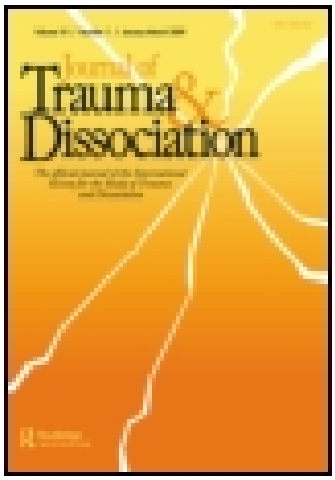

Journal of Trauma & Dissociation
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/wjtd20

Assessment of Genuine and Simulated Dissociative Identity Disorder on the Structured Interview of Reported Symptoms

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Published online: 25 Sep 2008.

To cite this article: Bethany L. Brand PhD , Scot W. McNary PhD , Richard J. Loewenstein MD , Amie C. Kolos BS (cand.) & Stefanie R. Barr BA (2006) Assessment of Genuine and Simulated Dissociative Identity Disorder on the Structured Interview of Reported Symptoms, Journal of Trauma & Dissociation, 7:1, 63-85, DOI: 10.1300/J229v07n01_06

To link to this article: http://dx.doi.org/10.1300/J229v07n01_06

Assessment of Genuine and Simulated Dissociative Identity Disorder on the Structured Interview of Reported Symptoms

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ABSTRACT. Little is known about how to detect malingered dissociative identity disorder (DID). This study presents preliminary data from an ongoing study about the performance of DID patients on the Structured Interview of Reported Symptoms (SIRS, Rogers, Bagby, & Dickens, 1992), considered to be a "gold standard" structured interview in forensic psychology to detect feigning of psychological symptoms. Test responses from 20 dissociative identity disorder (DID) patients are

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The authors gratefully acknowledge the assistance of their research team, Laura Bowman, Pellie Gershovsky, Kristen Hood, Meg Jancuk, Meghan Pohlner, Lucienne Pulliam, Emily Stevens, and Tara Williams, PhD in collecting this data.

Portions of these data were presented at the Annual Meeting of the International Society for the Study of Dissociation, November 2004.

Journal of Trauma & Dissociation, Vol. 7(1) 2006
Available online at http://www.haworthpress.com/web/JTD

doi:10.1300/J229v07n01_06

compared to those of 43 well informed and motivated DID simulators. Both the simulators and DID patients endorsed such a high number of symptoms that their average overall scores would typically be interpreted as indicative of feigning. The simulators' mean scores were significantly higher than those of the DID patients on only four out of 13 scales. These results provide preliminary evidence that well informed and motivated simulators are able to fairly successfully simulate DID patients and avoid detection on the SIRS. Furthermore, many DID patients may be at risk for being inaccurately labeled as feigning on the SIRS.

KEYWORDS. Dissociation, malingering, factitious, simulation, SIRS, assessment, diagnosis

During the past two decades, research regarding the ability to malinger, that is, to feign symptoms for external gain such as financial benefit or exculpation for crimes, has grown rapidly (Rogers, 1997a). Forensic experts estimate that rates of malingering range from 7% in nonforensic settings to 17% in forensic settings (Rogers, 1997a). Recently, the malingering of posttraumatic stress disorder (PTSD) has also received considerable interest. This is due, in part, to cases in which individuals who have been subsequently diagnosed with malingered PTSD have sought external gains such as disability benefits, financial settlements from lawsuits, and/or being found not guilty by reason of insanity (NGRI) due to PTSD (Guriel & Fremouw, 2003). Accordingly, there has been considerable research interest in developing more systematic methods for detecting malingered PTSD during clinical and forensic psychological and psychiatric evaluations (Guriel & Fremouw, 2003).

