Horowitz' Impact of Event Scale: An evaluation of 20 years of usage

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This study was supported by a grant from the Cancer Research Coordinating Committee, University of California. It was also supported in part by grants from The Swedish Research Council for the Humanities and Social Sciences (HSFR); The Swedish Council of Social Research (SFR); the Swedish Medical Research Council (MFR) and the Cohn Foundation, UCSF.

We are grateful for statistical advice provided by Hans Stenlund, PhD, Department of Epidemiology, Umea University, Sweden and Kevin Delucchi, PhD, Department of Psychiatry, UCSF.

Objective The main objective of this meta-analysis was to model the relations between a set of independent variables (age and gender of the trauma group, country where the study was done, year of publication, type of event, time elapsed between event and measurement) and stress symptoms.

Methods Data from sixty-six studies which used Horowitz' Impact of Event Scale (IES) to examine the psychological impact of a major life-event were meta-analyzed.

Results Results from hierarchical regression analysis indicated that different types of event (episodes of illness and injury, natural and technological disaster, bereavement and loss, violence, sexual abuse, and war exposure) is a strong predictor of levels of intrusive and avoidant symptoms after a traumatic event. Intrusive and avoidant reactions reported by trauma victims tended to decrease linearly over time after the trauma. This finding was supported by the results reported by 20 different studies of stress reactions at two different time-points after various events. Gender and cultural difference were relatively insignificant while type of of event induced different levels of stress reactions as measured with the IES.

Conclusion These data provide evidence for the value of the IES as a measure of stress reactions in a number of different populations. Data summarized here will be useful as a comparison resource in future studies of stress response syndromes.

Research on traumatic stress reactions after a large variety of traumatic events have frequently used the Impact of Event Scale (IES) (1). One explanation of the wide use and recognition of the IES is that it provides researchers and clinicians with a short and simple measure for detecting people with more severe post-traumatic reactions who may be in need of treatment. Another appealing feature is its firm theoretical basis. The categories of the conceptual hub of the measure, intrusive and avoidant experiences, are related to information-processing theories about how people master dire life events (2-6).

Many major traumatizing events, such as bereavement**,** war exposure, rape, assault, and motor vehicle accidents have been studied thoroughly in many different countries. To our knowledge, they have not been assessed together in their effects on each of the PTSD symptom clusters. Moreover, over the years that the IES has been used for the study of stress reactions after traumatic events in, possible differences across different cultures or different versions of the IES have not been examined. Neither have potential changes over the years in subjectively perceived stress reactions after tramatic events been examined. Another important issue is whether it is possible to observe changes over time in levels of intrusive and avoidant reactions after traumatic events. A number of the studies included in this report presented longitudinal data on the IES, and the general trend indicated that there was a decrease in stress reactions over time (6-20). A third issue which, to our knowledge, has not been examined is the significance of the traumatized individual's age. In contrast, a few studies have contrasted the psychological impact of a critical incident on men and women separately. With few exceptions (e.g., 21-22), women reported more frequent intrusive reactions and avoidant behavior compared to men (e.g., 23-27).

The main aim of the present meta-analysis was to examine the effect of type of event and time elapsed between the event and measurement with the IES, together with possible effects of the traumatized subjects' age and gender, the country where the study was done, and the

year of publication of the study, using research data that has been collected with the IES after a number of traumatic events and at different time points after the event. The effect of type of event along with the demographic and descriptive variables (average age and gender of the study group, country where the study was done, and year of publication), and time elapsed since the event was examined based on data from traumatized study groups and comparison groups that had not experienced a traumatic event. The same analysis was then performed based on data from the traumatized groups only. A secondary aim was to compare the results from our analysis of the longitudinal effect of stressor events on traumatized individuals across studies with results from studies that presented results from two different measurement points after the trauma.

METHODS

Description of the IES

The IES can be used to assess psychological stress reactions after any major life event. It is anchored in its instructions to a particular event and measures two categories of responses; intrusive experiences and avoidance of thoughts and images associated with that event. The instrument consists of 15 items that are added up into two subscales, IES Intrusion (7 items) and IES Avoidance (8 items). The format is a self-report type where the subject is asked to report the frequency of symptoms the past 7 days on a 4-point measurement-scale where "0" indicates *not at all*, "1" indicates *rarely*, "3" indicates *sometimes*", and "5" indicates *often*.

