaire *M(SD)*		
BALCI-II*	68.35(21.92)	71.04(24.58)
DASS-21	25.12(14.31)	22.65(12.87)
OBQ-44	169.08(53.34)	163.19(53.24)
VOCI	33.73(20.17)	38.54(28.04)

Note. BALCI-II = Beliefs About Losing Control Inventory Second Edition. DASS-21 = Depression Anxiety Stress Scales. OBQ-44 = Obsessive Beliefs Questionnaire. VOCI = Vancouver Obsessional Compulsive Inventory. $^{a}n = 26$ $^{b}n = 26$. *Mean and standard deviation scores of the BALCI-II were calculated based on incomplete scale administration, as data for one question (question 4) failed to be recorded by Qualtrics software.

Table 2

Means and standard deviations for appraisals and anxiety about losing control

	Pre-Manipulation *M(SD)*	Post-Manipulation *M(SD)*
Overall Appraisals About Losing Control		
Control[a]	157.12(27.73)	155.58(32.48)
Experimental[b]	151.65(31.00)	118.81(47.67)
Appraisals About Having Lost Control in the Past		
Control[a]	91.58(17.64)	89.88(22.84)
Experimental[b]	88.04(18.98)	69.42(29.96)
Appraisals About Losing Control in the Future		
Control[a]	65.53(27.03)	65.69(27.37)
Experimental[b]	63.62(24.69)	49.38(25.64)
Anxiety		
Control[a]	20.12(7.52)	19.50(8.20)
Experimental[b]	21.81(7.30)	19.92(7.29)

Note. $^{a}n = 26$ $^{b}n = 26$.

References

Alcolado, G. M., & Radomsky, A. S. (2016). A novel cognitive intervention for compulsive checking: Targeting maladaptive beliefs about memory. *Journal of Behavior Therapy and Experimental Psychiatry, 53,* 75–83. https://doi.org/10.1016/j.jbtep.2015.02.009

Abramowitz, J. S., Fabricant, L. E., Taylor, S., Deacon, B. J., McKay, D., & Storch, E. A. (2014). The relevance of analogue studies for understanding obsessions and compulsions. *Clinical Psychology Review, 34*(3), 206–217. https://doi.org/10.1016/j.cpr.2014.01.004

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Beck, A. T. (Ed.). (1979). Cognitive therapy of depression. *Guilford Press*.

Clark, D. A. (2005). Focus on "cognition" in cognitive behavior therapy for OCD: Is it really necessary?. *Cognitive Behaviour Therapy, 34*(3), 131-139. https://doi.org/10.1080/16506070510041194

Clark, D. A. (2006). Cognitive-behavioral therapy for OCD. *Guilford Press.*

Clark, D. A. (2022). Cognitive reappraisal. *Cognitive and Behavioral Practice, 29*(3), 564-566. https://doi.org/10.1016/j.cbpra.2022.02.018

Clark, D. M., Ball, S., & Pape, D. (1991). An experimental investigation of thought suppression. *Behaviour Research and Therapy, 29*(3), 253-257. https://doi.org/10.1016/0005-7967(91)90115-J

Clark, D. A., & Purdon, C. (1993). New perspectives for a cognitive theory of obsessions. *Australian Psychologist, 28*(3), 161–167. https://doi.org/10.1080/00050069308258896

Cognitive assessment of obsessive-compulsive disorder. Obsessive Compulsive Cognitions Working Group. (1997). *Behaviour Research and Therapy, 35*(7), 667–681. https://doi.org/10.1016/s0005-7967(97)00017-x

Conway, M., Howell, A., & Giannopoulos, C. (1991). Dysphoria and thought suppression. *Cognitive Therapy and Research, 15*(2), 153-166. https://psycnet.apa.org/doi/10.1007/BF01173205

De Putter, L. M., Van Yper, L., & Koster, E. H. (2017). Obsessions and compulsions in the lab: A meta-analysis of procedures to induce symptoms of obsessive-compulsive disorder. *Clinical Psychology Review, 52*, 137–147. https://doi.org/10.1016/j.cpr.2017.01.001

Eisen, J. L., Mancebo, M. A., Pinto, A., Coles, M. E., Pagano, M. E., Stout, R., & Rasmussen, S.

A. (2006). Impact of obsessive-compulsive disorder on quality of life. *Comprehensive Psychiatry*, *47*(4), 270–275. https://doi.org/10.1016/j.comppsych.2005.11.006

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*(2), 175-191. https://doi.org/10.3758/BF03193146

Fawcett, E. J., Power, H., & Fawcett, J. M. (2020). Women Are at Greater Risk of OCD Than Men: A Meta-Analytic Review of OCD Prevalence Worldwide. *The Journal of Clinical Psychiatry*, *81*(4), 13075. https://doi.org/10.4088/JCP.19r13085

Fink, J., Pflugradt, E., Stierle, C., & Exner, C. (2018). Changing disgust through imagery rescripting and cognitive reappraisal in contamination-based obsessive-compulsive disorder. *Journal of Anxiety Disorders, 54*, 36-48. https://doi.org/10.1016/j.janxdis.2018.01.002

Fineberg, N. A., Hengartner, M. P., Bergbaum, C. E., Gale, T. M., Gamma, A., Ajdacic-Gross, V., Rössler, W., & Angst, J. (2013). A prospective population-based cohort study of the prevalence, incidence and impact of obsessive-compulsive symptomatology. *International Journal of Psychiatry in Clinical Practice, 17*(3), 170–178. https://doi.org/10.3109/13651501.2012.755206

