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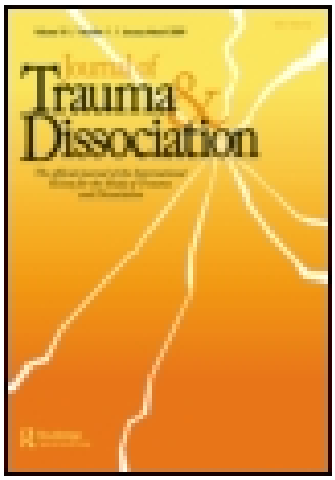

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Discriminating Dissociative Identity Disorder from Schizophrenia and Feigned Dissociation on Psychological Tests and Structured Interview

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ABSTRACT. *Objective:* The purpose of this study was to evaluate the relative efficacy of a number of psychological tests and interviews in dis-

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criminating dissociative identity disorder (DID) from feigned dissociation and schizophrenia.

Method: Three measures of dissociation (SCID-D, DES, SDQ-5) two personality measures (MMPI-2, Millon-III) and a brief measure of hypnotic susceptibility (Spiegel & Spiegel's Eye-Roll Sign) were assessed for their ability to differentiate these diagnostic groups.

Results: Results indicate that the SCID-D was clearly the most efficacious instrument in discriminating DID from schizophrenia and from feigned dissociation. The DES-Taxon and the SDQ-5 were adequate in screening pathological dissociation from schizophrenia but were less discriminative of feigned dissociation. The commonly used personality inventories were unable to detect feigned dissociation and the DID group tended to have higher elevations on scales measuring psychotic symptoms than did the schizophrenic group. The Eye-Roll Sign discriminated feigned dissociation from those with dissociative disorders.

Conclusions: Structured interviews such as the SCID-D, although resource consuming, are essential in comprehensive assessment of dissociative disorders. Comprehensive assessment of psychotic disorders should include some measure of dissociation. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <http://www.HaworthPress.com> © 2003 by The Haworth Press, Inc. All rights reserved.]*

KEYWORDS. Dissociation, factitious disorders, schizophrenia, psychiatric assessment

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Dissociative identity disorder (DID) manifests in significant disturbances in memory, behavior and identity (DSM-IV, American Psychiatric Association, 1994) and is often accompanied by other dissociative symptoms such as depersonalization and derealization. DID is commonly associated with severe childhood trauma (Irwin, 1994; Maynes & Feinauer, 1994; Sanders & Giolas, 1991; Ross, Miller et al., 1991) and has been frequently found to be co-morbid with a number of other Axis I and II disorders (Horen, Leichner, & Lawson, 1995). DID patients endorse many psychiatric symptoms on psychological testing (Moise & Leichner, 1996) and therefore have an elevated profile suggestive of an extreme level of distress. Furthermore, some DID symptoms are similar to those used to diagnose other psychiatric disorders such as schizophrenia (Ross, Anderson, Fleisher, & Norton, 1991; Saxe et al., 1993; Steingard & Frankel, 1985). For example, derealization and depersonalization, as well as auditory and visual hallucinations may be observed

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in both DID and schizophrenia. Interestingly, some researchers have found that DID patients actually endorse more Schneiderian first-rank symptoms than schizophrenic patients (Steinberg, Rounsaville, & Cicchetti, 1990; Ross et al., 1990; Ellason & Ross, 1995) and that a significant percentage of DID patients have previously received an erroneous diagnosis of schizophrenia (Gainer, 1994). Diagnostic instruments used for assessing DID should therefore be able to discriminate dissociative symptoms from symptoms of schizophrenia.

Factitious disorders involve an intentional feigning of symptoms to indicate an illness that is not actually present. These disorders have been described as early as 1838 (Gavin, 1838) and the term "Munchausen's syndrome" (Asher, 1951) was first used in 1951 to describe a chronic and severe form of this disorder. Factitious disorder is distinct from malingering. In factitious disorder the motive is an intrinsic psychological need expressed in assuming the sick role, while in malingering there is some external gain such as monetary reward or avoiding criminal responsibility. More recently, attention has been paid not only to medical factitious disorders, but also to psychiatric presentations such as factitious psychosis (Pope, Jonas, & Jones, 1982), factitious dissociative disorders (Coons & Milstein, 1994) and factitious posttraumatic stress disorder (Sparr & Pankratz, 1983). Epidemiological studies suggest that factitious medical disorders may account for from 2% to 9% of cases of fever (Eisendrath, 1996) and approximately 1% of all presentations to a general hospital (Sutherland & Rodin, 1990). Research also suggests that factitious disorders may account for 0.5% of admissions to a psychiatric hospital (Eisendrath, 1995), 6.4% of inpatient psychotic disorders and from 2% to 10% of inpatient dissociative disorders (Pope et al., 1982; Friedl & Draijer, 2000). Some authors have noted that those with factitious disorder may also have borderline personality characteristics (Nadelson, 1979), and that factitious disorders may be related to a poorly developed sense of self (Bhugra, 1988; Spivak, Rodin, & Sutherland, 1994). Furthermore, some factitious disorders may have a traumatic genesis that manifests as a re-enactment of childhood abuse (Eisendrath, 1995). The outcome for factitious disorders is often very poor and completed and attempted suicides are frequently noted in these patients. One study found that the outcome for factitious psychosis was in fact worse than true cases of psychosis (Pope et al., 1982). Thus, factitious disorders are indicative of serious pathology, although treatment is rarely sought or provided. Delayed diagnosis of factitious disorders can have severe repercussions for the patient and lead to increased costs to the health system. It is therefore essential to have diag-

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nostic tools that are sensitive to factitious illnesses. It has historically been quite difficult to engage those with factitious disorders in treatment and virtually impossible to enlist a group of factitious patients for research purposes. In this study, we therefore utilized a group of simulators (feigners) in our research design to represent factitious dissociation.

