

Title

The effect of avoidant tendencies on the intensity of intrusive memories in a
community sample of college students

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Abstract

The purpose of the study was to examine the factors that influence the enhancement of intrusive memories, with a particular focus on individuals' avoidant tendencies: thought suppression, rumination, and dissociation. A total of 641 undergraduates (253 men and 388 women, $M=20.0$ years) completed a battery of measures: (1) a questionnaire about intrusive memories (contents and degree of intrusion measured by the Impact of Event Scale), (2) the Beck Depression Inventory-II, (3) the White Bear Suppression Inventory, (4) the Negative Rumination Trait Scale, and (5) the Dissociative Experiences Scale. Approximately 55% of the participants had experienced intrusive memories, of which over 90% had negative implications. The individual's avoidant tendencies, especially thought suppression, had significant influence on the degree of intrusion of negative memories, once participants' depressive symptoms were controlled. Clinical and research implications of the study were outlined.

Key words: Intrusive memories; Traumatic memories; Posttraumatic stress disorders; Thought suppression; Rumination; Dissociation

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Intrusive memories have been identified as a part of the symptoms of posttraumatic stress disorders (PTSD) (American Psychiatric Association, 2000). Whereas ordinary autobiographical memories are under conscious control, intrusive memories appear to be entirely spontaneous and relatively uncontrollable, characterized by intense affect and strong sensory elements (Brewin, Dalgleish, & Joseph, 1996b). A number of studies clearly suggest that a high level of intrusion of traumatic memories is a risk factor for later psychopathology. For example, intrusive re-experiencing that persists for several months has been shown to predict long-term PTSD symptoms (McFarlane, 1992).

Although DSM-IV-TR (American Psychiatric Association, 2000) lists intrusive symptoms exclusively as a feature of PTSD and Acute Stress Disorder, previous studies have suggested that patients with depression also experience intrusive memories at a level equivalent to that of patients with PTSD (e.g., Reynolds & Brewin, 1999). Moreover, Brewin, Christodoulides,

and Hutchinson (1996a) included a non-clinical population in their surveyed subjects, indicating that intrusive memories are a more common phenomenon than has hitherto been supposed in this population.

The studies with an empirical approach have clarified which individual psychological properties enhance and maintain intrusive memories. First of all, depressive symptoms seem to be considered a critical factor that affects the occurrence of intrusive memories. Comorbidity surveys showed that about half the people with a lifetime history of PTSD also had a lifetime history of major depression (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Moreover, it was found that prior depression increased the likelihood of PTSD (Acierno, Resnick, Kilpatrick, Saunders, & Best, 1999). With regard to this relationship, it was indicated that depression leads to an increase in the accessibility of specific autobiographical memories (Brewin, Watson, McCarthy, Hyman, & Dayson, 1998; Reynolds & Brewin, 1999). The relationship may be due to the effect of mood-congruence: a recent study based on an experimental method clarified that depressed mood is associated with unpleasant intrusive memories (Bywaters, Andrade, & Turpin, 2004).

Cognitive theories of PTSD have indicated that avoidant strategies

related to traumatic memories are generally considered to be a central factor in enhancing and maintaining PTSD symptoms (e.g., Brewin & Holmes, 2003; Steil & Ehlers, 2000). According to these theories, avoidant tendencies generally seem to prevent adequate emotional processing of traumatic experiences, thereby interfering with the integration and restructuring of dysfunctional cognitions concerning the trauma. It is known that PTSD patients demonstrate a wide range of avoidant tendencies. For example, patients with PTSD seem to engage in *thought suppression* to avoid or end particular thoughts, images, or memories whenever trauma memories intrude into their consciousness (Brewin & Holmes, 2003). Thought suppression refers to the conscious attempt to avoid certain thoughts; it seems to be a counter-productive defense strategy that produces more rather than fewer thoughts about the topic intended to be suppressed (Wegner, Schneider, Carter & White, 1987). In addition, *rumination* is thought to be another form of avoidance practiced by patients with PTSD (Steil & Ehlers, 2000). Rumination appears to focus on experiences surrounding the traumatic event rather than the event itself, thereby interfering with the formation of more complete trauma memories. It is postulated that

rumination blocks the emotional processing of distressing experiences, while concurrently connecting these experiences to many other stimuli, thereby enhancing their accessibility in memory networks (Ehlers & Clark, 2000). Lastly, *dissociation* is also considered to be an avoidant psychological process. Dissociation is thought to provide an escape mechanism from one's awareness of distressing and confusing emotional states by compartmentalizing information and affect (Putnam, 1993). While temporal dissociation seems adaptive to stressful incidents (Ludwig, 1983), chronic use of dissociation appears to prevent the adequate encoding of traumatic memories and the integration of them into ordinal autobiographical ones, leading to the enhancement of intrusive memories (Ehlers & Clark, 2000; van der Kolk & Fisler, 1995).