Selection of Studies

Using Psychinfo, MEDLINE and a direct library search of journals and books that address causes, symptoms and treatment of stress, we sought English-language studies using the IES to assess responses to serious life events. Phrases in the computer searches were *impact of event scale*, *impact of trauma*, and *impact of stressful event*. In addition, unpublished studies

were obtained from the library of the Center on Stress and Personality, University of California in San Francisco with the permission of the authors.

We found 240 articles that used the IES as a measure of stress reactions after major events, which is a clear testimony of its acceptance and usefulness. From the body of articles, we selected the ones that fit the following criteria. The sample had at least 30 subjects who filled out the IES with respect to a specific stressful life event. A description of the event and time between the event and the self-report were presented. The IES Intrusion and Avoidance scores were summarized with means and standard deviations, and as a scoring template, used 0 for not at all, 1 for rarely, 3 for sometimes, and 5 for often. Seventy-two studies (with in all, 90 samples) met our criteria. More than half of the studies that were excluded involved the same data as was presented in a previous article; and other studies had fewer participants than 30, used a different measurement-scale, or only used the IES total score.

When available, comparison groups of individuals were also included in this study. These comparison groups were contrasts with subjects who experienced a particular type of trauma. There was one exception. The control subjects from Maercker and Schützwohl (83) received the instruction to choose the worst event they had experienced in their lives. It is noteworthy that these control subjects, who did not have the same life events, gave higher IES Intrusion and Avoidance scores than the less traumatized controls in all other control groups. One reason for this may be that, with such instructions, people will pick events that are causing them current concern (the IES reports reactions during the past seven days, and so they will have more intrusion and avoidance at the time of measurement).

The Seventy-Two Studies Grouped According to Type of Event

Before assembling studies that used the IES to evaluate psychological stress reactions following stressful events, we expected to find studies of bereavement and loss, episodes of illness and injury, natural and technological disaster, sexual assault and attempted sexual

assault, violence and threat of violence, and exposure to war. Studies were found pertaining to all these types of incidents. Eleven studies (11 samples) of stress reactions after a specific traumatic event used IES data for people who had not experienced a major stressor event prior to filling out the IES as comparison, and they were used in the present study.

Studies with Several Small Samples

A few studies (17-18, 28-30) presented data for several small samples (n<30). When possible, these groups were collapsed into a sample that met our criterion on sample size. This was done by averaging means and standard deviations of the IES subscales for the groups.

Studies Using Alterations in the IES

Along with studies that used the original IES, we also included five that used an altered version of the IES (31-35). Maercker and Schützwohl (31-32) provided the authors of this paper with raw data from which the original IES Intrusion and Avoidance subscale scores were calculated. Drottning and her colleagues (33) removed the intrusion item that measures sleep difficulties, since the participants did not sleep between the time of the event and the time of measurement. Marmar and his colleagues (34) altered the IES by adding hyperarousal items and making minor changes in a few intrusion and avoidance items. Schwartzwald and his colleagues (35) used an IES with fewer avoidance items than the original.

In Drottning et al. (33), a simple procedure made their data comparable with other studies: the sum of their 5 intrusion scores was divided by the number of intrusion items, and then multiplied by 7 which is the number of items in the original IES Intrusion subscale. Schwartzwald et al. (35) used the means for Intrusion and Avoidance scores as subscale estimates, and did not report the sum scores. We multiplied their means and standard deviations for the Intrusion and Avoidance subscales by 7 and 8 respectively. Marmar et al. (34) used an IES with the same number of intrusion and avoidance items as in the original IES. We left out their hyperarousal scores and used their Intrusion and Avoidance scores.

To determine whether the three data sets collected with revised versions of the IES would influence the results, we then conducted several sets of statistical analyses, each time with just one of the altered IES data sets included. The results of these analyses were compared to the analyses based on data collected using only the original IES. This procedure was repeated for each of the data sets collected with a revised IES. These analyses gave results comparable with results produced when only data sets that used the original IES were included in the analysis. Therefore these revised data sets were included in our study.

