Intrusions, Avoidance and Overgeneral Memory in a Non-Clinical Sample

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Previous studies have shown a positive relationship between intrusions, effortful avoidance and overgeneral memory in people suffering from (mild) depression or PTSD. The purpose of the present study was to investigate these relationships in a non-clinical sample. As part of a mass testing session, a written version of the Autobiographical Memory Test was administered to 175 first-year psychology students. Furthermore, intrusion and avoidance symptoms were measured with the Impact of Event Scale (Horowitz, Wilner, & Alvarez, 1979), and depressive symptoms with the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The data demonstrated a significant correlation between avoidance symptoms and categoric memory to negative cue words. This relationship remained significant after controlling for depressive symptoms. These results concur with other findings that overgeneral memory tends to be related to symptoms of effortful avoidance. Copyright © 2006 John Wiley & Sons, Ltd.

Over the past 20 years, numerous studies have shown a relationship between autobiographical memory specificity and psychopathology (see for an overview Van Vreeswijk & De Wilde, 2004). These studies demonstrated that particularly people with depression (e.g., Kuyken & Brewin, 1995) or posttraumatic stress disorder (PTSD; e.g., McNally, Lasko, Macklin, & Pitman, 1995) have difficulty recalling specific memories of personally experienced events that happened at a particular time and place (e.g., ‘last week when I had dinner with my sister’). This relative inability to recall specific autobiographical memories has been termed overgeneral memory (Williams & Broadbent, 1986). Overgeneral memory can be either categoric, referring to a broad class of events (i.e., ‘every time when I go to work’), or extended, pertaining to events lasting longer than one day (i.e., ‘my vacation in France’). Overgeneral memory is measured with the Autobiographical Memory Test (Van Vreeswijk & De Wilde, 2004) and the total number of categoric (and extended) memories on the AMT serves as a measure of overgeneral memory (i.e., lack of autobiographical memory specificity).

In the literature, one recurrent theme is that stressful life events tend to play a central role in the origin of overgeneral memory. For example, several studies showed a positive relationship between traumatic experiences and reduced autobiographical memory specificity (e.g., De Decker, Hermans, Raes, & Eelen, 2003; Henderson, Hargreaves, Gregory, & Williams, 2002). However, researchers disagree about the precise role of traumatic events. Is the experience of a stressful (life) event a prerequisite to develop overgeneral memory (Williams, Stiles, & Shapiro, 1999)? Or do other factors related to these experiences (e.g., depression) contribute to overgeneral memory (Wessel, Merckelbach, & Dekkers, 2002)? The fact...
that not everyone who experienced a traumatic event will develop overgeneral memory (e.g., Harvey, Bryant, & Dang, 1998; McNally et al., 1995) implies that there are more antecedents. Some researchers also suggest that other variables may mediate or moderate the relationship between trauma and overgeneral memory (e.g., Raes, Hermans, Williams, & Eelen, 2005).

There is indeed evidence that how one copes with trauma may be an important contributor. For example, Raes et al. (2005) found that lower levels of support received after abuse experience tended to relate to reduced autobiographical memory specificity. Rumination is also likely to moderate the relation between trauma and overgeneral memory (Raes et al., in press). Other interesting candidates are level of intrusions and/or effort to avoid memories of previous traumatic events. Relying on clinical samples, several studies (e.g., Kuyken & Brewin, 1995; Raes et al., in press; Stokes, Dritschel, & Bekerian, 2004; Wessel et al., 2002; but see Kremers, Spinhoven, & van der Does, 2004) demonstrated positive correlations between overgeneral memory, intrusions and effort to avoid memories of traumatic events (as indexed by the Impact of Event Scale; Horowitz et al., 1979). Williams (2006) suggested that having intrusions and/or effortful avoidance of memories about earlier trauma may contribute to overgeneral memory because they reduce the available executive resources to search for specific memories. Furthermore, he suggested that previous trauma may cause overgeneral memory through avoidance of (emotion related) specific memories.

