Impact of Event Scale

[Home] [Up] [The Mississippi Scale for Civilian PTSD] [Children's Impact of Event Scale - Revised] [CITES-R] [Impact of Event Scale - Revised] [Impact of Event Scale] [PTSD Checklist - Civilian version] [PTSD Checklist - Military version] [Posttraumatic Stress Diagnostic Scale] [The Trauma Symptom Inventory] [The Trauma Symptom Checklist for Children] [The US National Center for PTSD Materials]

Impact of Event Scale (IES)

(Horowitz et al., 1979)

Note: This is The IES not the revised 22 item version (<u>IES-R</u>).



Select a Link

All subjects covered in this web are based upon scientific principles. Such principles are likewise supported by victim organisations (at least in principle!).

Psychologists are required by the APS to use known and effective interventions.







Summary: Psychometrics of The Impact of Event Scale (IES; Horowitz et al., 1979). The IES is a 15 item questionnaire evaluating experiences of avoidance and intrusion which attempts to "reflect the intensity of the post-traumatic phenomena" (McGuire, 1990). Both the intrusion and avoidance scales have displayed acceptable reliability (alpha of .79 and .82, respectively), and a split-half reliability for the whole scale of .86 (Horowitz et al., 1979). The IES has also displayed the ability to discriminate a variety of traumatised groups from non-traumatised groups (see Brier, 1997 for review).

[Above from Devilly, G.J. and Spence, S.H. (1999). The Relative Efficacy and Treatment Distress of EMDR and a Cognitive Behavior Trauma Treatment Protocol in the Amelioration of Post Traumatic Stress Disorder. Journal of Anxiety Disorders, 13 (1-2), 131 - 157.]

Devised By: The IES was developed by Mardi Horowitz, Nancy Wilner, and William Alvarez to measure current subjective distress related to a specific event (Horowitz, Wilner, & Alvarez, 1979). Horowitz observed that the most commonly reported responses to traumatic stressors fell into 2 major response sets: intrusion and avoidance (Horowitz, et al, 1979; Weiss & Marmar, 1997). Measurements of responses to traumatic events at the time were confined to physiological measures such as galvanic skin responses or to self-reports on more general measures of anxiety, neither of which provided a measure of the current degree of subjective impact experienced following a specific traumatic event (Weiss & Marmar, 1997). The IES is considered one of the earliest self-report measures of posttraumatic disturbance (Briere, 1997).

<u>Type of Instrument</u>: The IES is a broadly applicable self-report measure designed to assess current subjective distress for any specific life event (Horowitz, et al 1979; Corcoran & Fischer, 1994). It is an instrument that can be used for repeated measurement over a period of time. Its sensitivity to change renders it useful for monitoring the client's progress in therapy (Corcoran & Fischer, 1994).

The IES scale consists of 15 items, 7 of which measure intrusive symptoms (intrusive thoughts, nightmares, intrusive feelings and imagery), 8 tap avoidance symptoms (numbing of responsiveness, avoidance of feelings, situations, ideas), and combined, provide a total subjective stress score. All items of the IES are anchored to a specific stressor (Horowitz, et al, 1979; Briere, 1997). Respondents are asked to rate the items on a 4-point scale according to how often each has occurred in the past 7 days. The 4 point on the scale are: 0 (not at all), 1 (rarely), 3 (sometimes), and 5 (often).

<u>Reliability</u>: Corcoran and Fischer (1994) found that the subscales of the IES show very good internal consistency based on 2 separate sample groups. The coefficients ranged from .79 to .92, with an average of .86 for the intrusive subscale and .90 for the avoidance subscale.

In Horowitz' original study (Horowitz et al., (1979), their calculations on the data of 66

subjects with stress response symptoms on the 15-item IES gave a mean total stress score of 39.5 (SD=17.2, range 0-69). The mean intrusion subscale score (items 1, 4, 5, 6, 10, 11, 14) was 21.4 (SD = 9.6, range 0-35). The mean avoidance subscale score (items 2, 3, 7, 8, 9, 12, 13, 15) was 18.2 (SD = 10.8, range 0-38).

Spilt-half/Cronbach's Alpha: The split-half reliability of the IES scale was high (r=0.86). Internal consistency of the subscales, calculated using Cronbach's Alpha, was also high (Intrusion = 0.78, avoidance = 0.82). A correlation of 0.42 (p>0.0002) between the intrusion and avoidance subscales indicates that the two subsets are associated, but do not measure identical dimensions.