The purpose of the study was to examine the factors that influence the enhancement of intrusive memories, with a particular focus on individuals' avoidant tendencies. Although previous studies of PTSD have indicated that emotional instability, such as that implied by depressive symptoms, is closely related to PTSD symptoms, an individual's avoidant tendencies such as thought suppression, rumination, and dissociation would also be

hypothesized to make an additional contribution to the intensity of intrusive memories above and beyond the depressive symptoms themselves. The study further explored the relative impacts of thought suppression, rumination, and dissociation on intrusive memories.

Method

Participants

A total of 641 participants (253 men and 388 women), undergraduate students from private universities ($M = 20.0$ years, $SD = 3.8$), were randomly selected from different areas in central Japan. All participants were volunteers, who were informed at the start that the outcome would not affect their course grades. After orientation, participants supplied demographic information (gender and age), and completed the questionnaires described below.

Measures

A questionnaire about intrusive memories

The participants were first given the following introductory sentences:

“People sometimes have recollected *involuntarily* and *suddenly* a specific event or incident which has happened to them sometime in the past. They can be pleasant (positive) memories or unpleasant (negative) memories.” Then the participants were asked to answer the next question with Yes or No: “Have you ever experienced such involuntary recollections?” Only those who answered Yes were asked to describe the content of the memory in free description. If some intrusive memories were mentioned, the participants were asked to choose the most impressive one. The intrusion of the reported memories was assessed by using the Impact of Event Scale (IES) (Horowitz, Wilner & Alvarez, 1979), which is a 15-item scale of subjective distress resulting from a specific incident. Each item is scored on 4-point frequency scales (0 = “not at all,” 1 = “rarely,” 3 = “sometimes,” or 5 = “often”). The IES is divided into two subscales: intrusion (seven items) and avoidance (eight items). Given that the IES was included in the present study to assess the degree of intrusion, only items associated with intrusion were used, hereafter termed IES_{int}. Total scores of IES_{int} range from 0 to 35, with higher scores indicating a tendency to intrude. The IES_{int} has strong test-retest reliability (Horowitz et al., 1979).

White Bear Suppression Inventory

The White Bear Suppression Inventory (WBSI) (Wegner & Zanakos, 1994) is a 15-item self-report measure designed to assess the extent to which individuals suppress and experience the intrusion of thoughts. Each item is scored on a five-point Likert scale ranging from 1 (“disagree”) to 5 (“agree”). The WBSI has strong test-retest reliability and good construct and predictive validity (Muris, Merckelbach, & Horselenberg, 1996; Wegner & Zanakos, 1994). Muris et al. (1996) suggested that the WBSI can provide separate scores for thought suppression and thought intrusion. Because in the study the WBSI was designed to provide information only about thought suppression, ten items associated with suppression (items 1, 6, 7, 8, 10, 11, 12, 13, 14, and 15; Muris et al., 1996) were used; these were newly termed WBSI_{sup}. Total scores range from 10 to 50, with higher scores indicating a greater tendency to suppress thought. The Japanese version of WBSI has high internal consistency, good test-retest reliability, and convergent validity (Ogawa, Fujihara, Kimura, & Yogo, 2006).

Negative Rumination Trait Scale

The Negative Rumination Trait Scale (NRTS) (Ito & Agari, 2001) is a 7-item self-report measure that assesses the tendency to ruminate negatively. Participants were asked to rate their tendency to do so (e.g., “absorbed in thinking bad things for several days”) on a six-point Likert scale ranging from 1 (“disagree”) to 6 (“agree”). The total scores of NRTS range from 7 to 42, with higher scores indicating a greater tendency to ruminate negatively. High internal consistency, good test-retest reliability, and convergent validity were confirmed (Ito & Agari, 2001).