Freeston, M. H., & Ladouceur, R. (1997). What do patients do with their obsessive thoughts? *Behaviour Research and Therapy*, *35*(4), 335–348. https://doi.org/10.1016/S0005-7967(96)00094-0

Froreich, F.V., Vartanian, L.R., Grisham, J.R. et al. Dimensions of control and their relation to disordered eating behaviours and obsessive-compulsive symptoms. *Journal of Eating Disorders*, *4*, 14 (2016). https://doi.org/10.1186/s40337-016-0104-4

Gagné, J.-P., Kelly-Turner, K., & Radomsky, A. S. (2018). From the laboratory to the clinic (and back again): How experiments have informed cognitive–behavior therapy for obsessive–compulsive disorder. *Journal of Experimental Psychopathology*, *9*(4), 2043808718810030. https://doi.org/10.1177/2043808718810030

Gagné, J. P., & Radomsky, A. S. (2017). Manipulating beliefs about losing control causes checking behaviour. *Journal of Obsessive-Compulsive and Related Disorders, 15*, 34-42. https://doi.org/10.1016/j.jocrd.2017.08.013

Gagné, J.-P., & Radomsky, A. S. (2020). Beliefs about losing control, obsessions, and caution:

An experimental investigation. *Behaviour Research and Therapy*, *126*, 103574. https://doi.org/10.1016/j.brat.2020.103574

Huppert, J. D., Simpson, H. B., Nissenson, K. J., Liebowitz, M. R., & Foa, E. B. (2009). Quality of life and functional impairment in obsessive–compulsive disorder: A comparison of patients with and without comorbidity, patients in remission, and healthy controls. *Depression and Anxiety*, *26*(1), 39–45. https://doi.org/10.1002/da.20506

Kelly-Turner, K., & Radomsky, A. S. (2020). The fear of losing control in social anxiety: An experimental approach. *Cognitive Therapy and Research, 44*(4), 834–845. https://doi.org/10.1007/s10608-020-10104-5

Kelly-Turner, K., & Radomsky, A. S., (under review). Beliefs About Losing Control Inventory, Second Edition. [Manuscript submitted for publication].

McFall, M. E., & Wollersheim, J. P. (1979). Obsessive-compulsive neurosis: A cognitive-behavioral formulation and approach to treatment. *Cognitive Therapy and Research*, *3*(4), 333–348. https://doi.org/10.1007/BF01184447

Moulding, R., & Kyrios, M. (2006). Anxiety disorders and control related beliefs: The exemplar of Obsessive–Compulsive Disorder (OCD). *Clinical Psychology Review*, *26*(5), 573–583. https://doi.org/10.1016/j.cpr.2006.01.009

Purdon, C., & Clark, D. A. (1993). Obsessive intrusive thoughts in nonclinical subjects. Part I. Content and relation with depressive, anxious and obsessional symptoms. *Behaviour Research and Therapy, 31*(8), 713-720. https://doi.org/10.1016/0005-7967(93)90001-B

Purdon, C., & Clark, D. A. (1994a). Obsessive intrusive thoughts in nonclinical subjects. Part II. Cognitive appraisal, emotional response and thought control strategies. *Behaviour Research and Therapy, 32*(4), 403-410. https://doi.org/10.1016/0005-7967(94)90003-5

Purdon, C., & Clark, D. A. (1994b). Perceived control and appraisal of obsessional intrusive thoughts: A replication and extension. *Behavioural and Cognitive Psychotherapy, 22*(4), 269-285. https://doi.org/10.1017/S1352465800013163

Purdon, C., & Clark, D. A. (1999). Metacognition and obsessions. *Clinical Psychology & Psychotherapy: An International Journal of Theory & Practice, 6*(2), 102-110. https://doi.org/10.1002/(SICI)1099-0879(199905)6:2%3C102::AID-CPP191%3E3.0.CO;2-5

Purdon, C., & Clark, D. A. (2002). Chapter 3—The Need to Control Thoughts. In R. O. Frost &

G. Steketee (Eds.), *Cognitive Approaches to Obsessions and Compulsions* (pp. 29–43). Pergamon. https://doi.org/10.1016/B978-008043410-0/50004-0

Rachman, S. (1997). A cognitive theory of obsessions. *Behaviour Research and Therapy*, *35*(9), 793–802. https://doi.org/10.1016/S0005-7967(97)00040-5

Rachman, S. (1998). A cognitive theory of obsessions: Elaborations. *Behaviour Research and Therapy*, *36*(4), 385–401. https://doi.org/10.1016/s0005-7967(97)10041-9

Radomsky, A. S. (2022). The fear of losing control. *Journal of Behavior Therapy and Experimental Psychiatry, 77*, 101768. https://doi.org/10.1016/j.jbtep.2022.101768

Radomsky, A. S., Alcolado, G. M., Abramowitz, J. S., Alonso, P., Belloch, A., Bouvard, M., Clark, D. A., Coles, M. E., Doron, G., Fernández-Álvarez, H., Garcia-Soriano, G., Ghisi, M., Gomez, B., Inozu, M., Moulding, R., Shams, G., Sica, C., Simos, G., & Wong, W. (2014). Part 1—You can run but you can't hide: Intrusive thoughts on six continents. *Journal of Obsessive-Compulsive and Related Disorders, 3*(3), 269–279. https://doi.org/10.1016/j.jocrd.2013.09.002

Radomsky, A. S., & Gagné, J. P. (2020). The development and validation of the Beliefs About Losing Control Inventory (BALCI). *Cognitive Behaviour Therapy, 49*(2), 97–112. https://doi.org/10.1080/16506073.2019.1614978

Rasmussen, S. A., & Eisen, J. L. (1990). Epidemiology of obsessive compulsive disorder. *The Journal of Clinical Psychiatry, 51*, 10–14.