The purpose of this study was to assess the relative efficacy of a number of commonly utilized standardized psychological tests and structured interviews in discriminating DID from dissociative feigners and schizophrenia. The most useful instruments should differentiate dissociative disorders from other severe psychiatric disorders such as schizophrenia, where there is some overlap in reported symptomatology and a concurrent marked level of distress. Furthermore, truly efficacious instruments should also discriminate dissociation from feigned dissociation in light of awareness of the prevalence of factitious psychiatric disorders.

We expected that commonly used measures of dissociation such as the Dissociative Experiences Scale (DES) (Bernstein & Putnam, 1986; Waller, Putnam, & Carlson, 1996) and the Structured Clinical Interview for DSM-IV Dissociative Disorders (SCID-D; Steinberg, 1993; Steinberg, Cicchetti, Buchanan, Hall, & Rounsaville, 1993; Steinberg, Cicchetti, Buchanan, Rakfeldt, & Rounsaville, 1994) would be useful in discriminating the psychiatric groups, consistent with previous research. The Somatoform Dissociation Questionnaire (SDQ), a measure of somatoform dissociation (Nijenhuis, Spinhoven, Van Dyck, Van der Hart, & Vanderlinden, 1996), has also recently been found to have excellent sensitivity and specificity in discriminating dissociative from other disorders (Nijenhuis, 1999).

We hypothesized that the SCID-D, a structured interview used in diagnosing dissociative disorders, would be superior to self-report dissociation measures in discriminating DID from the feigning group. Specifically, we anticipated that the SCID-D diagnosis would best discriminate the groups because the resultant diagnosis is dependent not only on the symptom severity scores but also on the clinician's judgment. We expected that the SCID-D symptom severity ratings would be less efficacious than the resultant diagnosis in discriminating DID from feigners as those ratings are simply numerical scoring of the participants' symptom description. For example, the clinician could rate a symptom as severe based on the individual's response, but conclude that the symptom description is being feigned, based on a qualitative analysis of the response. We anticipated similar results in using the SCID-D to discrimi-

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nate DID from schizophrenia as the clinician could rate the symptom of depersonalization as severe, but conclude that the symptom reflects a psychotic process rather than dissociation per se.

We hypothesized that the DES would differentiate DID from schizophrenia, consistent with other research (Bernstein & Putnam, 1986), but that the self-report nature of the instrument would make the instrument less useful in differentiating the DID from the feigners group. The DES was originally designed to assess dissociation as a dimensional construct. More recently it has been proposed (Waller et al., 1996) that there are two types of dissociation: non-pathological dissociation which is dimensional in nature and pathological dissociation which is categorical and can be assessed based on an 8-item DES-Taxon. There is some evidence that the DES-Taxon can better screen those with a dissociative disorder because of having fewer false-positives than the DES dimensional score (Waller & Ross, 1997).

The SDQ-5 (Nijenhuis, Spinhoven, Van Dyck, Van der Hart, & Vanderlinden, 1997), a shortened version of the SDQ-20, has also been shown to differentiate dissociative from other disorders but, like the DES-Taxon, its ability to detect feigning has yet to be evaluated. Unlike the DES, however, the SDQ-5 items are less commonly known to be symptoms of a dissociative disorder and so the ability to feign the "correct" response on the SDQ-5 may be more difficult than responding to the DES items. Conversely, factitious patients often present with a variety of somatic symptoms and so may have higher scores on this instrument.

The commonly used measures of personality and psychopathology do not directly assess for dissociation. However, there is a psychometric advantage in using tests such as the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) (Graham, 1993) or the Millon Clinical Multiaxial Inventory (MCMI-III) (Millon, 1996), in that those instruments contain validity sub-scales that assess various response styles (Berry, 1995). For example the F validity scale of the MMPI has been shown to discriminate schizophrenia from feigning (Bagby et al., 1997). The F scale measures a tendency to exaggerate symptomatology or "fake-bad" as opposed to the downplaying of one's symptoms. Another possible interpretation of a high F scale, however, is extremely high psychiatric distress and DID patients have been previously shown to have an elevated F scale on assessment (Bliss, 1984; Coons & Fine, 1994; Fink & Golinkoff, 1992). The elevated high F scale, indicating extreme distress for the DID group, may therefore obscure differences between the DID and feigners. Furthermore, prior research indicates that DID patients

may have elevated scores on the MMPI clinical "schizophrenia" scale (Bliss, 1984), suggesting that the DID and schizophrenia group may also not be discriminated on the basis of the clinical scales.