So far, studies addressing overgeneral memories have primarily relied on clinical samples, and a limited number of studies have demonstrated that normal samples are relatively specific (e.g., Merckelbach, Muris, & Horsemelen, 1996). However, intrusive memories are not uncommon in healthy samples (e.g., Berntsen, 2001; Bywaters, Andrade, & Turpin, 2004). Also, the tendency to avoid unwanted memories is not unusual in non-clinical samples (Wenzlaff & Wegner, 2000). Therefore, one would expect that the link between overgeneral memory on the one hand and intrusions and avoidance of aversive experiences on the other hand could be reproduced in a non-clinical sample. This is the goal of the current study as, up to now, this issue has not been addressed. The present sample is a large group of healthy first year psychology students. We hypothesized positive correlations between intrusions and avoidance of traumatic memories and overgeneral memory, independent of depressive symptoms.

METHOD

Participants

A sample of 175 first-year psychology students (53 men) participated in a mass testing session. Mean age was 19.54 (sd = 4.20; range 17–36). Participation was voluntary and participants received €5 for their participation. The study was approved by the standing ethical committee of Maastricht University. Due to missing data, three participants were left out for the analyses, leaving a final sample of 172 participants.

Materials

The Autobiographical Memory Test (AMT; Williams & Broadbent, 1986) consisted of five positive and five negative cue words and was administered in a written format. A written version of the AMT was administered in previous studies, yielding similar results as the oral version (Henderson et al., 2002; Hermans, Defranc, Raes, Williams, & Eelen, 2005; Raes, Hermans, De Decker, Williams, & Eelen, 2003; Wessel, Meeren, Peeters, Arntz, & Merckelbach, 2001). Here, procedure and cue words were taken from Raes et al. (2003). Booklets were constructed with one cue word on each page. The first two pages showed the practice words grass and bread. The following pages contained the test words, alternating positive and negative cues: confidence (trust), scared, pleasurable, angry, courage, sad, calm (at ease), bold, surprised and stupid. Participants were asked to write down a specific memory for each cue word. A specific memory was defined as a memory referring to a particular event that had happened at a particular time and place and lasted less than a day. Participants had 60 s to write down their response. If this time limit was reached, participants were asked to turn their pages and respond to the next cue word.

Responses to the AMT words were rated by an independent rater. Each response was coded as specific, general categoric, general extended, no memory (i.e., an association), or no response. The specificity score ranges between 0 and 10. A second rater scored a random sample of 20% of the AMT responses. Intraclass correlation coefficients (see

1 In Dutch these words are vertrouwen, bang, prettig, boos, moed, droevig, gerust, brutaal, verrast, lomp.
Fleiss, 1986) were computed for the dependent variables. For the number of specific memories inter-rater agreement was 0.81, and for the number of overgeneral memories 0.68.

The Impact of Event Scale (IES; Horowitz et al., 1979; Brom & Kleber, 1985) measures the level of spontaneous intrusions and avoidance within the week prior to assessment about a (highly) stressful event. First, participants wrote down a short description of the most stressful event in their lives. They also indicated when it had happened. Then, participants scored 15 items with respect to this event on a four-point scale (weighted 0, 1, 3, 5; anchored 0 = not at all and 5 = often), asking to what extent participants had experienced spontaneous intrusions and avoidance symptoms within the previous week. Sample items are ‘I thought about it while I didn’t want to’ and ‘I tried not to talk about it’. The total score ranges from 0 to 75. The psychometric properties of the total scale are good (α = 0.71), as well as those for the intrusion (α = 0.72) and avoidance (α = 0.66) subscales (Brom & Kleber, 1985).

The Beck Depression Inventory (BDI-I; Beck et al., 1961; Bouman, Luteijn, Albersnagel, & van der Ploeg, 1985) consists of 21 items all containing four statements describing depressive symptoms in increasing severity (scored 0–3). Illustrative items are ‘I have less energy than previously’ and ‘I have less self-confidence’. The total score (range: 0–63) reflects self-reported depressive symptoms over the past week. The psychometric properties are good, with Cronbach’s alpha between 0.79 and 0.90 (Bouman et al., 1985).

RESULTS

Raw scores on the AMT were used as the dependent measure. The mean number of reported specific memories was 7.61 (SD = 1.94). The mean number of extended, categoric, no memories and omissions was 0.99 (SD = 1.20), 0.27 (SD = 0.64), 0.27 (SD = 0.58), and 0.41 (SD = 0.87). The mean score on the BDI was 6.03 (SD = 5.40). Furthermore, the mean score on the IES was 16.78 (SD = 15.80). For the intrusion and avoidance subscales mean scores were 8.21 (SD = 8.14) and 8.57 (SD = 8.80) respectively.

