Brief report

Suppression and ritualistic behaviour in normal participants

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Objective. Previous research has shown that normal and abnormal ritualistic behaviours do not differ in content. Rather, the differences between both categories of rituals pertain to characteristics such as frequency, intensity, discomfort and resistance. This study sought to investigate whether thought suppression is linked to these characteristics.

Design. Cross-sectional; questionnaires on thought suppression and rituals were administered to a sample of undergraduate students (N = 166).

Method. Habitual suppressors (N = 20) and non-suppressors (N = 20), as measured by the White Bear Suppression Inventory, were selected and compared with regard to the characteristics of their rituals.

Results. Suppressors experienced their rituals as more intense, discomforting and resistance-provoking than did non-suppressors. There were no group differences in the content, frequency, and perceived senselessness of rituals.

Conclusion. Although the cross-sectional nature of the present study precludes causal inferences, its findings are consistent with the view that chronic thought suppression may promote ritualistic behaviour. Clearly, the details of the link between thought suppression and rituals require further examination.

Compulsions as occurring in obsessive–compulsive disorder (OCD) are repetitive and stereotypical behaviours. Although patients suffering from compulsions do not recognize an immediate purpose for this behaviour, they do feel the urge to carry out their rituals. Rachman (1998, p. 121) speaks of compulsions as being ‘in many ways the purest example of abnormal behaviour’. Although this suggests that compulsions show little or no similarities to normal behaviour, there are several reasons to doubt that compulsive behaviour strongly deviates from normal ritualistic behaviour. First, recent studies show that generally accepted rituals are rather similar to pathological compulsions (e.g. Dulaney & Fiske, 1994; Fiske & Haslam, 1997). In these studies, descriptions of pathological compulsions and normal rituals were given to blind

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judges, who were asked to differentiate between the two categories of behaviour. The judges regularly misclassified normal rituals as abnormal compulsions, which led the authors to conclude that there is a ‘remarkable detailed phenomenological resemblance between OCD and culturally meaningful rituals’ (Fiske & Haslam, 1997, p. 220). Fiske & Haslam (1997) argue that the parallels between normal and abnormal rituals originate from their common goal, namely structuring the environment. In their words (Fiske & Haslam, 1997, p. 221) ‘… cultural rituals and OCD are characterized by a desire to produce order, regularity, boundaries and clearly demarcated categories’. The similarities and differences between ‘normal’ and ‘abnormal’ rituals were recently studied by Muris, Merckelbach & Clavan (1997). These authors asked 150 undergraduate students about their rituals. A slight majority (54.7%) reported having distinct rituals. These participants were then asked to provide detailed descriptions of their rituals. Furthermore, they were invited to answer questions about the formal characteristics of their rituals (frequency, intensity, etc.). Similar information was obtained from the records of OCD patients who received treatment in an outpatient facility. Thus, descriptions of normal and abnormal rituals were gathered. Next, expert judges were given these two categories of descriptions and were asked to discriminate between normal and abnormal rituals. It was found that judges were rather unsuccessful in differentiating between the two kinds of rituals when they had to rely on descriptions of the content of the rituals. Apparently, everyday and pathological rituals do not differ in content. However, formal characteristics enabled the judges to successfully discriminate between normal and abnormal rituals. That is, OCD patients experienced their rituals as being more frequent, intense, discomforting and resistance-eliciting than did controls.

A second reason to doubt that there is a clear demarcation between normal and abnormal rituals has to do with the fact that compulsive behaviour is often related to obsessive thinking. Since the study by Rachman & De Silva (1978), it is widely accepted that normal and abnormal obsessions do not differ in terms of their content (see also Salkovskis & Harrison, 1984). Again, differences between these two categories pertain to characteristics such as frequency, intensity, discomfort and resistance. One could argue that if obsessions constitute a continuum that encompasses both normal and abnormal obsessions, much the same may be true for normal and abnormal rituals.