Although dissociative identity disorder (DID) has been conceptualized as a childhood onset posttraumatic developmental disorder (Spiegel, 1986), little systematic attention has been paid to the formal assessment of possible malingering in DID. This is particularly surprising since, in the criminal forensic setting, often there is concern that claims of a diagnosis of DID as a mitigating factor may be indicative of feigning, particularly when a criminal defendant alleges dense amnesia for crimes committed by a "bad" alternate identity and/or does not show the complex dissociative symptom clusters and/or bizarre justifications for

crimes found in actual DID defendants (Loewenstein & Putnam, 2004). A body of clinical literature addresses the differential diagnosis of malingered versus genuine DID in the criminal forensic setting (Coons, 1991; Kluft, 1987; Lewis & Bard, 1991; Lewis, Yeager, Swica, Pincus, & Lewis, 1997; Loewenstein & Putnam, 2004). There is also a body of literature on the problematic ways in which the courts have grappled with DID defendants, plaintiffs, and witnesses (e.g., Beahrs, 1994; Behnke, 1997; Lewis & Bard, 1991).

Additionally, DID may be feigned for "factitious" reasons. According to DSM-IV TR, in factitious disorders the feigning individual wishes to assume the "sick role" and is not motivated by financial, legal, or similar gains (American Psychiatric Association, 2000). However, some reviews have suggested that teasing apart the issues of malingering, factiousness, unconscious feigning, and traumatization may be difficult in some cases (Brown & Scheflin, 1999). Indeed, childhood trauma and adversity have frequently been described in those who feign medical and psychiatric illnesses (Armstrong, 1999; Ford, 1983; Goodwin, 1988).

There is concern that DID may be particularly vulnerable to factitious presentations in clinical settings, although rigorous systematic studies using standardized diagnostic measures are limited on this issue. Whereas the rates of factitious general psychiatric disorders are estimated to range from .5%-6% (Eisendrath, 1995; Pope, Jonas, & Jones, 1982), rates of factitious dissociative disorders have been found to range from 2%-14%, with higher rates having been found in referrals to specialty dissociative disorders units and to expert consultants in dissociative disorders (Friedl & Draijer, 2000; Thomas, 2001). It is thought that DID feigners may have become more clinically sophisticated in their portrayal of the disorder since public access to information about DID has increased considerably with the publication of numerous personal accounts of DID, depictions in the media, and the dissemination of information over the Internet (Coons & Milstein, 1994; Draijer & Boon, 1999).

It is important that clinicians have more rigorous and systematic means to assist in the detection of both malingered and factitious DID in forensic and clinical settings. Obviously, improved diagnostic accuracy assists the courts to make better legal decisions and helps clinicians to provide more appropriate treatment when factitious conditions are discovered (Armstrong, 1999; Chu, 1998; Draijer & Boon, 1999; Thomas, 2001).

However, despite these concerns, there is little systematic data on detection of feigned DID, particularly using the standard assessment measures for malingering used by forensic evaluators. In contrast to the growing literature on malingering and PTSD, empirical studies of feigned dissociative disorders using standardized psychological tests and interviews "is practically absent" (Draijer & Boon, 1999). Most of what is known has come from systematic case series (Draijer & Boon, 1999; Thomas, 2001) that have used the Structured Clinical Interview for DSM-IV Dissociative Disorders (SCID-D; Steinberg, 1993) or the Dissociative Experiences Scale (DES, Bernstein & Putnam, 1986), one empirical study of malingered and factitious DID (Coons & Milstein, 1994) and one small empirical study of simulated DID (Welburn, Fraser, Jordan, Cameron, Webb, & Raine, 2003).

In their clinical study, Boon and Draijer (1999) were able to use the SCID-D to successfully differentiate DID patients from patients without DID but with cluster B personality disorder profiles who had assumed the social role of a DID trauma survivor. These authors dubbed this phenomenon "Imitative DID" because many of these individuals genuinely believed that they had DID and were reinforced in this belief by their therapists and/or concerned others. The imitative group did not differ from DID patients on the SCID-D subscales of depersonalization and derealization, although the imitative group scored lower on amnesia, identity confusion, and identity alteration than did the DID patients. The DID imitators did not report nor were they observed to have many of the subtle clinical symptoms and signs of DID, such as amnesia for brief periods of the interview and co-morbid conditions such as depression. In addition, compared with imitative subjects, the actual DID subjects showed shame, anxiety, and conflict over the DID diagnosis. Although this study provides clinical impressions of signs and symptoms to help distinguish imitated DID, it did not provide objective empirical data to assist in detecting feigned DID.