Procedures for Data-Analyses

For the main analysis, we used hierarchical regression analysis to assess effects of type of event and time elapsed between the event and measurement with the IES, the traumatized subjects' age and gender, the country where the study was done, and the year of publication of the study. We used IES data from the first measurement. When there were no immediate post-event (or pre-event) data, follow up data from the earliest measurement was used.

Preliminary analyses of the IES data revealed that the following classification of the studies studies into seven categories was meaningful: Comparison (11 samples from 9 studies (1, 9, 34-35, 41, 60, 66, 71-72)); Injury and Illness (21 samples from 18 studies (11, 15, 19, 21, 23, 27-28, 33, 38-40, 44, 52, 65, 71, 74-75, 78)); Natural disaster (11 samples in 9 studies (7, 14, 16, 18, 24-25, 34, 43, 62)); Technological disaster (14 samples in 11 studies (6, 20, 30, 49, 59, 61, 64, 68-70, 76)); Bereavement and loss (12 samples in 9 studies (8, 13, 26, 30, 36, 42, 45-46, 58)); Violence and threat (8 samples in 7 studies (9, 12, 29, 31-32, 54, 72)); Sexual abuse (7 samples in 6 studies (17, 48, 50, 52, 56-57)); (8) War exposure (9 samples in 8 studies (35, 53, 55, 60, 63, 72-73, 77).

In order to help finding the regression model involving the independent variables that best predicted the value of IES Intrusion and IES Avoidance respectively, the bivariate relations between the set of potential independent variables (age, gender, country where the study was

done, year of publication, type of event, and time elapsed between the event and measurement with the IES) and each of the two IES subscales based on data from all study groups included in this report were examined with scatterplots. Then the same series of scatterplots were carried out based on data from all samples except the comparison groups. Independent variables that were found to be linearly related with each of the IES subscales were entered as predictors in hierarchical **r**egression analysis.

Before exploring the relationship between the set of variables and each of the IES subscales, we created dummy variables for gender (male sample = 1; mixed sample = 2; female sample = 3) and age (-19 = 1; 20-29 = 2; 30-39 = 3; 40-49 = 4; 50 – 59 =5; 60 -- = 6). Dummy variable for type of event was made on the basis of our preliminariy analyses (comparison = 1; illness and injury = 2; natural disaster = 3; technological disaster = 4; bereavement = 5; violence and assault = 6; sexual abuse = 7; war exposure = 8), and time elapsed since event (measurement before event = 1; 1 – 4 weeks post = 2; 5 – 26 weeks = 3; 27 – 52 weeks = 4; 53 – 156 (1-3 years) = 5; >156 weeks (3 years -) = 6), and country where the study was performed. First, a dummy variable for country was created by rank ordering the countries after the number of serious assaults per 100 000 inhabitants during 1998 (79) (Norway = 1; Germany = 2; the Netherlands = 3, USA = 4; England = 5; Israel = 6; Australia = 7). Because only a few studies were done in some of these countries, a second dummy variable was created where countries with a volume of serious assaults was smaller than 400 per 100.000 inhabitants in 1998 were assigned “1”. Countries where the volume of serious assaults was larger than 400 per 100.000 inhabitants but smaller than 500 were assigned “2” and those with a volume of serious assaults that were larger than 500 were assigned “3”. This procedure gave the following result: Norway, Germany, and the Netherlands = 1; USA = 2; England, Israel and Australia = 3. To examine whether the variable “country where the study was performed” was well represented by the dummy variable “countries grouped according to

the volume of serious assaults", scatter-grams of both these dummy variables by IES Intrusion and IES avoidance were done.

For the secondary analysis, studies that presented IES subscale data collected at two measurement points after the traumatic event were selected. These studies are tabulated in Table 1. Average IES subscale scores were plotted against time point for measurements. The trend indicated by these data was compared with the trend across studies where the first measurement point took place at different time points after the traumatic event.

Table 1 about here

RESULTS

Bivariate relationships between the IES subscales and potential predictive variables

First, scatterplots were obtained to examine the relationship between scores from all study groups in this report on each of the IES subscales and the variables that characterized the studies (country where the study was done; year of publication) and the demographic variables (age; gender).

