Detection of Dissociative Disorders in Psychiatric Patients by a Screening Instrument and a Structured Diagnostic Interview

Marlene Steinberg, M.D., Bruce Rounsaville, M.D., and Domenic Cicchetti, Ph.D.

Objective and Method: *Diagnosis and treatment of the dissociative disorders may be delayed for many years because of difficulties in detecting patients at high risk for dissociative disorders. This study investigates the utility of the Dissociative Experiences Scale (DES), a self-report instrument for dissociative experiences, in detecting patients at high risk for dissociative disorders. The clinician-administered Structured Clinical Interview for DSM-III-R Dissociative Disorders (SCID-D) was used as the diagnostic standard, and 36 outpatients with mixed diagnoses and nine normal subjects were evaluated for the presence and absence of a dissociative disorder. DES scores were then compared.* *Results:* *Results indicate that a DES cutoff score of 15–20 yields good to excellent sensitivity and specificity as a screening instrument. However, for higher cutoff points the sensitivity can be much lower.* *Conclusions:* *Thus, although the DES can be used to identify some high-risk patients, they should be further evaluated with such diagnostic instruments as the SCID-D or by in-depth clinical follow-up.*

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Difficulties in detection of the dissociative disorders may be due to 1) the intricacies of the syndromes themselves, 2) low clinician awareness, or 3) lack of systematic assessment. Several investigations have noted that a dissociative disorder may go undetected for years while the patient receives numerous misdiagnoses (1–3). Research has included the development of several instruments, including screening tools and structured interviews, for the assessment of dissociative symptoms and the dissociative disorders (4–8). A brief, self-administered instrument is needed to screen the psychiatric population for patients who are candidates for a more thorough diagnostic assessment of dissociative pathology. The Dissociative Experiences Scale (DES) is a self-report screening instrument that rates dissociative experiences and for which reliability and validity are reported (4). Median scores for the same diagnostic categories on the DES have ranged considerably in different studies (i.e., the median scores for multiple personality disorder have ranged from 40.7 [9] to 57.06 [4]). Cutoff scores for the DES for the identification of cases of dissociative disorders have not been published.

This study investigates the utility of the DES as a screening instrument for the identification of patients at high risk for dissociative disorders and assesses several possible cutoff scores. This study is similar to those performed with symptom rating scales for other psychiatric symptoms and syndromes, such as depression (10). This evaluation of the DES was carried out by using scores obtained from 45 subjects and compared with diagnoses made by using the Structured Clinical Interview for DSM-III-R Dissociative Disorders (SCID-D). The SCID-D is the first diagnostic instrument developed for the assessment of five dissociative symptom areas and for the diagnosis of the dissociative disorders, and it has proven utility in confirming known cases of dissociative disorders as well as in detecting previously unidentified cases of dissociative disorders (6, 7, 11).

METHOD

The utility of the DES as a screening instrument was assessed by using the following components for evaluating the predictive power of diagnostic tests (12): 1)

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sensitivity: ability to correctly identify true positive cases or subjects with dissociative disorders, 2) specificity: ability to correctly identify true negative cases or subjects without a dissociative disorder, 3) false positive rate (1 minus true negatives) or the extent to which the scale incorrectly identifies those without a dissociative disorder as having one, and 4) false negative rate (1 minus true positives) or the extent to which the scale fails to detect dissociative disorders when present.

The SCID-D interview was administered and scored by the first author. All SCID-D interviews were video- or audiotaped. The video- or audiotaped interviews were scored independently by a co-rater, a psychiatric nurse who was blind to all of the patients' diagnoses by referring clinicians. After the SCID-D interview all 45 subjects completed the DES. Informed consent, including consent to video- and audiotape the interviews, was obtained from all subjects. The referring clinician's diagnosis consisted of a comprehensive assessment based on all available data, including psychological tests, past records, and observation, over a 6-month period. Comparison of diagnostic results included an evaluation of the effect of several different cutoff scores on the DES.

