

THE DISSOCIATIVE EXPERIENCES SCALE: FURTHER REPLICATION AND VALIDATION

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ABSTRACT

The purpose of the present study was to provide further evidence in support of the validity of the Dissociative Experiences Scale (DES) as a reliable measure of dissociative psychopathology. The DES was administered to 259 college students, 33 patients with multiple personality disorder (MPD), and 29 patients with a dissociative disorder not otherwise specified (DDNOS). The inter-rater reliability for the DES scoring procedure was excellent (coefficient of absolute agreement = .96; coefficient of relative agreement = .99). The test retest reliability of DES scores (within approximately one month) was also excellent (coefficient of absolute agreement = .93; coefficient of relative agreement = .96) and suggests that DES total scores are temporally stable and similar in absolute value across testings. Finally, the internal consistency of DES scores was also very high (alpha for students = .93; alpha for MPD patients = .94; alpha for DDNOS patients = .94; alpha for the combined total sample = .95). Both MPD (mean DES score = 55.0) and DDNOS patients (mean DES score = 40.8) earned significantly higher DES scores than students (mean DES score = 23.8). In addition, MPD patients earned significantly higher DES scores than DDNOS patients. The results of the present study also

suggest that a DES cutoff score of 45 to 55 maximizes the probability of correctly classifying students from dissociative disorder patients (87%) while minimizing the rates of false positive (2 to 6%) and false negative errors (7 to 11%). Suggestions for further validation research are also made.

The Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986) is a brief, 28 item, self-report inventory of both normal and abnormal experiences. The DES was developed "to offer a means of reliably measuring dissociation in normal and clinical populations" (Bernstein & Putnam, 1986, p. 727). Preliminary psychometric data reported by the authors of the scale indicated that summary scores were temporally stable (r [after 4 to 8 weeks] = .84) and successfully discriminated patients with multiple personality disorder (MPD) from normals and other pathological groups (Bernstein & Putnam, 1986).

Two laboratories have since independently confirmed the discriminant validity of the DES as a measure of dissociative psychopathology relative to different kinds of normal comparison groups. For example, Ross, Norton, and Anderson (1988) reported that the median DES score of 17 MPD patients was 40.7. Although this score was significantly lower than the median DES score of 57.06 originally reported by Bernstein and Putnam (1986) for their 20 MPD subjects, it was still significantly higher than the median score of 4.9 observed for their normal subjects (medical students). In a later study, Ross, Ryan, Anderson, Ross, and Handy (1989) reported that normal median DES scores could vary from a low of 4.8 (for elderly subjects), 7.9 (for college student subjects), to a high of 17.7 (for adolescent subjects). DES scores were inversely related to age and no significant differences were observed for sex.

Ensink and van Otterloo (1989) reported that 7 MPD patients earned a median DES score of 55.4 while 13 patients with a diagnosis of Dissociative Disorder not otherwise specified (DDNOS) earned a median DES score of 40.7. The median DES scores for both dissociative groups, however, were significantly higher than the median DES score of 16.3 for 80 psychology students.

Collectively, the findings from three different laboratories have each demonstrated that patients with dissociative psychopathology (either MPD or DDNOS) earn significantly higher DES scores than various normal comparison groups. However, there was significant variation among DES scores within both the dissociative (range of median DES scores = 40.7 to 57.06) and normal groups (range of median DES scores = 4.38 to 17.7). This variation makes it difficult to

estimate an optimal cutoff score for separating normals from patients suffering from some type of dissociative disorder.

The purpose of the present study was fourfold: 1) to estimate the inter-rater reliability, temporal stability, and internal consistency of DES scores in both normal and clinical groups; 2) to provide additional evidence that normals earn significantly lower DES scores than do patients with different kinds of dissociative psychopathology; 3) to demonstrate that MPD patients earn significantly higher DES scores than do patients with other types of dissociative psychopathology (i.e., DDNOS); and 4) to examine the consequences of using different DES cutoff scores to discriminate between normals and dissociative disorder patients.

METHOD

Procedure

The DES was routinely administered on an individual basis to 62 inpatients at the Dissociative Disorders Inpatient Unit of Rush North Shore Medical Center by either a psychologist, nurse, or mental health worker. Thirty-three of these patients met both DSM-III (American Psychiatric Association, 1980) and DSM-III-R (American Psychiatric Association, 1987) criteria for a diagnosis of MPD while the other 29 met these criteria for a diagnosis of DDNOS. Ninety-five percent of this patient group were female and the average age was 35.1 ($sd=6.17$). Forty-four percent had graduated from college and/or had earned an advanced college degree.

The 259 college students were all undergraduates from the University of Illinois at Chicago who completed the DES as part of a study on hypnotizability and personality in order to earn course credit. Seventy-five percent of this group were female and their average age was 19.8 ($sd=3.6$).

Scoring of the DES

The DES was scored according to the graphic rating method originally proposed and described by Bernstein and Putnam (1986). The sum of the 28 items was divided by 28 to form an overall DES score for each individual.

Statistical Analysis

Although Bernstein and Putnam (1986) originally recommended using nonparametric data analytic techniques with DES scores, they now seem to advocate the use of more powerful statistical procedures based on a general linear model (Eve Carlson, personal communication, June 29, 1990). Therefore, all of the data analyses carried out in the present study used an analysis of variance model (e.g., Guilford & Fruchter, 1978).