The scatterplot of IES Intrusion by age suggested that there is a weak linear relationship between age and more frequent intrusive reactions in the positive direction while avoidant behavior as measured with IES Avoidance appeared not to be related to age. A similar pattern of relatedness was obtained for the IES subscales by gender.

The scatterplots of the dummy variable by IES Intrusion and IES Avoidance, where the countries were grouped according to the volume of serious assaults, did not differ much from the scatter plots wehere each of the seven countries were plotted against the IES subscales. The scatter-gram of IES subscale scores by country suggested a tendency for Group 1 (Norway, Germany, and the Netherlands) to present slightly lower scores on the IES Intrusion and the IES Avoidance compared to those collected in Group 2 (USA) which in turn were slightly lower than Group 3 (England, Australia, and Israel), than scores collected in the

United States. The scatterplot between the IES Intrusion and year of publication indicated that there was a tendency for lower scores on IES Intrusion and on IES Avoidance in studies that were published more recently compared to studies that were published earlier.

The relations between each of the IES subscales and type of event were strong. The data for IES Intrusion is plotted in figure 1, an almost identical plot was obtained for IES Avoidance by type of event. In figure 1, the studies are grouped according to type of event, the procedure for rank ordering the studies is described in the Method section.

Figure 1 about here

The comparison groups (group 1 in figure 1) had reported the lowest scores on both IES subscales while the samples of war victims (8) had reported the highest scores. The IES subscale scores for the six other groups of trauma victims (illness and injury (2), natural disaster (3), technological disaster (4), bereavement (5), violence and threat (6), sexual assault (7) had ratings in-between.

Next, the IES subscales were plotted against time elapsed between event and measurement. The scatterplots indicate that there is, somewhat unexpectedly, a linear relationship in the positive direction between the IES Intrusion and IES Avoidance and time elapsed between event and measurement. This finding suggest that increasingly higher scores were obtained on both IES subscales as time since event grew longer.

When scatterplots were created from the data from all study groups but the comparison groups, very similar bivariate relationships were found between IES Intrusion and IES Avoidance and the set of potentially predictive variables (year of publication, country, age, gender, type of trauma, and time between event and measurement).

Effects of type of event, time since event, sample age and gender, country, and year of publication

Hierarchical regression analysis was used to assess the effects of type of event and time elapsed since event along with age and gender, country where the study was done and year of

publication of the study on intrusive and avoidant symptoms. To examine the dummy variable for country where the study was performed, all analyses were made twice, in the first set of analyses, the dummy variable where each of the countries was furnished with a variable value. In the second set of analyses, the dummy variable where the countries were arranged in three groups according to the volume of serious assaults committed in 1998. The two sets of analyses gave very similar results, and since the variable with three values was considered to be more robust, these results are presented.

The first hierarchical regression analyses tested the effects of age and gender, country and publication year on intrusive and avoidant symptoms, based on the total sample. The demographic variables (age and gender) were entered in the first step, country and year of publication in the second step. type of event time was added into the equation in the third step. Guided by our preliminary examination of the data, time between event and measurement was entered into the equation in the fourth step, after type of event.

Despite the fact that all variables contributed to the model's explanatory power, only Step 3, where type of event was added, accounted for a reliable amount of variance (ΔR^2 was .30, $p < .001$ for IES Intrusion, ΔR^2.27, $p < .001$ for IES Avoidance, with type of event statistically significant (ß = .53, $p < .001$ for IES Intrusion, ß = .49, $p < .001$ for IES Avoidance).

The second pair of multiple regression analysis examined the effects of time elapsed since event on intrusive and avoidant reactions in trauma victims more carefully. This was done by excluding data from the comparison groups, whose scorings on the IES were not related to a specified traumatic event. When the regression model was calculated based on data from traumatized study groups only, two independent variables contributed significantly to explain the IES subscale scores, type of event and time elapsed since event. The results of the hierarchical regression analyses based on the traumatized groups are shown in Tables 2 and 3.