We included the Eye-Roll Sign, a partial measure of Spiegel and Spiegel's Hypnotic Induction Profile (Speigel & Speigel, 1978), because of the prevalence of higher hypnotizability scores among those having dissociative disorders (Madonado & Spiegel, 1998; Torem, Egtvedt, & Curdue, 1995). Furthermore, it has been shown that dissociative patients are more hypnotizable than schizophrenic patients (Frischholz, Lipman, & Braun, 1992) and that the schizophrenic population may actually be low in hypnotizability, perhaps due to poor concentration and impaired reality testing (Lavoie & Sabourin, 1980). The Eye-Roll measure is thought to be a biological marker of hypnotizability and we expected that this measure would be difficult to feign, as the "correct" response is not obvious. We hypothesized that this measure would therefore discriminate DID from feigners as well as from schizophrenics.

Finally, we included a control group as a contrast with the feigners in order to assess the response style involved with feigning dissociation. Previous research (Bagby et al., 1997) has shown that participants feigning psychiatric disorders tend to report symptoms globally rather than being disorder specific. Furthermore, we anticipated that some measures such as the Eye-Roll Sign would be more difficult to feign than more transparent measures of dissociation.

METHOD

Participants

Participants in the DID and schizophrenic groups were recruited from inpatient and outpatient services in a large mental health facility. DSM-IV diagnoses were made prior to the study by experienced staff psychiatrists with specialities in the schizophrenia and dissociative disorders programs of the facility. The inclusion criteria for the schizophrenia group was a diagnosis of paranoid schizophrenia with auditory hallucinations. This criteria was utilized because of the overlap in symptoms with the DID group, as auditory hallucinations (hearing voices) are also a typical feature of DID. The schizophrenia group consisted of nine patients. The DID group consisted of twelve patients diagnosed with DID. Two other groups consisted of staff volunteers from

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the same mental health facility. These hospital staff members were randomly assigned to one of two groups: (1) the normal group ($N = 9$), in which participants responded to the interview and questionnaires in a "truthful manner" or (2) the feigners group ($N = 10$), in which participants responded to the interview and questionnaires as if they were feigning DID in order to be admitted to the facility and given special attention. Participants in the feigners group were given a one page summary of symptoms commonly found in DID patients and were asked to respond to the interview and questionnaires as if they had those symptoms. To rule out the possibility of preexisting dissociative tendencies in the staff volunteer groups, participants with scores above 10 on the DES were excluded from the study prior to assignment to the normal or feigners group. After complete description of the study to the participants, written informed consent was obtained. The average age and standard deviation for the normal group was 33, SD = 6.9, feigners group was 42, SD = 8.6, dissociative group was 42, SD = 6.4 and the schizophrenic group was 43, SD = 9.8. Compared to the normal group, the feigners group was significantly older, $t(17) = -2.49$, $p < .05$. The groups did differ on number of years of education, $F(2, 28) = 4.45$, $p < .05$, with the schizophrenic group reporting significantly fewer years of education than the feigners group (Scheffe's pairwise comparison significant at $p < .05$). The normal group was 100% female, the feigners group was 90% female and 10% male, the dissociative group was 75% female and 25% male and the schizophrenic group was 33% female and 67% male. There was a significantly higher proportion of men in the schizophrenic group than in the DID and feigners groups. $\chi^2(2, N = 31) = 7.53$, $p < .05$), and participants in the schizophrenic group were also more likely to be single, $\chi^2(2, N = 31) = 6.82$, $p < .05$). As expected, income sources for the patient groups were primarily disability based in contrast with being employment based for all staff members.

MEASURES

Dissociation

Measures of dissociation included the SCID-D (Steinberg, 1993), the DES (Bernstein & Putnam, 1986), and the SDQ-5 (Nijenhuis et al., 1997). The SCID-D is a semi-structured interview that takes between 30 to 120 minutes to complete. The SCID-D allows for diagnosis of any

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DSM-IV dissociative disorders as well as providing an overall symptom severity rating based on the five core symptom clusters of dissociation: amnesia, depersonalization, derealization, identity confusion, and identity alteration. These symptom clusters are rated on a 1 to 4 point scale (absent to severe). Subsequent to rating the symptom severity and based on the scores as well as clinical judgment, the assessor determines whether the patient meets criteria for diagnosis of any of the dissociative disorders (depersonalization disorder, dissociative amnesia, dissociative fugue, dissociative identity disorder, dissociative disorder not otherwise specified). The SCID-D has been shown to be a reliable measure, with good test-retest and interrater reliability (Steinberg, 1993; Steinberg et al., 1993). The interview also demonstrates good validity, correlating with other measures of dissociation and discriminating between dissociative and other disorders such as schizophrenia, anxiety disorders, and manic depression (Steinberg et al., 1994).

The Dissociative Experiences Scale (DES) is a brief, 28-item self-report inventory of dissociative experiences and is thought to be a useful screening measure for possible dissociative disorders (Bernstein & Putnam, 1986; Waller et al., 1996). The DES takes only about five to ten minutes to complete and participants rate each item according to the frequency of occurrence (0 to 100% of the time), resulting in a mean score of the 28 items. A score of greater than 30 has been used as a cut-off in screening for dissociation. The DES demonstrates good internal consistency and test-retest reliability. Cronbach's alpha for the DES in the present study was .97, indicating a high level of internal consistency. In addition to the mean item score on the DES, the present study also utilized the DES-Taxon. The DES-Taxon is a categorical measure based on 8-items of the DES. The taxon is a probability measure that has been shown to be a valid discriminator of pathological and non-pathological dissociation (Waller & Ross, 1997) where a score of .90 or higher suggests pathological dissociation. The score of .90 is not an average of the items but is derived from a Bayesian membership score.