Test-Retest Reliability: Horowitz et al (1979) administered the 15-item IES to a new sample (n= 30) twice with an interval of one week between each rating. Results indicated a test-retest reliability of 0.87 for the total stress scores, 0.89 for the intrusion subscale, and 0.79 for the avoidance subscale.

Alternate Form Reliability: NA

Inter-rater Reliability: NA

Validity:

Criterion (or Predictive) Validity: The IES is found to be sensitive to change, in terms of detecting changes in clinical status over time, and in terms of detecting the relevant differences in the response to traumatic events of varying severity by different groups (Corcoran & Fischer, 1994; Weiss & Marmar, 1997). Corcoran and Fischer (1994) noted the significant changes in the IES subscales scores of outpatients being treated for bereavement over the course of treatment. This sensitivity to movement was reported by Horowitz et al (1979) in their study of 32 subjects with stress response syndromes. The IES was administered twice to each subject with a mean time of 11 weeks between first and second administration. The significant change in the scores on the IES confirmed the prediction of a marked decline in item, subscale, and overall scores; and supports its validity as a sensitive reflection of change.

Corcoran and Fischer (1994) noted support for the known-groups validity of the IES demonstrated by the significant differences in the scores of outpatients seeking treatment from bereavement, and 3 field samples. Briere (1997) noted that several studies involving combat veterans, natural disaster survivors, emergency services personnel, victims of crime, and adults sexually abused as children, have shown that the IES discriminates a variety of traumatised groups from their non-traumatised cohorts. This was also shown in the Horowitz et al (1979) study comparing the IES scores from a sample of patients who had experienced specific traumatic life events with a sample of medical students exposed to cadaver dissection. The major difference in effects was between the groups (F=212.1,p< 0.0001 for intrusion; F=73.0, p< 0.001 for avoidance; F=170.8, p< 0.0001 for the total stress score). Gender differences were also significant, but with much lower size of effect, with females scoring higher than males.

In a general population study by Briere and Elliott in 1996 (Briere, 1997), they found that Blacks scored substantially higher than Whites on the IES, and although this difference decreased when the relative degree of violence experienced by Whites versus Blacks was controlled for, it did not disappear. Briere suggests that interpretations of IES score differences should always take race into account.

Content Validity: In the original study, Horowitz et al (1979) developed 20 items in the questionnaire. All the items were endorsed frequently. The items most often endorsed, eg "Things I saw or heard suddenly reminded me of it" were acknowledged by 85% of the subject sample (n=66), and the item with the lowest endorsement was acknowledged by 38%. Six items that were most frequently reported had a mean weighted score of 3 or more, indicating that as a group, these subjects experienced such events at a high level of intensity or frequency.

In a 1982 study by Zilberg, Weiss, and Horowitz (Weiss & Marmar, 1997) of a group of outpatients with pathological grief (n=35) and a group of bereaved field subject volunteers (n=37), it was demonstrated that all items in the IES were endorsed frequently, with a range from 44% to 89% of the pooled sample. The comparison of the rank order of items based on frequency of endorsement between this study and the initial pulication of the IES produced a Spearman rank correlation of .86 (p,.001), suggesting that the content of experience following traumatic events, as represented in the IES item pool, was similar across types of events and patient/nonpatient population.

It is acknowledged that the 15 items of the IES capture the level of intrusive and avoidance symptomatology in response to a specific stressor as manifest in the past 7 days (Briere, 1997; Weiss & Marmar, 1997); however, Briere (1997) suggests that the brevity of the scale, its potentiality limited content domain, and its nonclinical focus renders it useful only as a screen for the presence of non-arousal-related posttraumatic stress, specially if used in isolation from other, more fully validated instruments.

Construct Validity: Cluster Analysis was applied to the original 20 items in the IES. Clusters were determined by a correlational measure of association and an average linkage algorithm. The primary and secondary clusters included 15 of the 20 items. Clusters 3 and 4 contained the five remaining items. The primary cluster contained items from the clinically derived intrusion subset, while the secondary cluster contained clinically derived avoidance subset. This finding was found to support the use of intrusion and avoidance subscales (Horowitz, et al. 1979). The number of items was reduced by selecting only those that empirically clustered and had significant item-to-subscale correlations beyond the 0.01 level of significance. Measure of intensity was discarded in favour of a single measure by frequency since scores derived by these variables indicated a degree of similarity that made a dual response for each item unnecessary. As well, subjects seemed able to score frequency more accurately than intensity.