Tables 2 and 3 about here

As is shown in Tables 2 and 3, the model accounted for 30 % of the variance in IES Intrusion and 27 % of the variance in IES Avoidance (Total R^2 was .30 and .27 respectively) when based on data from the traumatized groups only. There was a reliable relationship, in the negative direction, between time elapsed after event and intrusive and avoidant reactions beyond the effects of type of trauma. Thus, the relationship between type of event and intrusive and avoidant symptoms was moderated by time elapsed since event. Country where the study was performed contributed significantly to the final model's predictive power (ß = .25, p <.002 for IES Intrusion, ß = .26, p <.02 for IES Avoidance). Thus, in Norway, Germany, and the Netherlands, lower IES ratings tend to be low in comparison with IES ratings given in USA while the highest scores are given in England, Israel and Australia.

The effects of traumatic events over time

Our second aim was to compare the results from our analysis of the longitudinal effect of stressful events across studies with results from studies that presented results on the IES subscales from two different time points after a traumatic event.

Figure 2 about here

The IES Intrusion data from twenty studies of stress reactions after a number of traumatic events that are presented in figure 2 indicates that intrusive reactions continued to decrease as time progressed. The results for IES Avoidance were very similar. For both subscales, the arrangement of IES scores obtained after different types of events parallels the rank order of events suggested in this study. This finding is in keeping with the results from the second regression analysis, where only traumatized samples were included in the analysis.

DISCUSSION

The Impact of Event Scale contains two important subscales, and covers seemingly opposite deflections from ordinary conscious equilibrium. These polar extremes involve intrusive and

avoidant experiences. Research evolving the scale indicates that these episodes of unbidden images, unwanted pangs of intense emotion, feelings of numbed affectivity, and aversions to reminders could be useful, anchored to a specific life event, used as the referent for every one of the 15 IES items. Subjects remember these experiences, about the specific event (or related set of events) for a 7 days period in making their self-report on the IES. This design makes the scale user-friendly and useful for following individuals and/or groups in a trajectory of response over time that has passed since the referent event.

In research on devising the scale in the 1970's and diagnostic criteria for what was defined as PTSD in 1985, it was found that bodily hyperarousal experiences were not well reported and did not factor together, so these items were only in clinician rated equivalent scales and not in the self-reported IES. Although with intrusion and avoidance symptoms, they are a part of diagnostic criteria for PTSD. The IES performs very well as a self-report instrument for degree of subjective psychological distress related to a specific stressor. It is not like a structural clinical interview to establish diagnosis.

The findings suggested that the IES ratings presented during a 20-year period by different groups of trauma victims after the same types of event are relatively constant. Contrary to previous reports of a gender difference (23-27), where females were reported to present higher stress scores, especially on the IES Intrusion subscale, this study across several cultures suggested that neither the trauma victim's gender nor his/her age is critical per se for the trajectories of stress reactions following the event. Although these variables did not contribute explanation to the trajectories of intrusion and avoidance, they were vital parts in the final regression models.

The first regression model evaluated the effect of type of event along with time elasped between event and measurement, and demographic variables, on stress reactions measured with the IES. This analysis was based on data from a large number of traumatized study

groups and comparison groups that had not experienced a traumatic event. The findings suggested that the model was statistically significant. Type of event was highly predictive of intrusive and avoidant reactions, which reflects that people tend to experience higher levels of stress reactions after more severe traumatic events. Especially strong intrusive and avoidant reactions were related to war exposure and sexual abuse.

A second regression analysis examined changes over time in intrusive and avoidant reactions reported by trauma victims at different time points after the event. In this analysis, the previous model was tested, based on IES data from the traumatized groups only. The reason for excluding IES ratings from the comparison groups was that these groups did their ratings without relating them to a specific event. The findings showed that type of event and time elapsed between the event and measurement in combination accounted for a substantial proportion of the variance in IES Intrusion (Total R^2 = .29) and IES Avoidance (Total R^2 = .22). Similarly, the comparison of study results reported from two different measurement points after a stressor event suggested that the levels of stress reactions tend to decrease continually over time. Therefore, type of event and time elapsed since event were reliably related to IES Intrusion and IES Avoidance beyond the effects of the other variables.

Although the models tested in thie present study were significant, there is still a considerable amount of variance that was not accounted for by our models, which indicate that variables that were not considered in ths study contribute to the explanation of stress reactions at different time points after traumatic events. In a small number of the studies included here, professional rescuers have filled out the IES. It seems reasonable to believe that these individuals score lower than trauma victims in general, considering their training and experience. However, due to the fact that the number of such studies was small in our data base, it was not possible to examine this issue.