The Somatoform Dissociation Questionnaire (SDQ-20) is a 20-item questionnaire developed to measure somatic symptoms associated with dissociation (Nijenhuis, 1999; Nijenhuis et al., 1996) such as motoric inhibition, intermittent pain symptoms, anesthesia. and perceptual alterations. The SDQ-5 is a shortened version of a 20-item questionnaire and the authors of the instrument suggest that the SDQ-5 discriminates dissociation from other diagnostic categories by using a cut-off of greater than 7. In the present study, the SDQ-5 demonstrated good internal consistency (Cronbach's alpha = .79; Nijenhuis et al., 1997).

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Personality Inventories

The Minnesota Multiphasic Personality Inventory-2 (MMPI-2) and the Millon Multiaxial Clinical Inventory-III (MCMI-III) were used as measures of general psychopathology in the present study. These instruments are commonly used measures of psychopathology and demonstrate good reliability and validity for many diagnostic categories although neither instrument provides a direct assessment of dissociative disorders. These personality inventories have well established validity scales that provide information regarding test-taking styles. For the purpose of the present study, the F (t score), Fb (t score), and F-K (raw scores) validity indicators from the MMPI-2 and the Disclosure Index (X), the Desirability Scale (Y), and the Debasement Scale (Z) of the MCMI-III will be examined. In addition, clinical scales relevant to schizophrenia and trauma (Scales 6 and 8 from the MMPI-2; Scales S, P, R, SS, and PP from the MCMI-III) were also examined. Scale 6 is Paranoia, scale 8 is Schizophrenia, S is Schizotypal, P is Paranoid, R is Posttraumatic Stress Disorder, SS is Thought Disorder and PP is Delusional Disorder.

Hypnotic Potential

The Eye-Roll Sign (Spiegel & Spiegel, 1978), one of the components of the Hypnotic Induction Profile (HIP), is a measure of hypnotizability that has been shown to be correlated with measures of dissociation (Torem et al., 1995) and is considered to be a biological marker of hypnotic capacity. The Eye-Roll is quick to administer and easy to score. The Eye-Roll is a measure of distance, or amount of sclera relative to size and shape of the eye, between the lower border of the iris and the lower eyelid as the participant is gazing upward while slowly closing his/her eyelids. Participants receive a score ranging from 0 (indicating low hypnotic potential) to 4 (high hypnotic potential). The full HIP was not employed in the present study as it involves hypnotic suggestion for arm levitation and this may have caused undue distress for the (paranoid) schizophrenic group. Furthermore, it was expected to be more difficult to feign the Eye-Roll as opposed to the arm levitation instructions of the HIP.

Schneiderian First Rank Symptoms

The measure of Schneiderian First Rank symptoms is an 11-item questionnaire taken from the Dissociative Disorders Interview Sched-

ule (Ross, 1989). Questions follow a yes/no format, focus on hearing voices and feelings of thoughts and/or actions being controlled and results in a total score of the sum of the yes responses.

PROCEDURE

Participants in the two patient groups were diagnosed by psychiatrists with expertise in the relevant diagnoses (schizophrenia or dissociative disorder) prior to participation in the study. Participants in the staff volunteer groups were randomly assigned to two groups as described above. Following completion of the paper-and-pencil questionnaires, participants were interviewed by a doctoral student in clinical psychology trained in the administration of the SCID-D and in diagnosing dissociative disorders based on this interview. The interviewer also rated each participant's eye-roll. The interviewer was blind to the study hypotheses and the different diagnostic groups being examined. The majority of interviews were videotaped and rated by other psychiatric staff also trained in the SCID-D to assess inter-rater reliability. Inter-rater reliability in the present study was excellent, with a correlation of .98 ($N = 12$, $p < .0001$) on symptom severity scores and diagnostic agreement of 92% between raters across the three groups.

RESULTS

Comparison of Normal and Feigners Groups

The normal and feigners groups were compared on all measures. No participant in either group was diagnosed with a dissociative disorder based on the SCID-D. A series of *t*-tests was conducted to examine differences between the two staff volunteer groups on SCID-D symptom severity, the DES, the SDQ-5, the Eye-Roll Sign, and Schneiderian First Rank Symptoms. Compared to the normal group, the feigners group had higher symptom severity scores on the SCID-D, DES, SDQ-5 and reported more Schneiderian symptoms but did not differ on the Eye-Roll Sign. Means, standard deviations, and *t*-scores are reported in Table 1.