Dissociative Experiences Scale

The Dissociative Experiences Scale (DES) (Bernstein & Putnam, 1986; Carlson & Putnam, 1993) is a 28-item self-report measure that assesses the frequency of various experiences of dissociative phenomena, translated into Japanese by Umesue, Matsuo, Iwata, and Tashiro (1996). Participants were instructed to rate each item on an 11-point scale (from 0 to 100 in intervals of 10). Average scale scores were calculated. The scale has been shown to have good reliability and validity (Bernstein & Putnam, 1986; Carlson & Putnam,

1993; Umesue et al., 1996).

Beck Depression Inventory-II

The Beck Depression Inventory-II (BDI-II) (Beck, Steer, & Brown, 1996) is a 21-item self-report inventory that assesses the presence and severity of depressive symptoms. Each item is rated on a scale of 0 to 3, with total scores ranging from 0 to 63. The Japanese version of BDI-II shows high internal consistency and adequate content, factorial, convergent and divergent validity (Kojima et al., 2002).

Analysis

Hierarchical multiple regression analysis was used to test the effect of avoidant tendencies on the intensity of intrusive memories beyond and above those of depressive symptoms. The significance level was set at .05. Data analyses were conducted using the statistical software package SPSS 10.0.

Results

The contents and frequencies of intrusive memories

After a screening of the contents of the reported memories, forty-eight participants were precluded because their contents could not be identified as specific kinds of memories (e.g., dream, fantasy, or thought). Consequently, three hundred twenty-six (55.0%) out of the total 593 participants were considered to have reported intrusive memories. Then their memories were categorized using the Affinity Diagram (Kawakita, 1967), which organizes large amounts of data (opinions, ideas, etc.) into groupings based on their relationships. The frequencies and their proportions to the total number of participants were the following: “interpersonal quarrels” ($n=58$; 9.8%) (e.g., quarrels with friends, family, and teachers); “psychological and physical assaults” ($n=39$; 6.6%) (e.g., sexual and physical assault, bullying, and betrayal); “positive events” ($n=31$; 5.2%) (e.g., winning awards/competitions and warm communications with family or friends); “serious injuries” ($n=29$; 4.9%) (e.g., injuries in traffic accidents and bone fractures); “embarrassing experiences in front of others” ($n=26$; 4.4%); “deaths of family and friends” ($n=18$; 3.0%); and “other negative events” ($n=75$; 12.6%) (e.g., failures in exams and defeats in games). Moreover, 8.4% ($n=50$) of the participants refused to write down the contents of their intrusive memories, noting that “I

do not want to write the content” or “I am afraid to recollect the content,” suggesting that the refused contents implied negative connotations. As a result, the participants who reported intrusive memories with negative implications amounted to about 50% of the total participants and over 90% of the participants with intrusive memories.

The effects of avoidant tendencies on the degree of negative intrusive memories

The present study focused on the avoidance of intrusive memories with negative implications. The participants who reported intrusive memories with positive implications were excluded from the study, because the mechanism that enhances the intrusion of positive memories was thought to be different from the one that facilitates negative memories. Moreover, the participants who failed to answer any item of any measure were also excluded. Consequently, 282 participants out of the 325 who admitted to intrusive memories were included in the following analyses.

The means, standard deviations, and correlation matrix of the variables of interest are shown below. These reflect the IES_{int}, the BDI-II, the WBSI_{sup}, the NRTS, and the DES, as well as the demographic variables of

age and gender (Table 1). The variable of gender was dummy-coded 1 for men and 2 for women.

Next, a hierarchical multiple regression analysis was performed in order to test the hypothesis that avoidant tendencies have a significant influence on the intrusion of negative memories even when depressive symptoms are controlled. The IES_{int} served as a dependent variable. In terms of predictive variables, the variables of age and gender were entered into the equation at the first step (Model 1), the BDI-II was done at the second step (Model 2), and the $WBSI_{sup}$, the NRTS, and the DES were done at the final step (Model 3). The result in the final model showed that avoidant tendencies added statistically significant additional variance to the IES_{int} beyond and above the BDI-II ($\Delta R^2=.18$, $p<.01$; adjusted total $R^2=.35$, $F(6, 275)=26.3$, $p<.01$). The effects of all the avoidant tendencies were significant, but the effect of the $WBSI_{sup}$ was the strongest. See the $WBSI_{sup}$ ($\beta=.35$, $p<.01$), the NRTS ($\beta=.13$, $p<.05$), and the DES ($\beta=.15$, $p<.01$) (Table 2).