If normal and abnormal rituals refer to the ends of a single continuum, the question arises how normal rituals can become pathological compulsions. In the case of obsessions, it has been argued that thought suppression (trying not to think about the obsessive thought) generally has counterproductive effects. By this view, suppression makes the unwanted thought emerge more often, and more intensely, which in turn will make it more discomforting (Wegner, 1989). Applying a similar line of reasoning to compulsions, one could argue that thought suppression may contribute to the development of pathological rituals. That is, individuals who tend to suppress thoughts about their rituals may consequently suffer from more frequent and intense urges to engage in their ritualistic behaviour. The present study investigated whether individuals who report a tendency to suppress thoughts do, indeed, experience their rituals differently from individuals who do not report such a tendency.
Method

Undergraduate psychology students (N = 166; 52 males; mean age = 19.7 years; SD = 3.3; range, 17–39 years) completed Dutch versions of the White Bear Suppression Inventory (WBSI; Muris, Merckelbach & Horseleben, 1996; Wegner & Zanakos, 1994), the Symptoms Checklist (SCL-90; Derogatis, 1977), and a short questionnaire about rituals that was developed for the purpose of the present study. The WBSI (α = .88) contains 15 items (e.g. ‘I wish I could stop thinking of certain things’) that tap the habitual tendency to suppress (unpleasant) thoughts. Items are scored on a 5-point scale (1 = strongly disagree, 5 = strongly agree). A total score (range, 15–75) can be calculated by summing the items. The higher the score, the stronger the tendency to suppress. Note that it has been argued that some of the WBSI items pertain to loss of mental control and not to thought suppression per se (e.g. ‘I have thoughts that I cannot stop’; see Muris, et al., 1996). WBSI-scores can be corrected for the loss-of-control component by removing five items. In the present study, this corrected WBSI-score (α = .83) was used. Consequently, the total scores ranged from 10 to 50. The SCL-90 (α = .96) contains 90 items that address various psychopathological symptoms such as obsessive–compulsive (9 items), anxiety (10 items), and depression (16 items) symptoms. SCL-90 items are scored on 5-point scales (1 = not at all, 5 = a lot). For the purpose of the present study, the obsessive–compulsive, anxiety, and depressive subscales were used (α’s: .78, .88, and .90, respectively). The questionnaire about rituals began with an item asking whether the respondent performed distinct rituals. If so, he or she was invited to give a brief description of his or her most important ritual. The respondent was further asked a set of seven questions that pertained to the characteristics of this ritual. These questions were derived from the study by Muris et al. (1997) on the differences between normal and abnormal rituals. More specifically, respondents were asked how frequently they engaged in their ritualistic behaviour (1 = never; 6 = several times a day), whether or not the ritual was usually carried out in response to a thought (yes, no), how intense the urge to perform such behaviour generally was (1 = not at all, 6 = very intense), whether the ritual invoked feelings of discomfort (1 = not at all, 6 = a lot of discomfort), to what extent the ritual was perceived as senseless (1 = not at all senseless; 5 = completely senseless), to what extent the respondents made attempts to resist the urge to engage in their ritual (1 = I never try to resist, 5 = I always try to resist), and how successful these attempts to resist generally were (1 = completely unsuccessful, 5 = completely successful).

Of the 166 respondents, 99 (59%) reported to have rituals. From this subsample, 20 participants with the highest (corrected) WBSI-scores (>37) and 20 participants with the lowest scores (<22) were selected. Mean age of this subsample (15 males) was 19.8 years (SD = 3.6, range, 18–38 years). Suppressors (high WBSI scores) and non-suppressors (low WBSI scores) were compared with regard to the characteristics of their rituals. The two groups did not differ with respect to age (t < 1.0) or sex (χ² = 2.7, p = .10).

Results

In the sample of 99 respondents who indicated to have a clear ritual, checking behaviour (e.g. keys and doors) was by far the most commonly reported ritual (58%). Magical protective acts (e.g. touching wood) accounted for 19% of the rituals. Washing, cleaning and ordering (11%) constituted a third category. Avoidance behaviour (e.g. trying not to step on certain pavements) was reported by 6% of the respondents. Five respondents reported rituals (e.g. swallowing) that were difficult to assign to one of these four categories. A χ² analysis revealed that there were no differences in types of rituals reported by suppressors and non-suppressors (χ² = 2.5, p = .64).

