We examined to what extent dissociative phenomena in concentration camp survivors are related to post-traumatic stress symptoms. Self-reports of amnesia for traumatic war events and other dissociative experiences were studied in a sample of 31 Dutch survivors of World War II (WWII) Japanese concentration camps. Seventeen survivors treated for war-related psychiatric symptoms were compared to 14 concentration camp survivors who had no psychiatric diagnosis. Although survivors who received treatment scored significantly higher on the Impact of Event Scale and the Post-Traumatic Symptom Scale than control survivors, the two groups did not differ in terms of accessibility of war memories or dissociative experiences. Levels of post-traumatic stress symptoms were not significantly correlated with dissociative experiences. In both groups, reports of psychogenic amnesia for traumatic events were rare. Our results support previous studies demonstrating that post-traumatic stress symptoms are not necessarily accompanied by dissociative experiences. They also contradict the suggestion that amnesia is a common phenomenon in people who have been exposed to war atrocities.

Psychogenic or dissociative amnesia refers to an “inability to recall important personal information, usually of a traumatic or stressful nature, that is too important to be explained by ordinary forgetfulness” (DSM-IV; p. 477). It is often assumed that psychogenic amnesia for traumatic war events is a common phenomenon among WWII veterans and WWII concentration camp survivors. However, this assumption heavily rests on anecdotal case reports that are open to alternative interpretations. Moreover, some studies suggest that only a small minority of war victims report psychogenic amnesia. For example, Kuch and Cox studied a sample of 124 Jewish Holocaust survivors and found that with an estimated prevalence rate of 3.2%, psychogenic amnesia was relatively rare in this group. Likewise, at least two studies of Holocaust survivors’ autobiographical memories concluded that their failure to recall certain details does not exceed the incidence of normal forgetfulness. This is in line with a recent study on the psychological effects of political imprisonment in the former German Democratic Republic, showing that only a small minority of severely traumatized survivors reported psychogenic amnesia.

Psychogenic amnesia is generally considered to be a hallmark feature of dissociative symptomatology. Yehuda et al. noted that the link between dissociative symptomatology and concentration camp experiences is not a straightforward one. Although in their study, Holocaust survivors with post-traumatic stress disorder (PTSD) reported more dissociative symptoms than either Holocaust survivors without PTSD or a comparison group of nontraumatized individuals, it was also the case that survivors with PTSD had dissociation levels that were well below those of other categories of PTSD patients. This led the authors to conclude that PTSD and dissociation are separate constructs.

The current study was a further attempt to elucidate the connection between PTSD symptoms and dissociation in concentration camp survivors. In addition, we were interested in the frequency with which reports of psychogenic amnesia occur in these survivors. Our study involved two groups. One group consisted of Dutch survivors of Japanese concentration camps in Indonesia during World War II (WWII) who currently received treatment for their war-related psychiatric symptoms. The second group consisted of Dutch survivors of Japanese concentration camps who had no psychiatric symptoms. We included this nonsymptomatic control group to test the assumption that psychogenic amnesia is linked to PTSD symptoms and that trauma exposure per se is a necessary, but not sufficient condition for psychogenic amnesia to develop. Both groups were given measures of PTSD-related distress and dissociative symptom-
atology. Furthermore, they were interviewed about the accessibility of their traumatic memories.

**METHOD**

**Participants**

From a private practice specialized in the psychiatric treatment of WWII survivors, 17 patients (10 women) were recruited. Only those survivors who were included who at the time of their imprisonment were older than 3 years. This was done in order to ensure that infantile amnesia could not account for reports of psychogenic amnesia. Accordingly, mean age of the survivors receiving treatment at the time of the study (end of 1998) was 62.2 years (SD = 3.8). On the average, they had been in treatment for 22 months (SD = 9.6). In addition, survivors receiving treatment were only included if they completed the Impact of Event Scale12 and the self-report version of the PTSD Symptom Scale12 with reference to a traumatic war experience. War experiences that were specified were usually of a horrifying nature involving such events as rape, torture and/or witnessing the execution of a parent. Finally, survivors were included if screening with the Structured Clinical Interview for DSM-IV13 confirmed that they suffered from an anxiety, mood, or axis II disorder. Patients with a psychotic illness or an organic brain syndrome were excluded. Of the 17 survivors who were in treatment, 11 were diagnosed with PTSD (of whom two had a comorbid diagnosis of major depressive disorder [MDD]), two suffered from MDD, and four had an anxiety disorder or suffered from dysthymia.

The comparison group consisted of 14 participants (five women) who were recruited through newspaper advertisements in which survivors of WWII Japanese concentration camps without psychiatric complaints were invited to participate in the current study. Their mean age was 62.0 years (SD = 4.3). Control participants were only included if a telephone-administered version of the Structured Clinical Interview for DSM-IV confirmed that they did not suffer from current psychopathology and had no history of PTSD or MDD. All control participants had been imprisoned in one of the Japanese concentration camps and so they roughly had a similar background as the survivors who received treatment. After complete description of the study to all participants, written informed consent was obtained.