Reuven-Magril, O., Dar, R., & Liberman, N. (2008). Illusion of control and behavioral control attempts in obsessive-compulsive disorder. *Journal of Abnormal Psychology, 117*(2), 334. https://psycnet.apa.org/doi/10.1037/0021-843X.117.2.334

Salkovskis, P. M. (1985). Obsessional-compulsive problems: A cognitive-behavioural analysis. *Behaviour Research and Therapy, 23*(5), 571-583. https://doi.org/10.1016/0005-7967(85)90105-6

Salkovskis, P. M. (1989). Cognitive-behavioural factors and the persistence of intrusive thoughts in obsessional problems. *Behaviour Research and Therapy, 27*(6), 677-682. https://doi.org/10.1016/0005-7967(89)90152-6

Salkovskis, P. M., Sighvatsson, M. B., & Sigurdsson, J. F. (2023). How effective psychological treatments work: mechanisms of change in cognitive behavioural therapy and beyond. *Behavioural and Cognitive Psychotherapy, 51*(6), 595–615.

https://doi.org/10.1017/S1352465823000590

Sandstrom, A., & Radomsky, A. S. (2024). Beliefs about losing control and other OCD-related cognitions: An experimental investigation. *Journal of Behavior Therapy and Experimental Psychiatry, 82,* 101919. https://doi.org/10.1016/j.jbtep.2023.101919

Smits, J. A. J., Julian, K., Rosenfield, D., & Powers, M. B. (2012). Threat reappraisal as a mediator of symptom change in cognitive-behavioral treatment of anxiety disorders: A systematic review. *Journal of Consulting and Clinical Psychology, 80*(4), 624–635. https://doi.org/10.1037/a0028957

Stein, M. B., Forde, D. R., Anderson, G., & Walker, J. R. (1997). Obsessive-compulsive disorder in the community: an epidemiologic survey with clinical reappraisal. *American Journal of Psychiatry, 154*(8), 1120-1126. https://doi.org/10.1176/ajp.154.8.1120

Steketee, G., Frost, R. O., & Cohen, I. (1998). Beliefs in obsessive-compulsive disorder. *Journal of Anxiety Disorders, 12*(6), 525–537. https://doi.org/10.1016/S0887-6185(98)00030-9

Stengler, K. (2010). Health-Related Quality of Life in Obsessive-Compulsive Disorder Subjects and Their Relatives: A Systematic Review and Original Data of Assessment of Quality of Life Measured by WHOQOL-BREF. In: Preedy, V.R., Watson, R.R. (eds) Handbook of Disease Burdens and Quality of Life Measures. *Springer.* https://doi.org/10.1007/978-0-387-78665-0_207

Subramaniam, M., Soh, P., Vaingankar, J. A., Picco, L., & Chong, S. A. (2013). Quality of life in obsessive-compulsive disorder: impact of the disorder and of treatment. *CNS Drugs, 27*(5), 367-383. https://doi.org/10.1007/s40263-013-0056-z

Tolin, D. F., Abramowitz, J. S., Przeworski, A., & Foa, E. B. (2002). Thought suppression in obsessive-compulsive disorder. *Behaviour Research and Therapy*, *40*(11), 1255–1274. https://doi.org/10.1016/S0005-7967(01)00095-X

Wells, A., & Davies, M. I. (1994). The thought control questionnaire: A measure of individual differences in the control of unwanted thoughts. *Behaviour Research and Therapy*, *32*(8), 871–878. https://doi.org/10.1016/0005-7967(94)90168-6

Appendix A

Questionnaires

Demographic Questionnaire

Appraisal of Past and Potential Loss of Control Questionnaire & Anxiety about Losing Control Questionnaire

Attention Check (Bogus Professionalism Questionnaire)

Beliefs About Losing Control Inventory Second Edition (BALCI - II)

Depression Anxiety Stress Scales (DASS-21)

Obsessive Beliefs Questionnaire (OBQ-44)

Vancouver Obsessional Compulsive Inventory (VOCI)

Demographic Questionnaire

What is your age?

What is your gender?

- Male
- Female
- Transgender – Male
- Transgender – Female
- Non-binary
- Two-spirited
- Other (please specify)
- Prefer not to say

How would you describe your ethnicity?

- Caucasian (white)
- Chinese
- South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lanken)
- Black (e.g., African, Haitian, Jamaican, Somali)
- Indigenous (i.e., First Nations, Metis, Inuit)
- Arab/West Asian (e.g., Armenian, Egyptian, Iranian, Lebanese, Moroccan)
- Filipino
- South East Asian (e.g., Cambodian, Indonesian, Laotian, Vietnamese)
- Latin-American
- Japanese
- Korean
- Other (please specify)

What is your first language?