Zilberg, Weiss and Horowitz (Weiss & Marmar, 1997) used factor analysis to assess the validity of the items assigned to the intrusion and avoidance subscales. Two factor were extracted via a varimax rotation. The first factor was defined by the avoidance items, with coefficients ranging from .39 to .86. whilst the intrusion items produced coefficients ranging from .09 to .34. The second factor had higher loadings of intrusion items, with coefficients ranging from .58 to .75, whilst avoidance items had coefficients ranging from .11 to .35. This was seen to show the strong coherence of the two subscale item sets .

Convergent Validity: Amongst specific PTSD measures investigated by Lauterbach et al (1997), it was found that IES has a low correlation (.36) with the Mississippi Scale for Civilian PTSD (CMS). In another study with a smaller sample (n=26) Devilly & Spence (1999) found IES to correlate with CMS (.51) in the moderate range.

Discriminant Validity: NA

Scoring Method: Each item was scored 0, 1, 3 or 5, with the higher scores reflecting more stressful impact. The scores for the intrusive subscale range from 0 to 35, and is the sum of the scores for items 1, 4, 5, 6, 0, 11, and 14. The scores for the avoidance subscale range from 0 to 40, and is the sum of the scores for items 2, 3, 7, 8, 9, 12, 13, and 15. The sum of the two subscales is the total stress score. It is suggested that the cut-off point is 26, above which a moderate or severe impact is indicated.

Wayne Corneil, Directory of Employee Assistance for the Department of Health and Welfare, Canada; Randall Beaton, PhD, Professor of Psychological Nursing at the University of Washington; and Roger Solomon, PhD, Department Psychologist for the Washington State Patrol, suggest that the IES can be interpreted according to the following dimensions:

0) - 8	3	Subc	linica	ıl range
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- 9 25 Mild range
- 26 43 Moderate range
- 44 + Severe range

Norms: Normative data cited by Corcoran & Fischer (1994) were derived from 2 samples. Sample 1 (n=35) comprised of outpatients who sought treatment to cope with the death of a parent. Sample 2 was a field sample (n=37) of adult volunteers who had a recently deceased parent. The mean age for Sample 1 was 31.4 with a standard deviation of 8.7 years. The mean score for the intrusive subscale was 21.02 (SD = 7.9). The mean score on the avoidance subscale was 20.8 (SD = 10.2). For Sample 2, the mean score for the intrusive subscale was 13.5 (SD = 9.1). The avoidance subscale mean was 9.4 (SD = 9.6). All of the data were assessed 2 months after the stressful event had occurred.

In a study involving 505 individuals from the general population, the elevation of intrusion and avoidance scores were above normal levels (Briere, 1997).

References:

Corcoran, K. & Fischer, J. (1994). <u>Measures for clinical practice A Sourcebook</u> 3rd Ed. Vol. 2 Adults. New York: The Free Press.

Briere, J. (1997) <u>Psychological assessment of adult posttraumatic states.</u> Washington, D.C.: American <u>Psychological Association</u>.

Horowitz, M., Wilner, M., and Alvarez, W. (1979). Impact of Event Scale: A measure of subjective stress. Psychosomatic Medicine, 41, 209-218.

Weiss, D. & Marmar, C. (1997). The Impact of Event Scale - Revised. In J. Wilson & T. Keane (Eds), <u>Assessing psychological trauma and PTSD</u>. New York: Guildford.

The Impact of Event Scale

Below is a list of comments made by people after stressful life events. Using the following scale, please indicate (with a) how frequently each of these comments were true for you DURING THE PAST SEVEN DAYS.

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I thought about it when I didn't mean to	•	
I avoided letting myself get upset when I thought about it or was reminded of it		
I tried to remove it from memory		
I had trouble falling asleep or staying asleep because of pictures or thoughts about it that came into my mind		
I had waves of strong feelings about it		
I had dreams about it		
I stayed away from reminders of it		
I felt as if it hadn't happened or wasn't real		
I tried not to talk about it		
Pictures about it popped into my mind		
Other things kept making me think about it		
I was aware that I still had a lot of feelings about it, but I didn't deal with them		
I tried not to think about it		
Any reminder brought back feelings about it		
My feelings about it were kind of numb		

Scoring:

Not at all = 0; Rarely = 1; Sometimes = 3; Often = 5 Total = total the scores.

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