**Instruments and Procedure**

After survivors had given their informed consent, they were given a number of tests and self-report questionnaires. Among the self-report scales were the Impact of Event Scale,11 the self-report version of the PTSD Symptom Scale12 with reference to a traumatic war experience. War experiences that were specified were usually of a horrifying nature involving such events as rape, torture and/or witnessing the execution of a parent. Finally, survivors were included if screening with the Structured Clinical Interview for DSM-IV confirmed that they suffered from an anxiety, mood, or axis II disorder. Patients with a psychotic illness or an organic brain syndrome were excluded. Of the 17 survivors who were in treatment, 11 were diagnosed with PTSD (of whom two had a comorbid diagnosis of major depressive disorder [MDD]), two suffered from MDD, and four had an anxiety disorder or suffered from dysthymia.

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**RESULTS**

Both groups of survivors were comparable with respect to sex ($\chi^2 = 1.6, df = 1, P = .2$, not significant [NS]) and age ($t = 0.1, df = 30, NS$). However, comparison survivors had more years of education than survivors who were in treatment ($t = 3.2, df = 30, P < .01$), means being 14.5 (SD = 3.4) and 10.8 (SD = 3.2) years, respectively.

Table 1 shows mean scores of both groups on PTSD symptoms and dissociation scales. Survivors who received treatment scored significantly higher on intrusion items of the Impact of Event Scale, avoidance items of the Impact of Event Scale, and the PTSD Symptom Scale. These group differences remained significant if ANCOVAs were conducted with education as covariate (all $F > 15.6$, all $df = 1, 28$, all $P < .01$). The groups differed only marginally with respect to scores on the Dissociative Experiences Scale ($t = 1.8, df = 29, P = .08$) and this difference became nonsignificant when evaluated with an ANCOVA that controlled for the influence of education ($F = 2.6, df = 1, 28, P = .12$). However, the two groups did differ with regard to their scores on those eight items of the Dissociative Experiences Scale that, according to some authors,15 tap pathological dissociation. This group difference on so called taxon (i.e., DES-T)
items remained significant when the influence of education was controlled for in an ANCOVA ($F = 4.6$, $df = 1, 28, P = .04$)

Pearson correlations computed for the total group of survivors showed that Dissociative Experiences Scale scores were neither related to scores on the intrusion items ($r = .21, N = 31, P = .25$, NS) and avoidance items ($r = .20, N = 31, P = .27$, NS) of the Impact of Event Scale, nor to scores on the PTSD Symptom Scale ($r = .15, N = 31, P = .42$, NS). Much the same was true for correlations involving scores on taxon items of the Dissociative Experiences Scale. Scores on this DES-T were not related to scores on the Impact of Event Scale (all $r < .21$, all $P > .16$). On the other hand, scores on the intrusion and avoidance items of the Impact of Event Scale were strongly linked to PTSD Symptom Scale scores (all $r > .80, N = 31, all P < .01$).

As to interview questions addressing psychogenic amnesia, all survivors indicated that the content of their war memories had been stable over the course of their life. Twenty-four percent ($n = 4$) of the survivors who were in treatment and 14% ($n = 2$) of comparison survivors said that the accessibility of their war memories had changed during their lives, while 53% ($n = 9$) of the treatment group and 79% ($n = 11$) of the comparison group said that memory accessibility had never changed. There were no differences between the two groups in this respect ($\chi^2 = 1.8, df = 3, P = .61$, NS). Finally, only 6% ($n = 1$) of the treatment group and 7% ($n = 1$) of the comparison group said that there had been times during which their war memories had been completely lost. In the treatment group, 35% ($n = 6$) said that their traumatic memories had always been accessible, while 41% ($n = 7$) indicated that their had been periods of reduced accessibility due to attempts to avoid these memories. Seventy-nine percent ($n = 11$) of the comparison group indicated that their war memories had always been accessible, while another 14% ($n = 2$) of them said that there had been periods that these memories had been less accessible because they had tried not to think of them. Again, there were no significant differences between the two groups with regard to this interview item ($\chi^2 = 4.2, df = 2, P = .12$, NS).