This study involved a large number of studies that used the IES to evaluate stress reactions at different time points before and after different types of stressors. Many studies were excluded from our meta-analysis because they had fewer than 30 subjects, did not report subscale scores for intrusion and avoidance, or did not use the standard IES items and scoring method. Since these studies were similar to the studies that were included in the meta-analysis, e.g., the excluded studies examined the impact of the same types of traumatic events, and used a similar study design as those that were included, we do not think that there is reason to believe that the findings from studies that did not meet the criteria for this study differ significantly from the studies that were included.

Conclusion

Only a small proportion of variation in IES scorings was attributable to sample characteristics such as age, gender, and cultural differences. In contrast, both type of traumatic event and time elapsed since the event were strong predictors of levels of stress reactions. These data indicate the value of the IES as a general, reliable, and valid self-report measure for assessing psychological stress reactions after negative life events.

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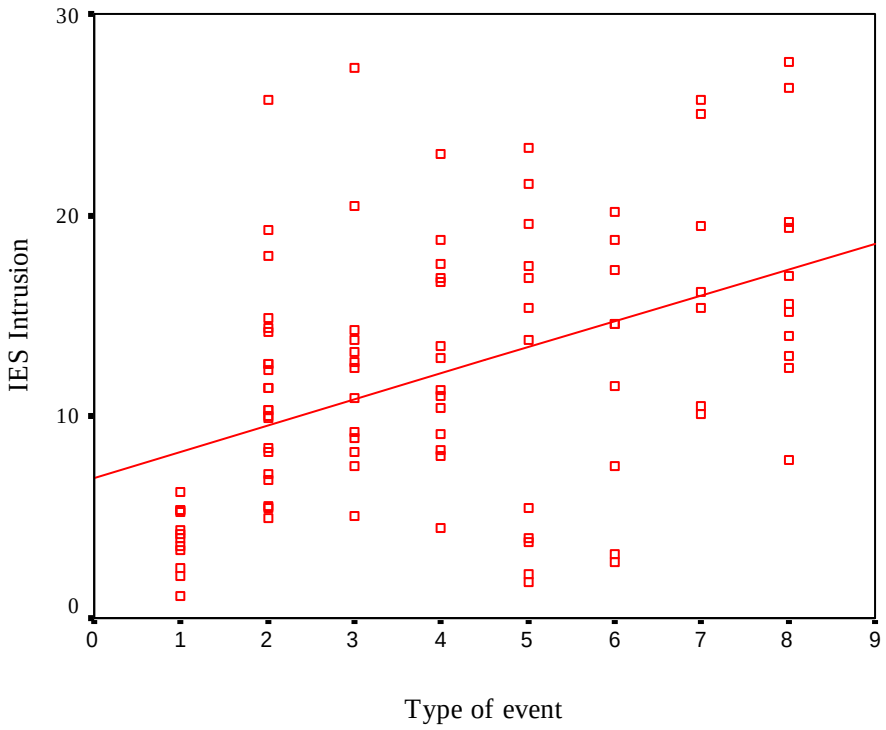
Captions for Figures 1 and 2.

Figure 1. Scatter of average IES Intrusion scores and type of event based on data from all study groups.

(Type of event: 1 = Comparison; 2 = Injury and Illness; 3 = Natural disaster; 4 = Technological disaster; 5 = Bereavement and loss; 6 = Violence and threat; 7 = Sexual abuse; 8 = War exposure)

Figure 2 Average IES Intrusion scores from two measurement points after the traumatic event for 20 study samples. The figure presents Type of event along with Time elapsed between the event and measurement with the IES (Measurements 1 and 2).