Comparisons of the two groups on the personality inventory scales were conducted multivariately. A oneway MANOVA was performed comparing the two groups with respect to the F, Fb, and F-K validity in-

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TABLE 1. Dissociative Measures, Hypnotic Potential, and First Rank Symptoms: Normal vs. Feigners

Variable	Normal ($N = 9$)		Feigners ($N = 10$)		
	M	SD	M	SD	t ($df = 17$)
SCID-D Symptom Severity	5.22	0.44	14.30	3.86	−6.99[b]
DES Average Score	2.98	2.32	33.43	15.83	−5.70[b]
SDQ-5 Total Score	5.22	0.44	9.60	3.47	−3.75[a]
Eye-Roll Sign	1.67	1.32	1.20	0.79	0.95
First Rank Symptoms	0.00	0.00	6.12	2.42	−7.64[b]

[a] $p < .01$
[b] $p < .001$

dicators of the MMPI-2. This MANOVA was significant, F (3,15) = 9.81, $p < .01$. Follow-up univariate analyses indicated that the two groups differed on all three validity scales, with the feigners group scoring significantly higher. A oneway MANOVA comparing the two groups on Scales 6 and 8 of the MMPI-2 reached significance, F (2, 16) = 18.19, $p < .001$. Univariate analyses indicated that the normal group scored significantly lower than did the feigners group on both Scales 6 and 8.

A oneway MANOVA was performed comparing the two groups with respect to Scales X, Y, and Z of the MCMI-III. The two groups differed significantly, F (3, 14) = 33.14, $p < .001$. Univariate follow-up indicated significant differences on all three validity scales, with the feigners group score higher on Scales X and Z and lower on Scale Y. A oneway MANOVA was conducted comparing the normal and feigners groups with respect to the five scales of the MCMI-III related to thought disorder, paranoia, and trauma (Scales S, P, R, SS, and PP). This MANOVA was significant, F (5, 12) = 49.50, $p < .0001$. Univariate analyses indicated that the normal group scored significantly lower than did the feigners group on all five scales.

Comparison of the DID Group to the Schizophrenic and Feigning Groups

Dimensional Analysis. Table 2 presents the means, standard deviations and significance values for the SCID-D symptom severity ratings,

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TABLE 2. Dissociative Measures, Hypnotic Potential, and First Rank Symptoms: Schizophrenic, DID, and Feigners Groups

Variable	Schizophrenic ($N = 9$)		DID ($N = 12$)		Feigners ($N = 10$)	
	M	SD	M	SD	M	SD
SCID-D Symptom Severity	11.00[a]	4.58	19.08	1.24	14.30[a]	3.86
DES Average Score	17.98[a]	17.12	44.52	14.65	33.43	15.83
SDQ-5 Total Score	8.11	6.03	10.00	3.25	9.60	3.47
Eye-Roll Sign	1.63	1.85	2.92	1.00	1.20[b]	.79
First Rank Symptoms	5.50	4.09	6.08	2.61	6.13	2.42

[a]Significantly different from the DID group ($p < .01$)
[b]Significantly different from the DID group ($p < .05$)

DES scores, SDQ-5 ratings, Eye-Roll Sign and number of Schneiderian first rank symptoms for the DID, schizophrenia and feigners groups. Oneway analysis of variance (ANOVA) indicated that the three groups differed significantly on SCID-D symptom severity, F (2,28) = 15.26, $p < .0001$. Pair-wise comparisons indicated that the DID group were rated as significantly more severe on SCID-D symptoms than were the schizophrenic and feigners groups. Figure 1 shows the 5 SCID-D symptom clusters for the DID, feigners and schizophrenic group. The three groups differed significantly on the DES score, F (2,28) = 7.29, $p < .01$. Pair-wise comparisons found that in contrast with the schizophrenic group, the DID group scored significantly higher on DES average scores. The three groups did not differ on the SDQ-5 total score, F (2,28) = .53, $p > .05$. The three groups were significantly different on the Eye-Roll sign, F (2,27) = 5.88, $p < .01$. Follow-up comparisons indicated significant differences between the DID and feigners groups with higher scores in the DID group. The comparison of the DID and schizophrenic group approached significance ($p = .06$). The schizophrenic, DID, and feigners groups were not significantly different, F (2,27) = .12, $p > .05$ on the number of Schneiderian first rank symptoms.

Classification Analysis. Results of the classification (dissociative disorder or not) are presented in Table 3. Examination of diagnosis based on the SCID-D indicated a 100% accuracy in the classification of the DID group as all were correctly diagnosed on the SCID-D. One pa-

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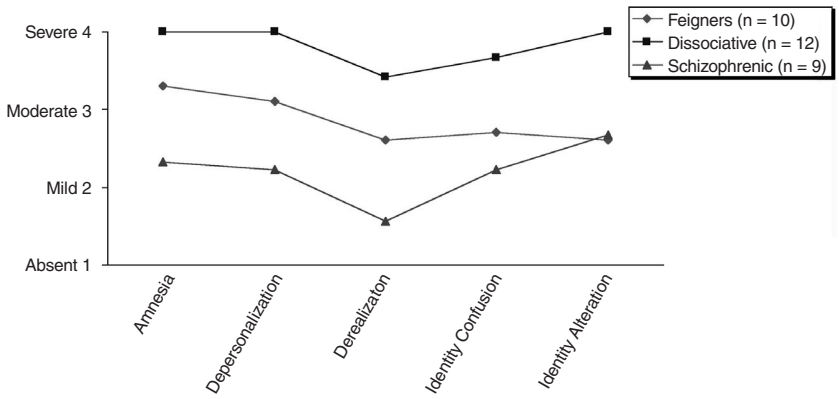
FIGURE 1. Symptom severity ratings on Structured Clinical Interview for Dissociative Disorders–Revised (SCID-D) for dissociative identity disorder (DID), schizophrenia and feigned dissociation groups.