- English
- French
- Chinese (including Mandarin and Cantonese)
- Japanese
- Korean
- Malay
- Italian
- German
- Polish
- Ukrainian
- Spanish
- Portuguese

- Punjabi
- Bengali
- Tegulu
- Urdu
- Arabic
- Hindi
- Persian
- Dutch
- Tagalog (Filipino)
- Greek
- Vietnamese
- Cree
- Inuktitut (Inuit)
- Other (please specify)

What is your highest level of education completed?

- Some high school
- High School Diploma (secondary school)
- Some college/CEGEP
- College/CEGEP diploma
- Some undergraduate
- Undergraduate degree
- Some graduate school
- Graduate-level degree

What is your current employment status?

- Full-time
- Part-time
- Unemployed
- Student
- Home make
- Other (please specify)

What is your marital status?

- Single (never married)
- Married, or in a domestic partnership
- Widowed
- Divorced
- Separated

How many children do you have?

- 0
- 1
- 2
- 3
- 4 or more

What is your current annual household income?

- Less than $10,000
- Between $10,000 and $30,000
- Between $30,000 and $50,000
- Between $50,000 and $70,000
- Between $70,000 and $90,000
- More than $90,000
- Prefer not to answer

Appraisal of Past and Potential Loss of Control Questionnaire & Anxiety about Losing Control Questionnaire

Rate the degree to which you agree with the following statements using the indicated scales below:

	Completely Disagree (1)	2	3	4	5	6	7	8	9	Completely Agree (10)
During the experience I described, I believe that I lost control of my thoughts.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
During the experience I described, I believe that I lost control of my emotions.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
During the experience I described, I believe that I lost control of my behaviours.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
During the experience I described, I believe that I lost control of my bodily functions.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I believe I will lose control of my thoughts in the future.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I believe I will lose control of my emotions in the future.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I believe that I will lose control of my behaviours in the future.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I believe that I will lose control of my bodily	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

functions in the future.										
I lost control of my thoughts in the situation I described.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I lost control of my emotions in the situation I described.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I lost control of my behaviours in the situation I described.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I lost control of my bodily functions in the situation I described.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I will lose control of my thoughts in the future.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I will lose control of my emotions in the future.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I will lose control of my behaviours in the future.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I will lose control of my bodily functions in the future.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
My thoughts were not under my control during the situation I described.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
My emotions were not under my control during the situation I described.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
My behaviours were not under my control	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

during the situation I described.										
My bodily functions were not under my control during the situation I described.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
My thoughts will become out of my control at some point in the future.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
My emotions will become out of my control at some point in the future.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
My behaviours will become out of my control at some point in the future.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
My bodily functions will become out of my control at some point in the future.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I experience anxiety about losing control of my thoughts, emotions, behaviours, and/or bodily functions.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I experience fear about losing control of my thoughts, emotions, behaviours, and/or bodily functions.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I worry about losing control of my thoughts, emotions, behaviours, and/or bodily functions.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Attention Check (Bogus Professionalism Questionnaire)

On the scale below, rate how professional was the interviewer was:

Not professional at all				Completely professional
1	2	3	4	5
☐	☐	☐	☐	☐

During the interview, did the interviewer ask you about purposes, motivations and causes behind your thoughts, emotions, behaviours, and/or bodily functions that you described during the memory you provided?

- Yes
- No
- I don't remember

During the interview, were you asked what you ate for breakfast the morning of the memory you provided?

- Yes
- No
- I don't remember

On the scale below, rate how clear the interviewer questions were:

Not clear at all				Completely clear
1	2	3	4	5
☐	☐	☐	☐	☐

During the interview, were you asked about the clothes you were wearing during the memory you provided?

- Yes
- No
- I don't remember

During the interview, did the interviewer ask you about whether or not control can truly be lost?

- Yes
- No

- I don’t remember

Do you have any other comments about the interview or the interviewer?

BALCI-II

Please rate each statement by circling the option that best describes how much the statement is true of you. Please answer every item, without spending too much time on any particular item.

Item	None at all	A little	Somewhat	A lot	A great deal
1. If I lose control over my emotions, I might go crazy	0	1	2	3	4
2. If I lose control, I'm afraid of what I might do	0	1	2	3	4
3. If I don't control my physical sensations, I might go crazy	0	1	2	3	4
4. I am afraid of losing control of my thoughts	0	1	2	3	4
5. If I get too emotional, I worry that I might never calm down	0	1	2	3	4
6. If I can't control my emotions, I might lose control of my whole life	0	1	2	3	4
7. I'm afraid that I might not be able to keep my emotions in check	0	1	2	3	4
8. Having a bad thought puts me at risk of going crazy	0	1	2	3	4
9. I am likely to lose control of my emotions	0	1	2	3	4
10. If I have too many thoughts, I could lose control of my mind	0	1	2	3	4
11. I'm more likely to lose control than other people	0	1	2	3	4
12. If I lose control of my anger, I don't know what I might do	0	1	2	3	4
13. If I can't always control my thoughts it means I might become a dangerous person	0	1	2	3	4
14. If I feel weird in my body in ways can't explain, it means I'm about to completely lose it	0	1	2	3	4
15. If I lose control at the wrong time I might cause an accident or hurt someone	0	1	2	3	4
16. Strong emotions can be dangerous because you might lose control	0	1	2	3	4
17. I may lose control of myself and injure someone	0	1	2	3	4
18. I may lose control in public and be taken to the hospital	0	1	2	3	4
19. It's important for me to keep my emotions from spiraling out of control	0	1	2	3	4
20. Intense emotions make people lose control	0	1	2	3	4