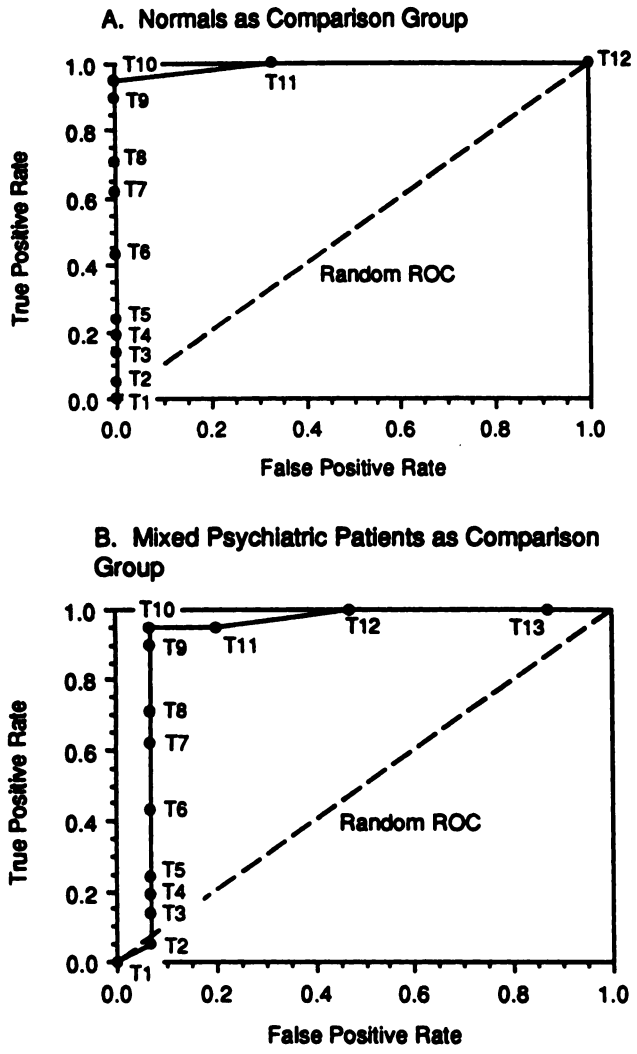
Forty-five subjects participated in the study. Thirty-six psychiatric patients, with a range of axis I diagnoses, as well as nine normal comparison subjects, were included. Psychiatric subjects were outpatients in active treatment at a mental health center or in private therapy. They had been in treatment with the referring physician for at least 6 months. Referring clinician diagnoses were based on *DSM-III* criteria and included schizophrenia or schizoaffective disorder (N=8), major depression (N=8), and other axis I psychiatric illnesses (including posttraumatic stress disorder and generalized anxiety disorder [N=5]), along with dissociative disorders (N=15). One patient had depersonalization disorder, six had multiple personality, and eight had dissociative disorder, not otherwise specified. Ten of the subjects had coexisting borderline personality disorder or mixed personality disorder. Psychiatric subjects were between 20 and 64 years old and had no evidence of organic brain syndrome or mental retardation. Those patients who were very agitated, gravely disabled, or at risk of suicide were excluded from the study. Most psychiatric patients (N=24) and comparison subjects (N=8) were women. Ten of the 15 patients with dissociative disorders were women, and 14 of the patients with nondissociative disorders were women. The patients and comparison subjects were of similar ages; the mean±SD ages of the patients with and without dissociative disorders and the comparison subjects were 34.3±7.7 (range=23–49), 41.2±9.9 (range=26–62), and 32.6±13.1 years (range=20–64), respectively. The normal comparison subjects volunteered following announcements at a local civic organization. Subjects from the community were excluded if they had a history of outpatient treatment for a psychiatric disorder, psychiatric hospitalization, or a suicide attempt.

Diagnostic assessment was first made with the SCID-D (6, 7). The SCID-D investigates five groups of dissociative symptoms (amnesia, depersonalization, derealization, identity confusion, and identity alteration) and systematically rates the severity and constellation of individual symptoms as well as overall diagnosis of dissociative disorder. The SCID-D instrument is a semistructured interview and contains 200 items, including follow-up questions. The SCID-D format is modeled on the Structured Clinical Interview for DSM-III-R Disorders (13). The interviewer rates the subject as to whether or not 1) a given symptom is present and at what severity, 2) the *DSM-III-R* criteria for a dissociative disorder have been met, and 3) a past dissociative episode has occurred from which there has been recovery. (Diagnosis can be classified as present or absent.) The diagnostic information derived from the SCID-D can be viewed on a spectrum ranging from the most molar unit (a global SCID-D score [of 5 to 20]) to progressively more molecular dimensions, namely, presence of a dissociative disorder (yes, subthreshold, no), type of dissociative disorder (psychogenic amnesia, psychogenic fugue, depersonalization disorder, multiple personality disorder, and dissociative disorder not otherwise specified), and five specific dissociative symptoms (depersonalization, derealization, amnesia, identity confusion, and identity alteration) rated as absent, mild, moderate, or severe. Good to excellent reliability and discriminant validity for the SCID-D have been reported for its use both as a diagnostic instrument for the five dissociative disorders and as a tool for the evaluation of dissociative symptoms encountered within nondissociative syndromes (6). These results have been replicated in Amsterdam in a cross-national reliability and extension study of the SCID-D (11). In addition, Boon and Draijer have reported strikingly similar patterns and severity rating scores for the five dissociative symptoms in patients with dissociative disorders (11). The DES quantifies general dissociative experiences with a 28-item self-report questionnaire developed by Bernstein and Putnam (4). The questions are rated with slashes on 100-mm lines that indicate where the subject falls on a continuum for each item. The DES score ranges from 0 to 100 and represents the mean of all item scores. A high total score indicates a high level of dissociative experiences. This questionnaire has been reported to have good test-retest and split-half reliabilities. The DES is not intended to diagnose the five major dissociative disorders, but rather to screen for the presence of major dissociative psychopathology. No cutoff scores have previously been identified as indicating the presence of dissociative disorders.