We first consider the type and recency of the stressful event. Eighty participants (46.5%) reported death or illness of beloved persons as their most stressful event. Twenty-two (12.8%) participants recalled threat to self or beloved person and 28 (16.3%) participants reported interpersonal problems (e.g., divorce of parents, the end of a relationship or friendship). Furthermore, 15 (8.7%) persons reported having experienced or witnessed an accident, seven (4.1%) participants recalled events that did not fit into the other categories and 20 (11.6%) participants did not write down their most stressful event. Twenty-nine (16.9%) participants reported not having experienced any intrusions or avoidance symptoms within the previous week about their most stressful experience. The mean duration between time of testing and the occurrence of the stressful event was 49.59 (SD = 44.34) months. Thus, on average, the stressful event happened around 4 years before time of testing.

The data demonstrated significant positive correlations between BDI and the IES total scale, r(172) = 0.36, p < 0.001, and the intrusion, r(172) = 0.32, p < 0.001, and avoidance, r(172) = 0.35, p < 0.001, subscales. Recency of the aversive experience also significantly correlated with the IES total scale, r(156) = −0.32, p < 0.001, and the intrusion, r(156) = −0.26, p = 0.001, and avoidance, r(156) = −0.32, p < 0.001, subscales of the IES. These correlations demonstrated that a more recent (fewer months ago) stressful experience was related to higher self-reported intrusions and effortful avoidance.

Pearson correlation coefficients were computed between the number of specific memories to positive (M = 3.66; SD = 1.15) and negative (M = 3.95; SD = 1.16) cue words and the levels of intrusions and avoidance. In both cases, the number of specific memories was not related to the IES intrusion, r’s(172) < 0.05, p > 0.60, or avoidance, r’s(172) < 0.06 p > 0.30, subscales. Looking at the number of cate-

\[\text{Here, sample size is smaller as not all participants filled in the date of the event.}\]
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The present findings suggest that higher IES avoidance scores are associated with overgeneral memory. Up to now, this was not demonstrated in a non-clinical sample with participants reporting a variety of major and minor stressful events. Henderson et al. (2002) did find a significant relation between self-reported childhood sexual abuse (CSA) and reduced autobiographical memory specificity in a non-clinical sample, but they did not find a relationship between IES scores (all filled out in relation to CSA) and autobiographical memory specificity. Furthermore, previous clinical studies did show correlations between IES scores and overgeneral memory, both in participants who reported a variety of traumatic events (e.g., Raes et al., in press), and in samples where participants filled out the IES with respect to the same experience (e.g., CSA, Kuyken & Brewin, 1995; motorcycle accidents, Harvey et al., 1998). However, in these (sub)clinical samples correlations tended to be higher than in the present group. This might not be surprising as symptom severity, type of traumatic experiences and the number of overgeneral memories also tended to be higher than in this non-clinical sample. When further interpreting the current results, we should note that past history of depression was not taken into account, and that the absolute number of categoric memories was rather low. This is, however, similar to preceding studies showing that, overall, non-clinical samples tend to be quite specific in their autobiographical memories (e.g., Merckelbach et al., 1996; Hermans et al., 2005).

Taken together, the current results seem to agree with the idea that not trauma per se but how one copes with it may play a more important role in the origin of overgeneral memory (e.g., Raes et al., in press). This also concurs with the recently revised theory of Williams and his colleagues, arguing that there are three processes contributing to overgeneral memory (Williams, 2006). Overgeneral memory may develop (a) when retrieval is hijacked by other self-relevant processing, (b) when retrieval is aborted early to avoid emotional distress and (c) when retrieval is affected due to reduced available executive resources (see Williams, 2006, for a more detailed description).

The present results should be regarded as a lead to further analyze the relationship between intrusions, avoidance and overgeneral memory. Future studies should undertake attempts to directly address the causal relationship between these phenomena. For example, experiments in which participants suppress their most negative experience (see, e.g., Wegner, Carter, White, & Schneider, 1987) could be a useful avenue for exploring the effect on subsequent overgeneral memory. In addition, prospective studies on intrusions, avoidance and overgeneral memory could shed more light on the temporal order of these phenomena.

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REFERENCES