21. Staying in control of my emotions means things won't get out of hand	0	1	2	3	4
22. I might lose control if I feel a strange sensation in my body	0	1	2	3	4
23. I'm concerned about my ability to handle my emotions	0	1	2	3	4
24. If I can't keep physical sensations in check, I may never regain control	0	1	2	3	4
25. I'm afraid I might lash out and break something or hurt someone if I'm not careful	0	1	2	3	4
26. If I lose control, I will get too anxious	0	1	2	3	4
27. If I don't manage the thoughts, images or impulses in my mind, I will lose control	0	1	2	3	4
28. If I get too angry, I might do something dangerous	0	1	2	3	4
29. Feeling shaky means I am about to go insane	0	1	2	3	4
30. If I lose control, I will get too upset.	0	1	2	3	4
31. I am likely to lose control over my thoughts	0	1	2	3	4
32. Appearing out of control is as bad as being out of control	0	1	2	3	4

DASS-21

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you *over the past week.* There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 Did not apply to me at all
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree, or a good part of time
3 Applied to me very much, or most of the time

1	I found it hard to wind down	0	1	2	3
2	I was aware of dryness of my mouth	0	1	2	3
3	I couldn't seem to experience any positive feeling at all	0	1	2	3
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5	I found it difficult to work up the initiative to do things	0	1	2	3
6	I tended to over-react to situations	0	1	2	3
7	I experienced trembling (eg, in the hands)	0	1	2	3
8	I felt that I was using a lot of nervous energy	0	1	2	3
9	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10	I felt that I had nothing to look forward to	0	1	2	3
11	I found myself getting agitated	0	1	2	3
12	I found it difficult to relax	0	1	2	3
13	I felt down-hearted and blue	0	1	2	3
14	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3

15	I felt I was close to panic	0	1	2	3
16	I was unable to become enthusiastic about anything	0	1	2	3
17	I felt I wasn't worth much as a person	0	1	2	3
18	I felt that I was rather touchy	0	1	2	3
19	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	0	1	2	3
20	I felt scared without any good reason	0	1	2	3
21	I felt that life was meaningless	0	1	2	3

VOCI

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
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
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

OBQ-44

This inventory lists different attitudes or beliefs that people sometimes hold. Read each statement carefully and decide how much you agree or disagree with it.

For each of the statements, choose the number matching the answer that *best describes how you think.* Because people are different, there are no right or wrong answers.

To decide whether a given statement is typical of your way of looking at things, simply keep in mind what you are like *most of the time.*

Use the following scale:

Disagree very much	Disagree moderately	Disagree a little	Neither agree nor disagree	Agree a little	Agree moderately	Agree very much
1	2	3	4	5	6	7

1. I often think things around me are unsafe.

2. If I'm not absolutely sure of something, I'm bound to make a mistake.

3. Things should be perfect according to my own standards.

4. In order to be a worthwhile person, I must be perfect at everything I do.

5. When I see any opportunity to do so, I must act to prevent bad things from happening.

6. Even if harm is very unlikely, I should try to prevent it at any cost.

7. For me, having bad urges is as bad as actually carrying them out.

8. If I don't act when I foresee danger, then I am to blame for any consequences.

9. If I cannot do something perfectly, I should not do it at all.

10. I must work to my full potential at all times.

11. It is essential for me to consider all possible outcomes of a situation.

12. Even minor mistakes mean a job is not complete.

13. If I have aggressive thoughts or impulses about my loved ones, this means I may secretly want to hurt them.

14. I must be certain of my decisions.

15. In all kinds of daily situations, failing to prevent harm is just as bad as deliberately causing harm.

16. Avoiding serious problems (for example, illness or accidents) requires constant effort on my part.

17. For me, not preventing harm is as bad as causing harm.

18. I should be upset if I make a mistake.

19. I should make sure others are protected from any negative consequences of my decisions or actions.

20. For me, things are not right if they are not perfect.

21. Having nasty thoughts means I am a terrible person.

22. If I do not take extra precautions, I am more likely than others to have or cause a serious disaster.

23. In order to feel safe, I have to be as prepared as possible for anything that could go wrong.

24. I should not have bizarre or disgusting thoughts.

25. For me, making a mistake is as bad as failing completely.

26. It is essential for everything to be clear cut, even in minor matters.

27. Having a blasphemous thought is as sinful as committing a sacrilegious act.

28. I should be able to rid my mind of unwanted thought

29. I am more likely than other people to accidentally cause harm to myself or to others.

30. Having bad thoughts means I am weird or abnormal.

31. I must be the best at things that are important to me.

32. Having an unwanted sexual thought or image means I really want to do it.

33. If my actions could have even a small effect on a potential misfortune, I am responsible for the outcome.

34. Even when I am careful, I often think that bad things will happen.

35. Having intrusive thoughts means I'm out of control.

36. Harmful events will happen unless I am very careful.

37. I must keep working at something until it's done exactly right.

38. Having violent thoughts means I will lose control and become violent.

39. To me, failing to prevent a disaster is as bad as causing it.

40. If I don't do a job perfectly, people won't respect me.

41. Even ordinary experiences in my life are full of risk.

42. Having a bad thought is morally no different than doing a bad deed.

43. No matter what I do, it won't be good enough.

44. If I don't control my thoughts, I'll be punished.

Appendix B

Scripts

Introduction

Obtaining Memory About Losing Control

Pre-Manipulation

Post-Manipulation

Debrief

Introduction

[Researcher]: Hi, how are you. My name is (name) and I am a student in Dr. Adam Radomksy's lab. Before we begin, I am going to send a link in the chat to a consent form and a demographics questionnaire.