RESULTS

In a more general sense, several authors have recommended using signal detection methodology to evaluate the proficiency of a given screening instru-

FIGURE 1. Receiver Operating Characteristic (ROC) Curve for the Dissociative Experiences Scale for Normal Subjects (N=9) and Psychiatric Outpatients With Mixed Diagnoses (N=36)[a]



[a]The Structured Clinical Interview for DSM-III-R Dissociative Disorders was used as the standard. T1–T13 represent cutoff points for the Dissociative Experiences Scale.

TABLE 1. Receiver Operating Characteristic Data on the Dissociative Experiences Scale When the Group Without Dissociative Disorders Consists of Normal Subjects (N=9)

Item	Value of Diagnostic Variable	False Positive Rate	True Positive Rate	True Negative Rate	Area of Trapezoid
Scale cutoff point					
T1	85	0.00	0.00	1.00	0.00
T2	65	0.00	0.05	1.00	0.00
T3	60	0.00	0.14	1.00	0.00
T4	55	0.00	0.19	1.00	0.00
T5	45	0.00	0.24	1.00	0.00
T6	40	0.00	0.43	1.00	0.00
T7	30	0.00	0.62	1.00	0.00
T8	25	0.00	0.71	1.00	0.00
T9	20	0.00	0.90	1.00	0.00
T10	15	0.00	0.95	1.00	0.00
T11	5	0.33	1.00	0.67	0.32
T12	0	1.00	1.00	0.00	0.67
Total	—	—	—	—	0.99

TABLE 2. Receiver Operating Characteristic Data on the Dissociative Experiences Scale When the Group Without Dissociative Disorders Consists of Psychiatric Outpatients With Mixed Diagnoses (N=36)

Item	Value of Diagnostic Variable	False Positive Rate	True Positive Rate	True Negative Rate	Area of Trapezoid
Scale cutoff point					
T1	85	0.00	0.00	1.00	0.00
T2	75	0.07	0.05	0.93	0.00
T3	60	0.07	0.14	0.93	0.00
T4	55	0.07	0.19	0.93	0.00
T5	50	0.07	0.24	0.93	0.00
T6	40	0.07	0.43	0.93	0.00
T7	30	0.07	0.62	0.93	0.00
T8	25	0.07	0.71	0.93	0.00
T9	20	0.07	0.90	0.93	0.00
T10	15	0.07	0.95	0.93	0.00
T11	10	0.20	0.95	0.80	0.12
T12	5	0.47	1.00	0.53	0.26
T13	0	0.87	1.00	0.13	0.40
Total	—	—	—	—	0.79

ment (14). The procedure involves plotting a range of sensitivity values (true positive rate, Y axis) against the corresponding false positive rate (X axis). When a screening test performs completely randomly, all values will fall along the main diagonal. On the other hand, when a screening test performs optimally, all values will fall along the left and upper boundaries, with the area under the curve summing to 1.00 or 100%. Deviations from 100% indicate the extent to which the screening test performs less than optimally.

In applying this methodology to our data, we first used normal subjects as the comparison group. For the second application, we used the psychiatric patients with mixed diagnoses as the comparison. As can be seen in figure 1, the DES performs almost optimally when the comparison group is composed of normal adults. This is confirmed by the data in table 1, which show that 99% of the area is subsumed above the main diagonal. On the other hand, the DES performs somewhat less well when the comparison group is composed of patients with mixed psychiatric diagnoses. The plot of DES cutoff points for this patient group in figure 1 shows that considerably less than 100% of the area under the curve is subsumed. This is verified by the 79% figure given in table 2. Table 1 summarizes results using 12 DES cutoff scores. Table 1 shows, at each cutoff point, the value of the DES, as well as its false positive rate, true positive rate (sensitivity), true negative rate (specificity), and the area subsumed under the curve, using the SCID-D diagnosis as the diag-

nostic standard for comparison and the normal subjects as the group without dissociative disorders. For normal subjects versus dissociative disorders (for DES cutoff scores ranging from ≥15 to ≥30), the range of sensitivity was 62%–95%, while specificity remained 100%. False positives remained at 0%, while false negatives (1 minus true positives) ranged between 5% and 38%. For mixed psychiatric disorders versus dissociative disorders (also for DES cutoff scores ranging from ≥15 to ≥30), the range of sensitivity was 62%–95%, while specificity remained constant at 93%. False positives remained at 7%, while false negative values ranged from 5% to 38%. For a more detailed summary of these results, see tables 1 and 2 and figure 1.

