A Confirmatory Factor Analysis of the Impact of Event Scale Using a Sample of World War II and Korean War Veterans

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This study assessed the factor structure of the Impact of Event Scale (IES), a measure of intrusion and avoidance, using a sample of World War II and Korean War veterans who had experienced combat 40–50 years earlier. A series of 3 confirmatory factor analytic models were specified and estimated using LISREL 8.3. Model 1 specified a 1-factor model. Model 2 specified a correlated 2-factor model. Model 3 specified a 2-factor model with additional cross-factor loadings for Items 2 and 12. Model 3 was found to fit the data. In addition, this model was found to be a better explanation of the data than the other models. Also in addition, the correlations between the Intrusion and Avoidance factors and the 4 subscales of the 28-item General Health Questionnaire were examined to determine the distinctiveness of the two IES factors.

The Impact of Event Scale (IES) is a widely used self-report measure of intrusion (intrusively experienced ideas, feelings, or nightmares) and avoidance (conscious avoidance of reminders of the traumatic event), two of the main components of posttraumatic stress disorder (PTSD). The scale was developed by Horowitz, Wilner, and Alvarez (1979) just prior to the publication of the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM–III; American Psychiatric Association, 1980), which included hyperarousal as a third main criterion for PTSD. However, the IES has been accepted as a quick and effective measure of the psychological response to trauma and has been used across different traumatized populations by both researchers and clinicians. For example, the IES has been used in trauma studies relating to events such as threats to life (Cella, Mahon, & Donovan, 1990), threats to psychological well-being (Amick-McMullan, Kilpatrick, Veronen, & Smith, 1989), threats to physical or psychological well-being of others (Fullerton & Ursano, 1997), witnessing traumatic events (Herlofsen, 1994), and involvement in a human or natural disaster (Curle & Williams, 1996; Hodgkinson & Stewart, 1991; McFarlane, 1989). Because of the extensive use of the IES, it is important to assess the psychometric properties of the scale, particularly when it is used to assess the degree of impairment caused by an event after a multidecade time lag, in this case World War II and the Korean War. This study compared three alternative psychometric models of the IES suggested in the literature, using data from World War II and Korean War veterans. Joseph (2000) provided a review of the development and psychometric evaluation of the IES.

Model 1 hypothesized a single general distress factor underlying the IES items. This is consistent with the findings of Hendrix, Jurich, and Schumm (1994). Hendrix et al. administered the IES to a sample of 60 American Vietnam veterans, and subsequent factor analysis suggested a single factor. They suggested that over time the intrusion and avoidance dimensions become less distinct and the two merge into a single overall pattern of long-term stress reaction. However, a review of the literature suggests that there is little empirical support for this view (Joseph, 2000).

Model 2 hypothesized an oblique two-factor model underlying the IES items. This model specified two correlated factors with the Intrusion items (Items 1, 4, 5, 6, 10, 11, and 12) loading on one factor and the Avoidance items (Items 2, 3, 7, 8, 9, 12, 13, and 15) loading on the other. This represents the original theoretical basis of the scale (Horowitz et al., 1979). There has been empirical support for this two-factor model in the literature. Horowitz et al. reported two clusters of items reflecting Avoidance and Intrusion based on a sample of 66 outpatients being treated for stress-response syndromes. Using principal-components factor analysis, Zilberg, Weiss, and Horowitz (1982) reported a two-factor solution using data from a sample of 35 psychiatric outpatients and 37 respondents who had experienced bereavement.

Model 3 hypothesized the same two-factor structure but allowed Items 2 and 12 to load on both the Intrusion and Avoidance factors. Schwarzwald, Solomon, Weisenberg, and Mikulincer (1987) conducted a principal-components analysis on the IES by using data from 382 combat veterans who had experienced battle 12 months previously. They replicated the two-factor structure reported by Horowitz et al. (1979) and Zilberg et al. (1982), although they found that Items 2 and 12 did not load uniquely on their respective factors and suggested that these items contain elements of both