IES Intrusion
30
20
10
0
0
1
2
3
4
5
6
7
8
9
Type of event

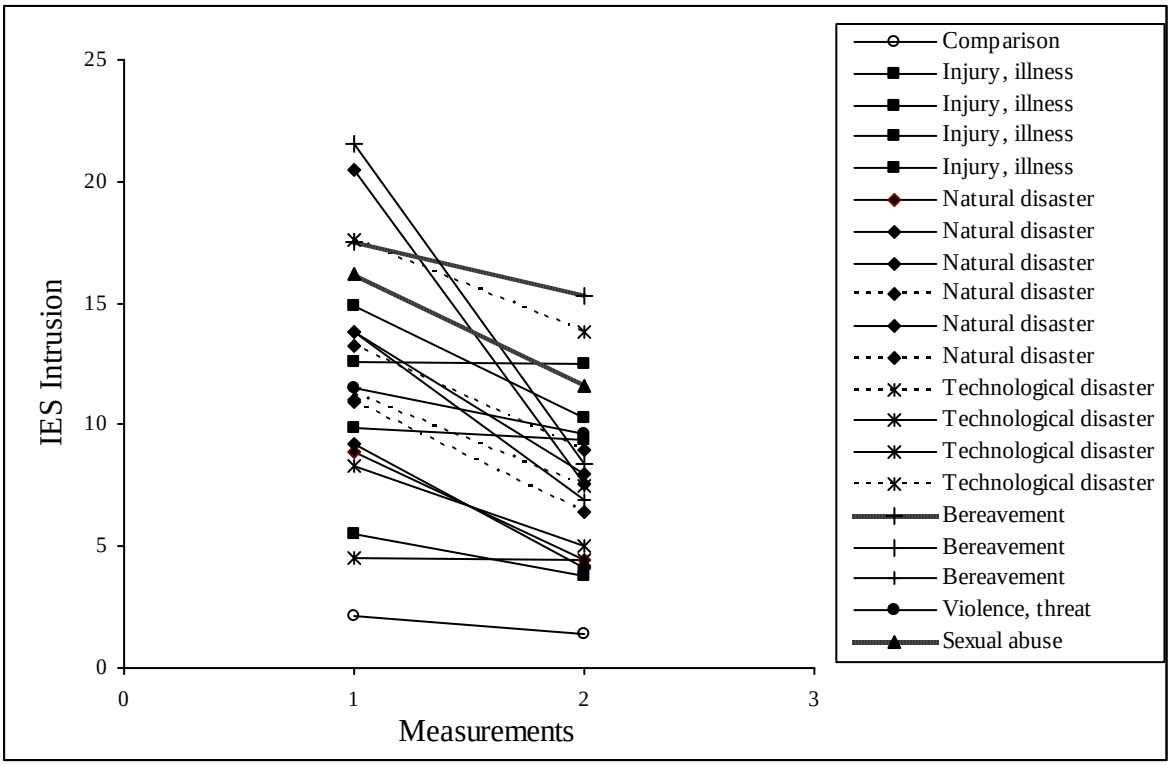

IES Intrusion
25
20
15
10
5
0
0
1
2
3
Measurements
Comparison
Injury, illness
Injury, illness
Injury, illness
Injury, illness
Natural disaster
Natural disaster
Natural disaster
Natural disaster
Natural disaster
Natural disaster
Technological disaster
Technological disaster
Technological disaster
Technological disaster
Bereavement
Bereavement
Bereavement
Violence, threat
Sexual abuse