Figure 1 shows mean scores of suppressors and non-suppressors on the various

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1 Analyses were also carried out with uncorrected WBSI-scores, but this yielded similar results.
2 These categories were adopted from Muris et al. (1997).
ritual dimensions. Suppressors and non-suppressors did not differ in the self-reported frequency of rituals, mean scores being 5.1 (SD = 1.2) and 4.7 (SD = 1.5), respectively: $t(37) = -1.3$, $p = .17$. The two groups did not differ in the extent to which rituals occurred as responses to internal events. That is, eight suppressors and five non-suppressors reported that their ritualistic behaviour generally occurred as a reaction to a specific thought: $\chi^2 = 1.0$, $p = .31$. Suppressors found the urge to engage in their rituals more intense ($M = 3.4$, SD = 1.2) than did non-suppressors ($M = 2.7$, SD = 1.1): $t(38) = -2.2$, $p = .02$. Furthermore, suppressors experienced more discomfort due to their rituals, as compared to non-suppressors: 3.1 (SD = 1.1) and 2.4 (SD = 0.9), respectively: $t(38) = -2.2$, $p = .02$. The groups did not differ in the extent to which they experienced their ritual as senseless, mean scores being 3.2 (SD = 1.6) for suppressors and 2.6 (SD = 1.5) for non-suppressors: $t(38) = -1.2$, $p = .11$. Suppressors more often resisted their urge to engage in ritualistic behaviour than did non-suppressors, mean scores being 2.4 (SD = 1.1) and 1.7 (SD = 0.9), respectively [$t(38) = -2.2$, $p = .02$]. However, there was no difference between the two groups with respect to the successfulness of these attempts to resist rituals. Mean scores for suppressors and non-suppressors were 2.9 (SD = 1.3) and 3.4 (SD = 1.2), respectively: $t(38) = 1.1$, $p = .13$.

Both groups differed in their scores on the SCL-90 subscales. For the obsessive–compulsive symptoms scale, mean score for suppressors was 16.9 (SD = 5.7) and for non-suppressors 14.0 (SD = 3.5): $t(37) = -1.9$, $p = .04$. Suppressors’ mean score on the anxiety scale was 17.4 (SD = 6.7), whereas non-suppressors had an average score of 11.4 (SD = 1.5): $t(38) = -3.9$, $p < .01$. Mean scores on the depression scale were 26.3 (SD = 8.8) and 20.5 (SD = 5.3) for suppressors and non-suppressors, respectively: $t(37) = -2.5$, $p = .01$.

The item referring to antecedent thoughts was excluded from Figure 1, because that item had a yes/no answer format.

Figure 1. Mean scores of suppressors ($N = 20$) and non-suppressors ($N = 20$) on frequency, intensity, discomfort, senselessness, resistance and successfulness of resistance attempts. * $p < 0.05$ (one-tailed).
To explore how strongly thought suppression was related to the reported characteristics of rituals, corrected WBSI-scores and scores on the three SCL-90 subscales were entered as predictors in a hierarchical regression analysis with ritual characteristics as dependent variables. In the regression analysis, all participants who reported to have distinct rituals were included (N = 99). Table 1 presents the correlations between the WBSI and the dependent variables after obsessive-compulsive symptoms, anxiety and depression were partialled out. These partial WBSI correlations were obtained by first entering the SCL-90 subscales and then entering the WBSI. For the partial correlations between the dependent variables and the SCL-90 subscales (presented in Table 2), the reverse procedure was followed. That is, the OCD, anxiety and depression scales were entered after the corrected WBSI-scores had been entered. As shown by Table 1, the WBSI explained additional variance in intensity, discomfort, resistance and successfulness of resistance after the OCD, anxiety and depression scales had been entered. However, it should be noted that the correlations observed were small.

**Table 1.** Partial correlations between the WBSI and the reported characteristics of rituals after correction for OCD, anxiety, depression, and these three symptom-clusters together (N = 99)

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Intensity</th>
<th>Discomfort</th>
<th>Senselessness</th>
<th>Resistance</th>
<th>Success</th>
</tr>
</thead>
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<tr>
<td>WBSI corrected for OCD</td>
<td>.09</td>
<td>.20*</td>
<td>.19*</td>
<td>.06</td>
<td>.19*</td>
<td>-.20*</td>
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<tr>
<td>WBSI corrected for anxiety</td>
<td>.11</td>
<td>.15</td>
<td>.17*</td>
<td>.03</td>
<td>.15</td>
<td>-.19*</td>
</tr>
<tr>
<td>WBSI corrected for depression</td>
<td>.15</td>
<td>.21*</td>
<td>.17*</td>
<td>.03</td>
<td>.17*</td>
<td>-.23*</td>
</tr>
<tr>
<td>WBSI corrected for OCD, anxiety and depression</td>
<td>.06</td>
<td>.18*</td>
<td>.17*</td>
<td>.06</td>
<td>.19*</td>
<td>-.21*</td>
</tr>
</tbody>
</table>