DID > Feigners on Amnesia (t (20) = 3.6, $p < .002$), Depersonalization (ANOVA, $p < .005$), Derealization (ANOVA, $p < .03$), Identity Confusion (ANOVA, $p < .05$), and Identity Alteration (ANOVA, $p < .001$).

DID > Schizophrenia on Amnesia (ANOVA, $p < .001$), Depersonalization (ANOVA, $p < .001$), Derealization (ANOVA, $p < .001$), Identity Confusion (ANOVA, $p < .007$) and Identity Alteration (ANOVA, $p < .001$).

TABLE 3. Classification Analysis: Percentage Classified with Dissociative Disorder on the SCID-D, DES-Taxon and SDQ-5

Instrument	Schizophrenic ($N = 9$)	DID ($N = 12$)	Feigners ($N = 10$)
SCID-D Diagnosis	11%	100%	0%
DES-Taxon >.90	11%	83.0%	40%
DES >30	11%	83.0%	50%
SDQ-5 >7	11%	83.0%	60%

tient with schizophrenia was diagnosed with DDNOS based on the SCID-D. No other participant from the schizophrenic or feigners groups was diagnosed with a dissociative disorder. Classification rates based on the DES-Taxon were also examined. Results indicated that 83% of patients in the DID group were categorized correctly based on the DES-Taxon cut-off of .90 or greater. False positives were noted in both the schizophrenic (11%) and the feigners (40%) groups. Results from the DES cut-off of 30 were identical with the exception of 50% of the

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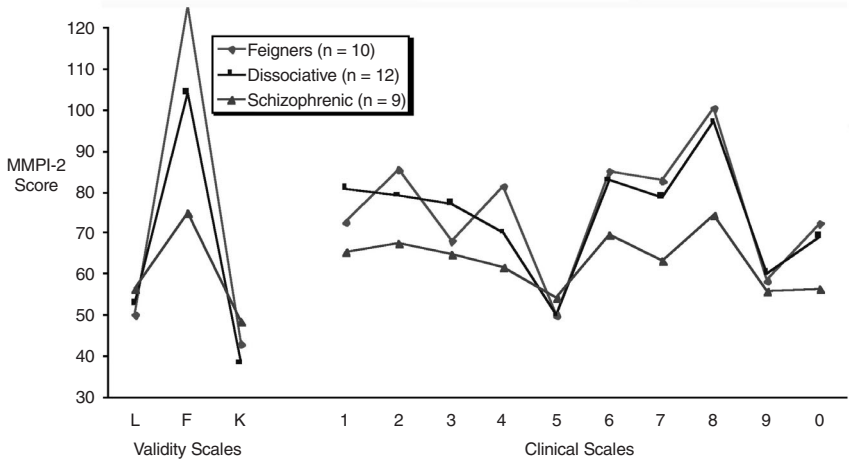
feigners being classified as dissociative. Classification rates for the SDQ-5 (greater than 7 suggestive of a dissociative disorder) indicated that 83% of patients in the DID group were correctly classified using the cut-off. False positives were noted in both the schizophrenic (11%) and the feigners groups (60%).

Personality Inventories: MMPI-2

Figure 2 presents the MMPI-2 validity and clinical scale scores for the DID, schizophrenic and feigners groups. Although the entire profile is illustrated, statistical analyses were only undertaken on the scales conceptually relevant to the groups (see measures section). A oneway multivariate analysis of variance (MANOVA) was performed comparing the three groups with respect to the F, Fb, and F-K validity indicators of the MMPI-2. This MANOVA was significant, Wilks' Lambda = .55, F (6, 50) = 2.87, $p < .05$. Univariate analyses indicated significant group differences on the F Scale (F (2, 27) = 4.23, $p < .05$) and the F-K

FIGURE 2. MMPI-2 scores for disociative identity disorder (DID), schizophrenia and feigned dissociation groups.



(L = Lie Scale, F = Infrequency, K = Correction, 1 = Hypochondriasis, 2 = Depression, 3 = Hysteria, 4 = Psychopathic, 5 = Masculinity/Faminity, 6 = Paranoia, 7 = Psychasthenia, 8 = Schizophrenia, 9 = Hypomania, 0 = Social Introversion)

Schizophrenia group < Feigners on F (ANOVA, $p < .005$) and Schizophrenia < Feigners and DID on Scale 8 (ANOVA, $p < .05$).