RESULTS

Inter-rater Reliability, Temporal Stability, and Internal Consistency of DES Scores

Since the scoring of DES items involves a subjective judgement on the part of the rater, the intra-class correlation method recommended by Shrout & Fleiss (1979) was used to estimate absolute and relative indices of inter-rater agreement. Twenty DES protocols were independently scored by four raters. The intra-class correlation of absolute agreement (called ICC[1,1] by Shrout & Fleiss, 1979 p. 423) was .96 while the coefficient of relative agreement (called ICC[3,1] by Shrout & Fleiss, 1979, p. 423) was .99.

The temporal stability of DES total scores was also assessed using an intra-class correlation model. Thirty DD patients (15 MPD and 15 DDNOS) completed the DES twice within approximately one month's time. The absolute temporal stability coefficient was .93, while the relative temporal stability coefficient was .96. These findings indicate that DES total scores are highly stable over time and that there are no significant mean differences between testings.

Cronbach's alpha coefficient (Cronbach, 1951) was used to estimate the internal consistency of DES scores. The alpha coefficient for the 33 MPD DES scores was .94, .94 for the 29 DDNOS DES scores, and .93 for the 259 student DES scores. In addition, the alpha for the combined total sample of patients and students ($n=321$) was .95.

TABLE 1
Parametric Data for DES Scores Among
Three Different Groups

Group	N	Mean	(Sd)	Median
MPD	33	55.0	(19.2)	53.9
DDNOS	29	40.8	(18.3)	44.8
STUDENTS	259	23.8	(14.1)	22.9

TABLE 2
Classification Rates and Errors for Different DES Cutoff Scores

DES Cutoff Score	% Correct Classification	% False Positive Error	% False Negative Error
10	34	65	01
15	45	54	01
20	54	43	02
25	63	34	03
30	70	25	05
35	76	18	06
40	82	12	06
45	87	06	07
50	87	03	10
55	87	02	11
60	85	01	14

Discriminant Validity of DES Scores

The means, standard deviations, and median DES scores for each patient group and the student sample are presented in Table 1. MPD patients earned a mean DES score of 55.03 (sd=19.2). DDNOS patients earned a mean DES score of 40.8 (sd=18.3), and the students earned a mean DES score of 23.8 (sd=14.1). A one-way analysis of variance using group as the independent variable and DES scores as the dependent variable indicated that there were significant differences between groups ($F[2,318]=73.0, p < .00001$). Two a priori planned contrasts were then carried out to ascertain the nature of these differences. The first contrast indicated that the mean DES scores for the combined dissociative patient group was significantly higher than the mean DES score for the student group ($t[318]=11.3, p < .001$, one tailed test). The second contrast indicated that the mean DES score for the MPD patients was significantly higher than the mean DES score for DDNOS patients ($t[318]=3.68, p < .001$, one tailed test). Thus, the present findings again confirm the discriminant validity of DES scores. Patients with dissociative psychopathology earn significantly higher DES scores than do normals and MPD patients earn significantly higher DES scores than do patients with other types of dissociative psychopathology.

Developing DES Cutoff Scores

In order to assess the consequences of using different DES cutoff scores to discriminate between patients with dissociative psychopathology and normals, one must consider three different values: 1) the percentage correctly classified; 2) the percentage of false positive error; and 3) the percentage of false negative error. Table 2 presents these values for various DES cutoff scores to discriminate between the students and the combined patient group.

Examination of Table 2 suggests that a DES cutoff score of 45 to 55 maximizes the percentage of correctly classified (87%) while minimizing the false positive (2 to 6%) and false negative (7 to 11%) error rates.

DISCUSSION

Collectively, the results of the present study provide further support for the utility of the DES as a measure of dissociative psychopathology. The inter-rater reliability for the DES scoring procedure is excellent (absolute agreement = .96; relative agreement = .99) and DES scores were found to be highly internally consistent (.94 in the MPD group; .94 in the DDNOS group; .93 in the student group; and .95 in the combined total sample). As reported earlier, patients with dissociative disorders earn significantly higher DES scores than do normals (Bernstein & Putnam, 1986; Ensink & van Otterlo, 1989; Ross, Norton, & Anderson, 1988) and MPD patients earn significantly higher DES scores than do patients with other kinds of dissociative psychopathology (Ensink & van Otterlo, 1989). The findings also suggest that a DES cutoff score of 45 to 55 will optimize the correct classification of patients from normals while minimizing the rates of false positive and false negative errors. In this regard, one must also consider the possibility that some of the student group

may actually have had some type of DSM-III-R dissociative disorder. However, the present authors consider this possibility to be extremely unlikely for two reasons. First, the incidence of dissociative disorders in the general population is very rare. Second, the first author worked in the same psychology department clinic over a period of four years where the present student sample was drawn. During this time period, not one student was ever diagnosed as suffering from any type of dissociative disorder.

The results of the present study are encouraging and suggest that the DES may be a valuable instrument in the differential diagnosis of dissociative disorders from normals. However, additional research is still necessary to further substantiate the utility of the DES in discriminating dissociative disorder patients from patients with other kinds of psychopathology.

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