One-way analyses of variance followed by Tukey multiple range comparisons (15) showed that patients with dissociative disorders had significantly higher DES scores (mean±SD=37.15±18.24, range=7.70–82.50) than did patients with other psychiatric disorders (mean±SD=9.43±17.03, range=0–68.80) and normal comparison subjects (mean±SD=2.33±2.67, range=0–7.90) ($p<0.05$); patients with other psychiatric disorders did not differ significantly from normal comparison subjects.

Of the 15 referred patients with dissociative disorders, 14 had DES scores greater than 15, and 13 had DES scores greater than 20. Of the six patients newly identified as having a dissociative disorder on the SCID-D, all had DES scores greater than 15. This would support the ability of the DES to identify patients who are at high risk for a dissociative disorder (if a conservative cutoff score of 15 is used) and who might otherwise go undetected among psychiatric patients.

DISCUSSION

"Symptom screening scales provide only a relatively gross screening function and should be followed by more thorough clinical evaluation" (10). However, routine clinical evaluation may be inadequate as the diagnostic standard (16), and especially in the case of the dissociative disorders, routine clinician diagnosis has resulted in cases that remain undetected for many years (1, 3). The SCID-D is a new diagnostic instrument that has good to excellent reliability and validity. The SCID-D has been previously reported as having resulted in confirmatory diagnoses of all referred cases of dissociative disorders and also has identified several new cases of dissociative disorders that have been subsequently confirmed independently by the treating clinician (6, 11).

The percentage of false negative diagnoses rises rapidly when a DES cutoff greater than 20 is used. This high percentage of false negative cases is consistent with the difficulty in evaluating dissociative symptoms by self-report, since the subject may be unaware of the symptoms. The percentage of false negative cases can be reduced by lowering the cutoff score used to identify possible cases of dissociative disorders. Considering both sensitivity and specificity, the use of a DES cutoff of 15 or 20 would seem most suitable for screening purposes, since these dividing points result in the highest sensitivity and specificity. Thus the use of a conservative cutoff of 15–20 would minimize the risk of false negative diagnoses. It should be noted that replication of these findings in other, larger samples is necessary to cross-validate these cutoff points (17), and thus the findings reported in this article should be considered preliminary. For example, previous investigators noted that "scores above 30 [on the DES] are almost always associated with DSM-III-R diagnosis of MPD" (9), but the DES alone was administered, and no information regarding the sensitivity or specificity was provided. Our study indicated that a cutoff of 30 on the DES would be too high, since this would result in a false negative rate of 38% of the dissociative disorder group. When the SCID-D is used as the standard of comparison, there is a 7% false positive rate for scores above 30 for patients with mixed psychiatric disorders, a sensitivity of 62%, and a specificity of 93%. As shown in table 2, if a cutoff score above 20 is used, the risk of false negative diagnosis is high and the sensitivity of the DES declines. As stated, a cutoff score of 15 or 20 on the DES appears to have the most acceptable sensitivity (i.e., 90%–95%).

In this study the median score on the DES for the dissociative disorder group (SCID-D diagnosis) was 33.60. A median score of 40.60 for the group with multiple personality disorder compares to 40.7 found by Ross et al. (9) and 57.06 found by Bernstein and Putnam (4). Possible explanations for the lower median scores for the dissociative disorder group and the group with multiple personality disorder in the present study than in the study by Bernstein and Putnam include 1) the ability of the SCID-D to diagnose patients with multiple personality disorder who may present with subtler symptoms and lower DES scores and 2) the ability of the SCID-D to identify patients with other dissociative disorders, such as depersonalization disorder and dissociative disorder not otherwise specified, who have less dissociative pathology than patients with multiple personality disorder.

Dissociative symptoms are nonspecific and can be seen in patients with a wide variety of dissociative and other psychiatric disorders (18). The results of the present study indicate that with appropriate cutoffs (i.e., ≥15–20), the DES can be used successfully to screen for cases of dissociative disorders, particularly multiple personality disorder. However, it requires the use of a confirmatory instrument such as the SCID-D in order to diagnose definitively the presence of a dissociative disorder and to identify the specific disorder and symptom severity. Most importantly, one needs to evaluate the wide variation in median DES scores for the multiple personality disorder groups as well as the wide range of DES scores for the groups with mixed psychiatric diagnoses (in our and other studies). Such variation would preclude the suggestion of exact DES

cutoff scores to separate subjects with dissociative disorders from other subjects.

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