Discussion

First, we reported the contents and frequencies of intrusive memories

in normal adults. That over half of the participants had experienced intrusive memories supported the proposition that intrusive memories are more common phenomena than have hitherto been supposed in this population (Brewin et al., 1996a). Moreover, the reported frequency of over 90% negative intrusive memories was much higher than those of Berntsen (1996) (negative: positive $\approx 1:2.6$) and Brewin et al. (1996a) (negative: positive $\approx 1:1$). The high proportion of negative memories in this study may reflect the different way of collecting memories compared to the methods used in the previous studies; that is, the memories in the present study were collected through the participants' life histories, while the memories analyzed by Berntsen (1996) were limited to ones occurring within the past six weeks and those used by Brewin et al. (1996a) to those occurring within the past two weeks. People may be more likely to recollect intrusive memories with negative implications on their life histories than positive ones when they are asked to report their most impressive intrusive memories.

The main purpose of the present study was to test the influence of avoidant tendencies on intrusive memories. As hypothesized, avoidant tendencies such as thought suppression, rumination, and dissociation were

shown to make an additional contribution to the intensity of intrusive memories above and beyond depressive symptoms. Moreover, it was noted that thought suppression seems to play the most important role in maintaining the intrusion of negative memories. Thought suppression is believed to heighten attention to and monitoring of the memories to be suppressed, thereby promoting the process of enlargement of traumatic intrusions (Merckelbach, Muris, Horselenberg, & Rassin, 1998; Rassin, Merckelbach, & Muris, 2001). These results seem to support the proposition with regard to the treatment for PTSD that a key element may be to encourage thinking more about the traumatic incidents and discussing them in detail rather than suppressing them (Ehlers & Clark, 2000). Thus the results showed that it is important for the clinicians and psychologists treating people suffering from the intrusion of past negative memories to assess and focus on their tendency to suppress those memories.

Both dissociation and rumination were also significantly related to the intensity of intrusive memories, but their contributions to the intrusion were relatively small compared with that of thought suppression. With regard to the small contribution of dissociation, it is possible that the DES might

measure dissociation not as a defense but as a complaint, so that the participant's dissociative response during the negative incidents could not be assessed. Recently, Marmar, Weiss, Metzler, and Delucchi (1996) focused on the immediate dissociation at the time the traumatic event occurs – *peri-traumatic dissociation* – as one of the most important risk factors for the subsequent development of chronic PTSD. Holmes et al. (2005) also suggested that intrusive images and flashbacks may be the product of peri-traumatic dissociation. It would be necessary in future studies to assess the degree of peritraumatic dissociation by using, for example, the Peritraumatic Dissociative Experiences Questionnaire (Marmar et al., 1996). The reason for the small contribution of rumination might be obvious from a statistical viewpoint: the relatively high correlations of rumination with depression and thought suppression diluted the effect of rumination alone on intrusive memories (see Table 1). Given that rumination is closely related to the likelihood of depression (Nolen-Hoeksema, 1991) and thought suppression (Erskine, Kvavilashvili, & Kornbrot, 2007), the influence of rumination on the intrusive memories would be weakened when the participant's depressive symptoms and tendency to thought suppression were

controlled.

Several limitations have to be considered when interpreting the present study. First, we could not assess how accurately people were recalling their memories. The retrospective design might introduce recollection bias; thus our participants might have overestimated and/or underestimated the frequency of their experiences of intrusive memories. Prospective studies (e.g., a diary study, Berntsen, 1998) would be needed to assess the frequencies more accurately. Second, we assessed not the avoidant strategies actually used to deal with the negative memories but the avoidant tendencies which the participants have as a trait. The WBSI, the NRTS, and the DES, however, all indicated stability over time (Bernstein & Putnam, 1986; Ito & Agari, 2001; Wegner & Zanakos, 1994); therefore, we assumed that the avoidant tendencies focused on in the study would be correlated with the strategies actually employed to deal with the negative memories. Third, due to the cross-sectional design of this study, our findings do not allow us to conclude that the avoidant tendencies themselves lead to the intrusion of negative memories. There could be another design with a reversible direction wherein intrusive recollections lead to the usage of avoidant tendencies,

rather than the reverse. As a result, cross-sectional relations between these variables may reflect a confounding effect of reciprocally related processes. Fourth, there remains the problem related to the validity of the IES. Although the validity and reliability of the original IES have been confirmed and are satisfactory (Horowitz et al., 1979), those of the translated Japanese IES as yet have not. The Japanese version of the Impact of Event Scale-Revised, of which the validation and reliability have been confirmed (Asukai et al., 2002), should be used in any future study.