[Send Link]

Obtaining a Memory of a Loss of Control

[Researcher]: I am going to ask you to please provide me a memory of a time in which you believe that you lost control of either your thoughts, emotions, behaviours, and/or bodily functions. Try and recall as many details as you can. Take some time to think about it and you can begin whenever you are ready.

[Participant Response]

[Researcher]: Thank you for recalling this. I am now going to send you a link in the chat to a short questionnaire about the memory you just provided me. Take a few minutes to complete it.

[Send Link]

Pre-Manipulation

[Researcher]: To clarify exactly what a loss of control is, I am now going to read you the definition of a true loss of control. A loss of control is the complete and total inability to inhibit, stop, or change one's thoughts, emotions, behaviours, and/or bodily functions. When control is lost, one's behaviours are completely random, without purpose or cause, and are not congruent with the individual's current state of mind at that moment in time.

[Researcher]: Now, I am going to ask you a number of questions about certain details of the memory you just provided me. Some of these questions you will know the answer to and some you may not. It is okay if you don't know the answers to these questions or if your memory is not perfect. Just try your best.

Post Manipulation

[Researcher]: Those are all the questions I have for you. Thank you so much. I would now like to briefly go over what we spoke about during this interview. Could you please provide a brief summary of some of the things we touched on/discussed?

[Listen to participant summary]

[Researcher]: That's right! Again, just to recap what we discussed, you first provided a memory of a time in which you believe to have lost control. I then read to you a definition of a loss of control which was that a loss of control is the complete and total inability to inhibit, stop, or change one's thoughts, emotions, behaviours, and/or bodily functions. When control is lost, one's behaviours are completely random, without purpose or cause, and are not congruent with the individual's current state of mind at that moment in time. I then asked you a series of questions regarding the details of the memory that you provided.

[Researcher]: Now I am going to send you a link to a few short questionnaires to complete.

[Send Link]

Debrief

[Researcher]: Thank you for completing those questionnaires and thank you for participating in this study today. I am going to give you some additional information about the experiment, which involved the use of some deception. Participating in a study that uses deception can be unnerving, so I will explain the exact deception used and why it was necessary. You were told that this study was looking at people's ability to remember details about events or life situations in which they lost control. In reality, we were actually interested in whether we could cause individuals to reappraise previous situations in which they perceive themselves to have lost control and in doing so manipulate beliefs about losing control. Specifically, by asking about the individual's purposes, goals, and intentions behind there thoughts, emotions and/or behaviours during this perceived loss of control, they may come to realize that they did not in fact lose control of themselves. We believe that by reappraising these perceived losses of control we can reduce individuals' maladaptive beliefs and fears about losing control. If you had been aware of the true purpose of the study from the beginning, it could have influenced your responses. In addition, we asked you to complete a professionalism questionnaire. In reality, this was actually a questionnaire to see if you had engaged and were paying attention during the interview. If you were aware of the true purpose of this questionnaire, it could have again influenced your responses. Again, these deceptions were necessary so we could test a number of hypotheses in our experiment without biasing your responses. Given that the study's true purpose was not provided to you at the start of the study, you now have another opportunity to decide whether or not you consent to the use of your data. Remember that if you do not wish to have your data used in the study you will not be penalized and you will still be granted 1 course credit via the research participant pool. Please complete this second online consent form that I will send you a link to in the chat and click "I agree" at the bottom of the page if you are still okay with having your data included. Since this study did involve a deception, we ask that you do not discuss with your friends or classmates any of the information I've just explained to you. But feel free to share information about the study you were told prior to the debriefing, like that the study asked you to recall a memory about a loss of control. Do you have any questions for me or your participation?

[Send Link]

Appendix C

Cognitive Intervention Manual

Cognitive Intervention Manual

Overview and General Instructions

This is a detailed manual for employing a brief cognitive intervention aimed at causing individuals to reappraise maladaptive beliefs about losing control. This intervention incorporates reflective listening and guided discovery techniques. The purpose of this intervention is to help individuals understand that they may not have lost control over their thoughts, emotions behaviours and/or bodily functions during a previous life situation, consequently reducing beliefs and fears that they will lose control in the future.

The researcher conducting the intervention will guide the participant to understand that their thoughts, emotions, behaviours and/or bodily functions during a previous life situation may have been purposeful, motivated, and goal-oriented rather than random and due to a complete loss of control. Depending on the type of domain in which the participant reports to have lost control over, as well as their specific experience of a loss of control, the researcher may also guide the participant to realize that a complete control over oneself is not possible. For example, an individual does not necessarily have complete control over one's intrusive thoughts, however, it is likely that they can experience other purposeful and non-random thoughts in which they do have control over. Therefore, it may also be the researcher's goal to guide the participant to realize that one cannot lose control over what they did not have control over in the first place and/or a lack of control over certain parts of themself does not mean they *lost* control completely.