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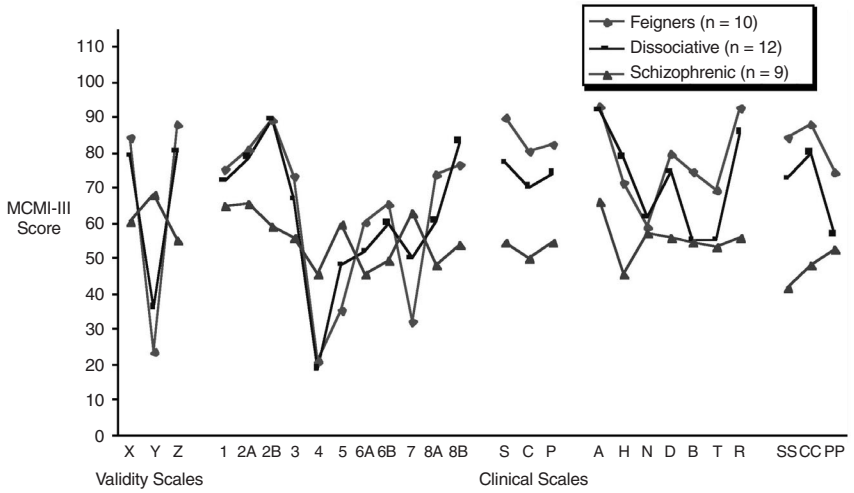
indicator (F (2, 27) = 3.71, $p < .05$), with the schizophrenic group scoring significantly lower than did the feigners group. A oneway MANOVA on Scales 6 and 8 of the MMPI-2 was not significant, Wilks' Lambda = .72, F (4, 54) = 2.46, $p > .05$. However, univariate F's did indicate significant group differences on Scale 8, with the schizophrenic group scoring significantly lower (F (2, 27) = 4.84, $p < .05$) than did the other two groups on this scale.

Personality Inventories: Millon-III

Figure 3 presents the Millon-III validity and clinical scale scores for the DID, schizophrenic and feigners groups. The entire profile is de-

FIGURE 3. Millon Clinical Multiaxial Inventory-III (MCMI-III) scores for dissociative identity disorder (DID), schizophrenia and feigned dissociation groups.



X = Disclosure, Y = Desirability, Z = Debasement, 1 = Schizoid, 2A = Avoidant, 2B = Depressive, 3 = Dependent, 4 = Histrionic, 5 = Narcissistic, 6A = Antisocial, 6B = Sadistic, 7 = Compulsive, 8A = Negativistic, 8B = Masochistic, S = Schizotypal, C = Borderline, P = Paranoid, A = Anxiety, H = Somatoform, N = Bipolar, D = Dysthymia, B = Alcohol Dependence, T = Drug Dependence, R = PTSD, SS = Thought Disorder, CC = Major Depression, PP = Delusional Disorder.

Schizophrenia group < Feigners and DID on X and Z, higher on Y (ANOVA, $p < .001$). Schizophrenia group < Feigners and DID on S, R and SS (ANOVA, $p < .001$).

Narcissistic, 6A = Antisocial, 6B = Sadistic, 7 = Compulsive, 8A = Negativistic, 8B = Masochistic, S = Schizotypal, C = Borderline, P = Paranoid, A = Anxiety, H = Somatoform, N = Bipolar, D = Dysthymia, B = Alcohol Dependence, T = Drug Dependence, R = PTSD, SS = Thought Disorder, CC = Major Depression, PP = Delusional Disorder.

Schizophrenia group < Feigners and DID on X and Z, higher on Y (ANOVA, $p < .001$). Schizophrenia group < Feigners and DID on S, R and SS (ANOVA, $p < .001$).

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tailed for completeness although statistical analyses were only undertaken on the relevant scales. Oneway MANOVA were conducted to compare the three groups with respect to the X, Y, and Z validity indicators and on five scales of the MCMI-III related to thought disorder, paranoia, and trauma (Scales S, P, R, SS, and PP). The MANOVA for the validity scales was significant, Wilks' Lambda = .31, F (6, 48) = 6.28, $p < .001$. Univariate analyses indicated significant group differences with the schizophrenic group scoring significantly lower than the other groups on Scales X and Z and significantly higher on Scale Y (all $p < .001$). The MANOVA for the clinical scales also reached significance, Wilks' Lambda = .35, F (10, 44) = 3.06, $p < .01$. Pairwise comparisons indicated differences between the schizophrenic group and the other two groups on Scales S, R, and SS, (all $p < .001$) with the schizophrenic group scoring significantly lower on all three scales. Compared to the feigners group, the schizophrenic group also scored lower on Scale P ($p < .05$).

DISCUSSION

The SCID-D was clearly the most efficacious measure of dissociation in discriminating DID from schizophrenia and from feigned dissociation. Not only did the SCID-D correctly assign all of the DID and feigners in diagnostic classification, but the DID group also scored significantly higher than the other groups in the severity ratings of dissociative symptoms. Qualitatively, compared to participants in the dissociative group, participants in the feigners group were more inconsistent in their responses throughout the interview. Feigners also tended to incorporate previous interview questions in formulating responses later in the interview and frequently offered unsolicited information such as trauma history. In contrast to the low level of distress and/or inappropriate affect in the feigners group, participants in the DID group exhibited higher distress levels throughout the interview. The latter group was also more likely to present intra-interview cues consistent with dissociation, such as the use of the first person plural, child-like behaviours, and voice changes. Based on the results of the present study, it appears to be difficult to feign convincing responses to a comprehensive interview that inquires about numerous dissociative symptoms and requires the respondent to generate plausible examples of a spectrum of dissociative experiences.