Regardless of the above limitations, our results suggest that studies of intrusive memories are likely to lead to valuable insights into the nature of PTSD and its treatment. The results indicated that intrusive memories are more common phenomena than have hitherto been supposed in this population. The individual's avoidant tendencies, especially thought suppression, had significant influence on the degree of intrusion of negative memories. It was suggested that the tendency of thought suppression should be focused on as a vulnerability factor in treating intrusive symptoms in PTSD.

References

- Acierno, R., Resnick, H., Kilpatrick, D. G., Saunders, B., & Best, C. L. (1999). Risk factors for rape, physical assault, and posttraumatic stress disorder in women: Examination of differential multivariate relationships. *Journal of Anxiety Disorders, 13*, 541-563.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed, text revision) (DSM-IV-TR). Washington, DC.
- Asukai, N., Kato, H., Kawamura, N., Kim, Y., Yamamoto, K., Kishimoto, J., Miyake, Y., & Nishizono-Maher, A. (2002). Reliability and validity of the Japanese-language version of the Impact of Event Scale-Revised (IES-R-J): four studies of different traumatic events. *The Journal of Nervous and Mental Disease, 190*, 175-182.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Beck Depression Inventory-II manual*. San Antonio, TX: The Psychological Corporation.
- Bernstein, E. M., & Putnam, F. W. (1986). Development, reliability, and validity of a dissociation scale. *The Journal of Nervous and Mental Disease, 174*, 727-735
- Berntsen, D. (1996). Involuntary autobiographical memories. *Applied*

- Cognitive Psychology*, 10, 435-454.
- Berntsen, D. (1998). Voluntary and involuntary access to autobiographical memory. *MEMORY*, 6, 113-141.
- Brewin, C. R., Christodoulides, J., & Hutchinson, G. (1996a). Intrusive thought and intrusive memories in a nonclinical sample. *Cognition and Emotion*, 10, 107-112.
- Brewin, C. R., Dalgleish, T., & Joseph, S. (1996b). A dual representation theory of posttraumatic stress disorder. *Psychological Review*, 103, 670-686.
- Brewin, C. R., & Holmes, E. A. (2003). Psychological theories of posttraumatic stress disorder. *Clinical Psychology Review*, 23, 339-376.
- Brewin, C. R., Watson, M., McCarthy, S., Hyman, P., & Dayson, D. (1998). Intrusive memories and depression in cancer patients. *Behaviour Research and Therapy*, 36, 1131-1142.
- Bywaters, M., Andrade, J., & Turpin, G. (2004). Intrusive and non-intrusive memories in a non-clinical sample: the effects of mood and affect on imagery vividness. *Memory*, 12, 467-478.
- Carlson, E. B., & Putnam, F. W. (1993). An update on the dissociative

- experiences scale. *Dissociation*, 6, 16-27.
- Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, 38, 319-345.
- Erskine, J. A. K., Kvavilashvili, L., & Kornbrot, D. E. (2007). The predictors of thought suppression in young and old adults: effects of rumination, anxiety, and other variables. *Personality and Individual Differences*, 42, 1047-1057.
- Holmes, E. A., Brown, R. J., Mansell, W., Fearon, R. P., Hunter, E. C. M., Frasquilho, F., & Oakley, D. A. (2005). Are there two qualitatively distinct forms of dissociation? A review and some clinical implications. *Clinical Psychology Review*, 25, 1-23.
- Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of event scale: a measure of subjective stress. *Psychosomatic Medicine*, 41, 209-218.
- Ito, T., & Agari, I. (2001). Development of negative rumination scale and its relationship with depression. *Japanese Journal of Counseling Science*, 34, 31-42, (in Japanese).
- Kawakita, J. (1967). An idea development method. Chuou Kouron-sha, Tokyo, (in Japanese).

- Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. B. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry*, *52*, 1048-1060.
- Kojima, M., Furukawa, T. A., Takahashi, H., Kawai, M., Nagaya, T., & Tokudome, S. (2002). Cross-cultural validation of the Beck Depression Inventory-II in Japan. *Psychiatry Research*, *110*, 291-299.
- Ludwig, A. M. (1983). The psychobiological functions of dissociation. *American Journal of Clinical Hypnosis*, *26*, 93-99.
- Marmar, C. R., Weiss, D. S., Metzler, T. J., & Delucchi, K. (1996). Characteristics of emergency services personnel related to peritraumatic dissociation during critical incident exposure. *American Journal of Psychiatry*, *153*, 94-102.
- McFarlane, A. C. (1992). Avoidance and intrusion in posttraumatic stress disorder. *Journal of Nervous and Mental Disease*, *180*, 439-445.
- Merckelbach, H., Muris, P., Horselenberg, R., & Rassin, E. (1998). Traumatic intrusions as 'worse case scenario's'. *Behaviour Research and Therapy*, *36*, 1075-1079.
- Muris, P., Merckelbach, H., & Horselenberg, R. (1996). Individual differences

- in thought suppression. the White Bear Suppression Inventory: factor structure, reliability, validity and correlates. *Behaviour Research and Therapy*, 34, 501–513.
- Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology*, 100, 569-582.
- Ogawa, N., Fujihara, S., Kimura, H., & Yogo, M. (2006). The development of Japanese version of White Bear Suppression Inventory. The Japanese Psychological Association 70th Annual Meeting.
- Putnam, F. W. (1993). Dissociative disorders in children: Behavioural profiles and problems. *Child Abuse & Neglect*, 17, 39-45.
- Rassin, E., Merckelbach, H., & Muris, P. (2001). Thought suppression and traumatic intrusions in undergraduate students: a correlational study. *Personality and Individual Differences*, 31, 485-493.
- Reynolds, M., & Brewin, C. R. (1999). Intrusive memories in depression and posttraumatic stress disorder. *Behaviour Research and Therapy*, 37, 201-215.
- Steil, R., & Ehlers, A. (2000). Dysfunctional meaning of posttraumatic

- intrusions in chronic PTSD. *Behaviour Research and Therapy*, 38, 537-558.
- Umesue, M., Matsuo, T., Iwata, N., & Tashiro, N. (1996). Dissociative disorders in Japan: A pilot study with the Dissociative Experience Scale and a semistructured interview. *Dissociation*, 9, 182-189.
- Van der Kolk, B. A., & Fisler, R. (1995). Dissociation and the fragmentary nature of traumatic memories: Overview and exploratory study. *Journal of Traumatic Stress*, 8, 505-525.
- Wegner, D. M., Schneider, D. J., Carter, S. R., & White, T. L. (1987). Paradoxical effects of thought suppression. *Journal of Personality and Social Psychology*, 53, 5-13.
- Wegner, D. M., & Zanakos, S. (1994). Chronic thought suppression. *Journal of Personality*, 62, 615-640.

Table 1

Mean, standard deviation, and correlation matrix ($n=282$)

	1	2	3	4	5	6	7
1. IES _{int}	▪	.13 *	-.03	.41 **	.55 **	.47 **	.35 **
2. Gender		▪	.08	.06	.14 **	.08	.05
3. Age			▪	.02	-.06	-.02	-.05
4. BDI-II				▪	.47 **	.46 **	.35 **
5. WBSI _{sup}					▪	.66 **	.33 **
6. NRTS						▪	.29 **
7. DES							▪
Mean	14.5	1.7	20.6	14.4	30.5	23.3	16.5
SD	8.7	0.5	4.9	9.5	9.7	8.7	12.7

Note: IES_{int} = a subscale measuring intrusive symptoms of Impact of Event Scale; BDI-II = Beck Depression

Inventory- II; WBSI_{sup} = a subscale measuring thought suppression of White Bear Suppression Inventory; NRTS =

Negative Rumination Trait Scale; and DES = Dissociative Experiences Scale.

* $p < .05$. ** $p < .01$.

Table 2

Multiple regression statistics for IES_{int} ($N=282$)

Variables	ΔR^2	β
Model 1	.02	
Gender		.13 *
Age		-.04
Model 2	.16 **	
Gender		.11 *
Age		-.05
BDI- II		.41 **
Model 3	.18 **	
Gender		.06
Age		-.01
BDI- II		.13 *
WBSI _{sup}		.35 **
NRTS		.13 *
DES		.15 **

Note: IES_{int} = a subscale measuring intrusive symptoms of Impact of Event

Scale; BDI-II = Beck Depression Inventory-II; WBSI_{sup} = a subscale

measuring thought suppression of White Bear Suppression Inventory; NRTS

= Negative Rumination Trait Scale; and DES = Dissociative Experiences

Scale.

* $p < .05$. ** $p < .01$.