DISCUSSION

In line with the idea that dissociative symptoms are a consequence of trauma exposure,\textsuperscript{16} a number of authors\textsuperscript{10,17} have argued that PTSD symptoms are predominantly dissociative in nature. For certain types of trauma (e.g., natural disasters), there is some evidence to suggest that dissociative experiences and PTSD symptoms overlap.\textsuperscript{18} However, our results show that this overlap is not a universal phenomenon. Although survivors who were in treatment scored significantly higher on scales measuring PTSD-related distress than control survivors, the two groups did not differ in terms of self-reported dissociative symptoms. In fact, average scores on the Dissociative Experiences Scale of both survivors who received treatment and comparison survivors were well within the range that is often reported for normal populations.\textsuperscript{19,20} Eighteen percent of the survivors ($n = 3$) who were in treatment scored above the clinical cut-off point of 30 on the Dissociative Experiences Scale,\textsuperscript{21} while none of the comparison survivors scored above this cut-off point. Likewise, for the total group of survivors, correlations between scores on PTSD measures and those on the Dissociative Experiences Scale remained nonsignificant. This was even true when correlations involved mean scores on DES-T items, i.e., items that are

| Table 1. Mean Scores on Measures of PTSD-Related Distress and Dissociation of 17 Survivors Receiving Treatment and 14 Control Survivors |
|--------------------------------------------------|--|--|---|--|
| | Survivors Receiving Treatment | Control Survivors | Significance |
| | Mean | SD | Mean | SD | t | P |
| Impact of Event Scale Intrusion | 19.1 | 10.5 | 3.8 | 6.2 | 4.8 | .001 |
| Avoidance | 19.0 | 11.3 | 3.2 | 5.4 | 4.8 | .001 |
| PTSD Symptom Scale | 18.9 | 9.8 | 4.5 | 5.1 | 5.0 | .001 |
| Dissociative Experiences Scale | 17.3 | 10.0 | 11.7 | 5.6 | 1.8 | .076 |
| Taxon items (DES-T) | 9.6 | 8.1 | 4.2 | 3.8 | 2.3 | .021 |

NOTE. Two-tailed $t$ tests with $df = 29$. 


thought to be sensitive to pathological forms of dissociation. Admittedly, survivors who were in treatment had higher DES-T scores than control survivors. Note, however, that recent research\(^2\) suggests that elevated DES-T scores are intimately related to personality disorders and fantasy proneness.

Taken together, our results are well in line with those of Yehuda et al.,\(^9\) who concluded in their study on Holocaust survivors that PTSD symptoms and dissociative experiences are separate categories. Our failure to find a straightforward connection between dissociative experiences and PTSD-related distress in aging concentration camp survivors may have to do with the fact that aging is often accompanied by a reduction of dissociative experiences.\(^2\)\(^3\) Perhaps, then, dissociative experiences and PTSD symptoms follow different trajectories in this category of traumatized individuals. Although previous work\(^1\)\(^6\) has drawn attention to the fact that dissociative symptoms may persist after PTSD symptoms have resided, the current findings suggest that the reversed pattern is also possible. Persistence of dissociative experiences after exposure to trauma may critically depend on the precise type of trauma and more specifically, the extent to which such trauma occurs in the context of family pathology\(^2\)\(^4\) Thus, it is conceivable that abuse by a trusted caretaker, but not exposure to war atrocities interferes with normal attachment patterns and in this way contributes to the overlap between dissociative experiences and PTSD symptoms. Clearly, the precise connections between dissociation, PTSD, and type of trauma warrant further study. In any case, our results as well as those of several other recent studies\(^9\),\(^2\)\(^4\)-\(^26\) demonstrate that the link between trauma and dissociation is considerably more complicated than is often assumed.

Previous studies found relatively high rates of self-reported amnesia for childhood sexual abuse (19% to 62%) in patients treated for childhood abuse-related problems.\(^2\)\(^7\) In the current study, survivors receiving treatment and comparison survivors did not display a differential response pattern on interview items about the accessibility and stability of their war memories. Only a minority of the survivors reported mnemonic experiences that might be construed as evidence for psychogenic amnesia. In addition, such reports were not dependent on survivors being in treatment or not. Again, our results fit well with those of other studies\(^8\)-\(^7\),\(^9\) that found psychogenic amnesia to be relatively rare among concentration camp survivors. Taken together, these findings cast doubts on the idea that amnesia is a common consequence of repetitive, prolonged, and severe trauma.\(^2\)\(^8\) Apparently, the relative high frequency of self-reported psychogenic amnesia found in studies relying on victims of childhood abuse\(^1\)\(^6\),\(^1\)\(^7\),\(^2\)\(^7\) cannot be generalized to aging concentration camp survivors. A more general issue that can be raised has to do with the fact that studies on psychogenic amnesia critically depend on self-reports about prior forgetting. As one recent experiment\(^2\)\(^9\) showed, such retrospective reports may also occur for nontraumatic events and there are even indications that the more people are asked to retrieve certain memories, the more these memories are judged to have been incomplete. These findings suggest that it might be problematic to pathologize reports of prior forgetting by referring to it as psychogenic amnesia.

REFERENCES