**p < .05 (one-tailed).**

*Note.* WBSI = White Bear Suppression Inventory; OCD = obsessive-compulsive disorder; OCD, anxiety, and depression refer to the scales of the Symptoms Checklist (SCL-90).

**Table 2.** Partial correlations between the SCL-90 OCD, anxiety and depression scales and the reported characteristics of rituals after correction for the WBSI (N = 99)

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Intensity</th>
<th>Discomfort</th>
<th>Senselessness</th>
<th>Resistance</th>
<th>Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCD</td>
<td>.16</td>
<td>.23*</td>
<td>.18*</td>
<td>.01</td>
<td>.12</td>
<td>.06</td>
</tr>
<tr>
<td>Anxiety</td>
<td>.13</td>
<td>.22*</td>
<td>.11</td>
<td>-.01</td>
<td>.07</td>
<td>.01</td>
</tr>
<tr>
<td>Depression</td>
<td>.04</td>
<td>.13</td>
<td>.21*</td>
<td>.12</td>
<td>.12</td>
<td>.16</td>
</tr>
</tbody>
</table>

* p < .05 (one-tailed).

*Note.* WBSI = White Bear Suppression Inventory; OCD = obsessive-compulsive disorder; OCD, anxiety, and depression refer to the scales of the Symptoms Checklist (SCL-90).
Discussion

The results of the present study can be summarized as follows. To begin with, as was the case in previous research (Muris et al., 1997), more than 50% of our undergraduate sample appeared to engage in some kind of ritualistic behaviour on a regular basis. Checking behaviour was the most prevalent ritual. Second, respondents scoring high on the WBSI (suppressors) experienced their rituals differently from low-scoring participants (non-suppressors) in that suppressors evaluated their rituals more like patients suffering from OCD. Although suppressors did not display their rituals more frequently, they experienced them as being more intense and more discomforting, compared to non-suppressors. Suppression was not linked to senselessness of rituals. Suppressors were more eager to resist their rituals than non-suppressors, but individuals in both groups were equally (un)successful at these attempts to resist their rituals. Hierarchical regression analysis revealed that thought suppression was related to intensity, discomfort, resistance, and successfulness of resistance after obsessive-compulsive, anxiety, and depressive symptoms as measured by the SCL-90 had been partialled out.

The current findings are in line with the hypothesis that thought suppression intensifies rituals. Research has shown that thought suppression directed at intrusions produces paradoxical effects such that the intrusions occur with a heightened frequency and are consequently experienced as more intense and discomforting (Wegner, 1989). The current results suggest that a similar mechanism may operate in the case of rituals. However, the precise details of the connection between suppression and rituals deserve further study. Note that the present results are silent about what exactly is suppressed in the case of rituals. For example, individuals may suppress the urge to engage in their rituals which could strengthen this urge. Alternatively, thoughts about the ritual may become the target of suppression attempts. Due to the paradoxical effects of suppression, such thoughts may then become more intense. A third possibility is suggested by the idea that rituals may be conceptualized as reactions to obsessive thoughts (e.g. Rachman, Shafran, Mitchell, Trant & Teachman, 1996; Salkovskis, 1989). By this view, rituals have the instrumental function of reducing tension and anxiety caused by intrusions. Thus, it may well be that suppression promotes intense intrusions which, in turn, produce a stronger urge to engage in (neutralizing) rituals. The measures used in this study are not sensitive enough to differentiate between these three possibilities. That is, the WBSI does not ask what kind of thoughts (e.g. disturbing thoughts or thoughts about rituals) the respondent tends to suppress. Furthermore, it should be noted that the cross-sectional nature of the present study precludes firm conclusions about causality. Therefore, future studies are needed to examine the precise link between thought suppression and intense rituals.

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References


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