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The SCID-D was also efficacious in discriminating schizophrenia from dissociation in spite of overlapping symptom presentations between these disorders and in contrast with the lack of differences on the Schneiderian first rank symptoms. This is consistent with other research and supports the necessity of assessing dissociation when considering differential diagnosis in the psychotic disorders. These results support the SCID-D as being the "gold standard" in assessing dissociative disorders and indicate that a structured interview is essential when undertaking any comprehensive assessment of pathological dissociation. We suggest that diagnoses made by trained clinicians employing a structured clinical interview with established reliability and validity, such as the SCID-D be the reasonable scientific standard for research in the dissociative disorders.

The DES average score discriminated the DID group from the schizophrenic group but not from the dissociative feigners group. This suggests that the DES is a useful screening instrument when assessing schizophrenia as it is brief and not demanding of the assessor's time. However, when considering the possibility of a factitious disorder, a more comprehensive structured interview is indicated. The DES-Taxon did surprisingly well for a very brief, self-report measure, correctly classifying 83% of the DID group, and having false positive rates of 11% of the schizophrenia group and 40% of the feigners. However, the DES-Taxon was only marginally superior to using the cut-off of a score of 30 in discriminating feigned dissociation.

In contrast with previous research, the SDQ-5 rating in our study did not discriminate the DID group from the schizophrenic group, nor did it discriminate the feigners. The longer 20 item version (SDQ-20) may have fared better and is still relatively brief and not demanding of the assessor's time. Utilizing the SDQ-5 as a taxonometric instrument proved more efficacious. The SDQ-5 performed identically to the DES-Taxon for the DID and schizophrenic group but had a greater amount of false-positives in the feigners group. It appears that the DES-Taxon may have greater specificity than the SDQ-5 in relation to feigned dissociation although this awaits replication in studies with larger sample sizes.

The Eye-Roll Sign discriminated the DID group from the feigners group, supporting the view that DID patients have a higher hypnotizability capacity than the average population. Furthermore, this was the only measure, other than the SCID-D diagnosis, where the feigners were not different from the control group. Those feigning dissociation gave a pattern of elevations on many symptom scales, consistent with

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past research showing that feigned psychiatric illness manifests as a tendency to answer positive for many symptoms rather than be diagnosis specific. However, the Eye-Roll Sign appears to be a difficult measure to feign as the "dissociative" response is very difficult to determine and unlikely to be guessed. Furthermore, even if the respondent was aware of the desired response, it would take considerable practice to achieve. However, the Eye-Roll Sign has its own significant limitations in that it is possible to be highly hypnotizable and not have pathological dissociation. Nonetheless, the results of the Eye-Roll suggest that formal hypnotic testing may be of some benefit as a differential test, although clearly less efficacious than the SCID-D.

The personality inventories failed to discriminate the DID from feigners, but did differentiate schizophrenia from DID. The feigners tended to report a great number of severe symptoms, resulting in a similar profile to the DID as we hypothesized. These results illustrate the limitations in using personality inventories when assessing dissociation, particularly where factitious disorders are being considered as a differential diagnosis. High scores on the validity scales and clinical indices may be evidence of feigning or of a great deal of psychiatric distress and co-morbidity of diagnoses that has been shown to occur with complex trauma disorders. The schizophrenia group scored lower on many of the validity and clinical scales. It is significant that the schizophrenia group tended to be lower than the DID group on measures that assess schizophrenic or psychotic features. This is consistent with prior research demonstrating that the participants in the dissociative group also endorse many Schneiderian first rank symptoms that have been typically associated with psychotic processes. The DID group tend to manifest psychotic like symptoms of auditory hallucinations and also report pervasive interpersonal dysfunction such as social alienation and mistrust of others. Extremely high scores on scales that assess schizophrenia or psychotic processes should not be taken as indicative of schizophrenia without some assessment for possible dissociative processes. In contrast with their popularity, the standard personality inventories have limited usefulness in the differential diagnosis of dissociative disorders and schizophrenia.

In summary the present study demonstrates that DID can be reliably discriminated from schizophrenia and from feigned dissociation. However, not all instruments are equal in performing that task and a structured clinical interview such as the SCID-D is clearly the standard in comprehensive assessment of the dissociative disorders. The DES-Taxon, and the SDQ-5, when employed in a similar taxonometric fash-

ion, can be useful screening tools in assessing for the possible presence of pathological dissociation. Commonly used personality inventories are of limited use in this regard and high scores on "schizophrenia" scales may be equally, or even more indicative of dissociative disorders. Some measure of dissociation should be routinely used when undertaking any comprehensive assessment of schizophrenia or psychotic processes to limit false-positive diagnoses.

One of the limitations of the present study is the small sample size in each group. The effect of such a sample size is to reduce power to ascertain significant differences that do occur in the greater population. Future research with larger sample sizes may discover differences on these measures which we have not found, such as on the SDQ-5 rating. Another difficulty emerges in using a feigners group to simulate factitious disorder. The feigners group may more closely resemble a malingering group in that they did not have a pre-existing psychiatric disorder and are faking the disorder at our request rather than fulfilling some psychological need to take on a sick role as seen in an actual factitious disorder. The present study does not explore possible differences between malingering and factitious disorders on psychological assessment.

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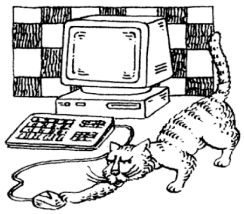

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