The questions to be employed in the cognitive intervention are provided in this manual. The questions are organized by the domain in which the participant reports to have lost control over. There are four specific domains in which the participant can report a loss of control over – thoughts, emotions, behaviours and bodily functions.

This brief cognitive intervention is semi-structured; therefore, the researcher will ask questions similar to how they are written in this manual with very minimal variations. Moreover, the researcher can ask questions outside of this manual if they believe it to be effective. The researcher should also tailor the provided questions to the context of the memory reported by the participant while also keeping them as similar as possible to how they are written. In general, the researcher should use the questions (with minimal variation) provided in this manual to guide the participant to reduce the belief that they lost control. Not all questions in the manual will apply to the memory, therefore, it is not necessary to use all questions. Moreover, throughout the intervention, the researcher should use reflective listening and guided discovery techniques. At the end of the intervention, the researcher will read the phrase labeled summary at the end of the manual. The entirety of this brief cognitive intervention should not take longer than 15 minutes.

In summary:

- Not all questions have to be used in the intervention.
- Questions do not have to be asked in the order they are presented in the manual.
- Questions should be kept as similar as possible to how they are written in the manual with very minimal variations.

- The researcher must end the intervention with reading the summary phrase.

As previously mentioned, reflective listening and guided discovery techniques will be used throughout the intervention. The following links provide further information about reflective listening and guided discovery:

Kazantzis, N., Beck, J.S., Clark, D.A. et al. Socratic Dialogue and Guided Discovery in Cognitive Behavioral Therapy: A Modified Delphi Panel. J Cogn Ther 11, 140–157 (2018). https://doi.org/10.1007/s41811-018-0012-2

Katz, N., & McNulty, K. (1994). Reflective listening. Retrieved June 1, 2023. Link to pdf: https://www.maxwell.syr.edu/docs/default-source/ektron-files/reflective-listening-neil-katz-and-kevin-mcnulty.pdf?sfvrsn=f1fa6672_7\

Questions

Domain: Behaviour

During this specific moment in time where you said [brief summary of memory provided by participant], could you explain to me some of the reasons why you behaved the way you did?

Would you say your behaviours were random or were they motivated by your emotions and/or thoughts in that current moment?

Were any of the behaviours you carried out completely random?

What caused you to behave by [brief summary of their behaviour(s)]?

Were you motivated to behave the way you did?

Were any of your behaviours not caused by the thoughts and emotions that you were experiencing? What caused these emotions and/or thoughts?

Were any of your behaviours not caused by [what they were caused by]?

To ensure that I understand the situation correctly, the reasons behind your actions were [their specific reason(s)]?

It seems like you were motivated by [their specific motivation(s)]? Is that correct?

Would you say that [their specific cause(s)] caused you to behave this way?

The behaviours you describe were therefore not random but were caused by [their specific cause(s)]?

It sounds like your behaviours were still caused by [their specific cause(s)] but maybe if you had more time to think than you would have reacted differently?

Would it have made sense if you reacted by [a behaviour completely inappropriate for the context of their situation]?

Did you at any point during this time react by [screaming/running away/hurting someone/etc.]? Why?

Do you think its accurate to say that your behaviour reflected the thoughts and emotions that you were experiencing in that moment of time?

Did something else stronger stop you?

Domain: Emotions

Note: If the participant gives an example of an emotional outburst, this falls under the primary domain of behaviour.

During this specific moment in time where you said [brief summary of memory provided by participant], could you explain some of the reasons why you were feeling/experiencing the emotion(s) that you were?

Would you say your emotions were random or were they caused by your thoughts/the circumstances of that current moment?

Were any of the emotions you experienced during that situation completely random?

What caused you to feel [their specific emotion(s)]?

Were you motivated to feel the way you did?

Were any of your emotions not caused by the thoughts you were having/the situation you were in/the actions of others? What caused these thoughts?

Were any of your emotions not caused by [what they were caused by]?

To ensure that I understand the situation correctly, the reason(s) why you felt like that were because [their specific reason(s)]?

It seems like your emotions were elicited by [what they were caused by]? Is that correct?

Would you say that [their specific cause(s)] caused you to feel this way?

The emotions you describe were therefore not random but were caused by [their specific cause(s)]?

It sounds like your emotions were still caused by [their specific cause(s)] but maybe if you had more time to think than you would have reacted differently?

Would it have made sense if you felt [a(n) emotion(s) completely inappropriate for the context of their situation]?

Did you at any point during this time react by [behaviours reflective of a completely inappropriate emotion for the context of their situation]? Why?

Do you think its accurate to say that your emotions reflected the thoughts circumstances that you were experiencing in that moment of time?

When you became [their specific emotion] in this situation it sounds like it was fairy automatic and in reaction to the situation but how did you stop experiencing this emotion or calm down?

Is it possible that we may automatically feel emotions, but we can control how strongly we feel them, how long we feel them for, and what we do to calm ourselves down?

You explained that your emotions were fairly automatic and were in reaction to [their specific cause], is it possible that your emotions were never really completely under your control in the first place?

If you were not completely able to control your emotions during this situation, in that they were fairly automatic, do you think that complete control over your emotions is really possible? If complete control over your emotions is not possible, is it really possible to lose control over them? In other words, is it possible to lose complete control over something you didn't have complete control over in the first place?