Table 1

Summary of 20 study groups, arranged after type of trauma examined

Type of event [1)]	Author	Measurement 1				Measurement 2			
		Time since event	n	Intrusion M (sd)	Avoidance M (sd)	Time since event	n	Intrusion M (sd)	Avoidance M (sd)
I	Creamer et al, 1990	17 wk	446	2.1 (2.5)	2.5 (4.7)	8 mo	123	1.4 (3.1)	1.7 (3.6)
II	Feinstein et al., 1991	1 wk	48	14.9 (7.7)	9.6 (6.7)	6 wk	44	10.3 (8.6)	8.1 (8.5)
II	Horowitz et al., 2001	-1 wk	33	12.6 (8.9)	13.6 (7.9)	12 wk	35	8.4 (6.2)	6.2 (8.2)
II	Horowitz et al., 2001	-1 wk	46	11.4 (9.2)	9.7 (7.8)	12 wk	37	6.9 (7.9)	5.8 (8.2)
II	Malt, 1988	1 wk	107	5.5 (6.0)	9.3 (8.5)	28 mo	107	3.8 (5.4)	7.5 (8.5)
II	Tibben et al., 1994	-1 wk	29	12.6 (8.9)	13.6 (7.9)	1 wk	29	12.5 (8)	9.1 (7.7)
II	Tibben et al., 1994	-1 wk	37	11.4 (9.2)	9.7 (7.8)	1 wk	37	9.4 (5.9)	8.1 (8.3)
III	Chemtob et al., 1997	1 wk	43	13.2 (7.2)	8.6 (6.4)	Post treatm.	43	9 (6.2)	5.6 (5.6)
III	Johnsen, 1997	2 wk	80	8.9 (6.2)	9.7 (6.2)	4 mo	58	4.4 (5)	5.3 (5.3)
III	McFarlane, 1988	16 wk	45	20.5 (8.5)	14.6 (8.1)	11 mo	290	7.6 (7.4)	3.8 (3.9)
III	Steinglass et al., 1990	16 wk	40	10.9 (8.8)	12.5 (10.3)	16 mo	31	4.1 (5.6)	6.3 (7.8)
III	Steinglass et al., 1990	16 wk	36	9.2 (8.3)	10.5 (9.2)	16 mo	35	6.4 (7)	6.8 (8.9)
III	Steinglass et al., 1990	16 wk	33	13.8 (8.2)	13.5 (10.2)	16 mo	39	8 (7.6)	8.7 (10.5)
IV	Andersen et al., 1991	13 wk	83	4.5 (4.7)	3.7 (4)	7 mo	77	4.4 (5.4)	6.7 (6)
IV	Dyregrov et al., 1996	4 wk	32	8.3 (6.7)	4.6 (4.5)	13 mo	31	5 (3)	3 (3)
IV	Malt et al., 1993	1 wk	101	11.3 (7.1)	8.8 (6.3)	1 mo	101	7.5 (6.8)	6.7 (6)
IV	Winje, 1996	52 wk	36	17.6 (8.5)	12.6 (8.8)	3 y	36	13.8 (9.1)	11 (9.8)
V	Cohen et al., 1989	-1 wk	33	17.5 (9.1)	16.7 (9.0)	1 wk	55	15.3 (9)	14.6 (9.7)
VI	Creamer et al., 1990	17 wk	51	17.3 (10.1)	14.3 (9.1)	58 wk	53	9.6 (8.4)	10.4 (9.1)
VII	Resick et al., 1988	<34 y	37	16.2 (9.7)	17.7 (6.5)	Post treatm.	37	11.6 (8.6)	12.9 (9.6)

1) I = Comparison groups; II = Illness and Injury; III = Natural Disaster; IV = Technological Disaster; V = Bereavement; VI = Violence and Assault; VII = Sexual Abuse.

Table 2

Hierarchical Regression Analysis for IES Intrusion based on data from traumatized study samples

	IES Intrusion			
Step and variable	B	SE B	ß	ΔR^2
Step 1				.001
Age	.141	.641	.025	
Gender	.139	1.150	.014	
Step 2				.05
Publication year	-1.17	.74	-.18	
Country of publication	1.25	1.22	.12	
Step 3				.13***
Type of event	1.05	.31	.37***	
Step 4				.12***
Country of publication	2.67	1.12	.25*	
Type of event	1.66	.33	.58***	
Time since event (in weeks)	-1.64	.46	-.43***	

Note: Final model F(6, 72) = 5.14, p <.001; total R^2 = .30, p <.001.

* $p < .05$

*** p <.001

Table 3

Hierarchical Regression Analysis for IES Avoidance based on data from traumatized study samples

	IES Avoidance			
Step and variable	B	SE B	ß	ΔR^2
Step 1				.001
Age	-.15	.61	-.03	
Gender	.463.617E-03	1.09	.000	
Step 2				.04
Publication year	-.92	.70	-.15	
Country	1.32	1.16	.13	
Step 3				.11*
Type of event	.90	.30	.33**	
Step 4				.12***
Country	2.65	1.08	.26*	
Type of event	1.48	.32	.54***	
Time since event	-1.56	.45	-.43***	

Note: Final model $F(6,72) = 4.48$, $p<.001$; total $R^2 = .27$, $p<.001$.

*$p<.05$

**$p<.003$

***$p<.001$