I wonder if right now you are able to make yourself become angry, sad, or really happy? If not, it may be that we are not fully in control of our emotions at all times? If complete control over your emotions is not possible, is it really possible to lose control over them?

Domain: Thoughts

During this specific moment in time where you said [brief summary of memory provided by participant], could you explain some of the reasons why you were thinking that way or experiencing those thoughts?

Would you say your thoughts were random or were they caused by your emotions/circumstances of that current moment?

Were any of your thoughts completely random?

What caused you to have the thoughts of [their specific thought(s)]?

Were you motivated to think the way you did?

Were any of your thoughts not caused by the and emotions or circumstances that you were experiencing? What caused these emotions?

Were any of these thoughts not caused by [what they were caused by]?

To ensure that I understand the situation correctly, the reasons behind your thoughts were [their specific reason(s)]?

It seems like your thoughts were motivated by [their specific motivation(s)]? Is that correct?

Would you say that [their specific cause(s)] caused you to think this way?

The thoughts you describe were therefore not random but were caused by [their specific cause(s)]?

It sounds like your thoughts were still caused by [their specific cause(s)] but maybe if you had more time to think than you would have thought differently?

Would it have made sense if you were thinking about [a thought completely inappropriate for the context of their situation]?

Do you think its accurate to say that your thoughts reflected the emotions and circumstances that you were experiencing in that moment of time?

Although your thoughts felt uncontrollable, was there any other thoughts you were having while you were also experiencing those automatic thoughts? Were those thoughts purposeful or under your control?

Were the purposeful thoughts you were experiencing during that time random?

Did you act upon the thoughts you were having? Why not?

Were you doing anything to try and control these thoughts? How effective was it?

You explained that you couldn't stop the thoughts from popping in your mind. Is it possible that your thoughts were never really completely under your control in the first place?

If you were not completely able to control your thoughts during this situation, in that they came into your mind intrusively, do you think complete control over your thoughts is really possible? If complete control over your thoughts is not possible, is it really possible to lose control over them? In other words, is it possible to lose complete control over something you didn't have complete control over in the first place?

Is it possible that during this situation, although you were experiencing thoughts that you seem to have little control over, you also had some non-random thoughts that you were purposefully trying to think about? What were some of these purposeful thoughts?

Domain: Bodily Functions

During this specific moment in time where you said [brief summary of memory provided by participant], could you explain some of the reasons why [their specific bodily function]?

Would you say [their specific bodily function] was random?

What caused you to have that [brief summary of their bodily function)]?

To ensure that I understand the situation correctly, the reasons behind [their specific bodily function] was [their specific reason(s)]?

The bodily function you described was therefore not random but caused by [their specific cause(s)]?

Would it have made sense if you had started [a bodily function completely inappropriate for the context of their situation]?

Did you at any point during this time react by [a bodily function completely inappropriate for the context of their situation]? Why?

Although this bodily function uncontrollable, was there any other bodily functions that were happening that you were in control of? Was that bodily function out of your control?

Could you have stopped this bodily function if you had tried to?

Were you doing anything to try and control this bodily function? How effective was it?

You explained that [their specific bodily function] was fairly automatic and in reaction to [their specific cause], is it possible that your bodily functions were never really completely under your control at all times?

If you were not completely able to control your [their specific bodily function] during this situation, in that they were automatic, do you think complete control over your bodily functions is not possible? If complete control over your bodily functions is not possible, is it really possible to lose control over them? In other words, is it possible to lose complete control over something you didn't have complete control over in the first place?

I wonder if right now you are able to make yourself sweat, stop breathing, etc.? If not, it may be that we are not fully in control of our bodily functions at all times? If complete control over your bodily functions is not possible, is it really possible to lose control over them?

Appendix D

Control Memory Task

Control Memory Task

Overview and General Instructions

This is a manual for employing the control condition memory task. The task will consist of the researcher asking details about the memory that the participant provided which do not pertain to their beliefs about losing control. The questions provided in this manual are about very minute details and are therefore not likely to be remembered by all participants.

This memory task is semi-structured; therefore, the researcher will ask questions similar to how they are written in this manual with very minimal variations. Not all questions provided in this manual will apply to the memory, therefore, it is not necessary to use all questions. However, it is critical that the participant is asked about the clothes they were wearing during the memory and what they had for breakfast the morning of the memory, as the participant will be asked if they recall being asked this question for the purposes of the manipulation check. Moreover, the researcher is permitted to ask questions outside of this manual if all relevant questions have been asked, however, they cannot be related to the participants perceived loss of control.

The researcher will start by introducing the task to the participants. The researcher does not have to ask the questions to the participant in the order they present in the manual. The memory task should end with the phrase labeled summary at the end of the manual. The entirety of this memory task should not take longer than 15 minutes.

Questions

What were you wearing? *(must ask for attention check)*

Do you remember what you had for breakfast? *(must ask for attention check)*

What day of the week did this occur on?

What time of day did this occur?

What month did this occur in?

What year did this occur in?

Where did this take place (i.e., province, country, etc.)?

How old were you when this occurred?

What did you eat for dinner that day?

What was the weather like that day?

Where were you employed during the time in which this memory took place?

What was your overall mood that day?

How old were the people involved?

What were the people involved wearing?

Do you remember if you had eaten dinner?

Were you living at home with your family members.

How many times have you been to this place.