Coons and Milstein (1994) found that 10% of 112 consecutive admissions to a dissociative disorders clinic had factitious or malingered DID. Neither electroencephalograms nor the Minnesota Multiphasic Personality Inventory (MMPI-2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989) distinguished the genuine from feigned DID cases in this study. An exaggerated, highly dramatic clinical presentation combined with classic symptoms of malingering characterized the malingered or factitious DID cases. Consistent with clinical studies of DID patients (Draijer & Boon, 1999; Thomas, 2001) and the general malingering literature (Rogers, 1997a), Coons and Milstein (1994) found that

malingerers often had a history of lying, made claims of fantastic and unbelievable psychological symptoms, and refused to allow information to be obtained from collateral sources. On the other hand, a small group (less than 10 percent) of genuine DID patients are reported to present in a dramatic fashion, so this indicator may not be reliable (Kluft, 1987). Some DID patients may exhibit antisocial features, factitious histories, factitious alternate identities, malingering, and factitious medical symptoms (Goodwin, 1988; Putnam, 1999). Also, in the forensic setting, some actual DID individuals will exaggerate symptoms in the hopes of being exculpated on psychiatric grounds (Kluft, 1987), making clear the need for empirical research using objective assessment measures.

However, available research suggests that it may be difficult to detect feigned DID on many objective psychological measures. For example, studies have found that it is relatively easy to feign DID on face valid self-report measures such as the Dissociative Experiences Scale (Labott & Wallach, 2002; Thomas, 2001; Welburn et al., 2003). This has led some to conclude that self-report measures are "useless in the differential diagnosis of imitated DID (Draijer & Boons, 1999, p. 444)." Supporting this view is Coons and Milstein's (1994) finding that even the MMPI-2, which has been helpful in detecting malingered PTSD (Guriel & Fremouw, 2003), was not able to detect factitious and malingered DID (Coons & Milstein, 1994).

The only study to compare simulated DID to genuine DID found similar results. Welburn and colleagues (2003) compared the psychological tests and SCID-D interviews of 12 genuine DID patients to 10 hospital staff simulating DID, nine schizophrenic patients, and nine "normal" hospital staff. The simulators were well-informed about the symptoms of DID due to their work with DID patients. Their small sample size likely limited the ability to find differences among the groups, so these results must be interpreted with caution. Nonetheless, this was the first study to use multiple objective personality tests and a standardized interview among psychiatric groups, a DID simulation group, and a control group. Consistent with the general malingering literature (Rogers, 1997a), they found that DID simulators reported higher symptoms on self-report measures of dissociation including the DES, higher severity scores on the SCID-D, and higher validity and clinical scores on the MMPI-2, compared to the normal group. However, there were fewer differences between the DID patients and simulators. Compared to the simulators, DID patients scored higher on the SCID-D overall severity scores and showed more signs of distress and dissociation while com-

pleting the SCID-D. The DID patients were not different from simulators on the DES, the number of Schneiderian first rank symptoms, the MMPI-2, nor the Millon Clinical Multiaxial Inventory-III (MCMI-III, Millon 1997). Whereas the SCID-D correctly diagnosed all DID patients and feigners, it falsely assessed 11% of the schizophrenic patients with dissociative disorder not otherwise specified.

The efficacy of other psychometric measures and structured interviews has yet to be evaluated in assessing feigned DID. A recent review of the malingering PTSD literature (Guriel & Fremouw, 2003) concluded that the Structured Interview of Reported Symptoms (SIRS; Rogers, Bagby, & Dickens, 1992) showed promise in being able to detect malingered PTSD. There have been no studies that have assessed how DID patients or DID simulators perform on the SIRS. Even though the SIRS does not specifically assess dissociation or PTSD, its ability to assess response styles and malingering is well supported in the literature (Rogers et al., 1992: Rogers, 1997b). The SIRS has consistently demonstrated significant differences between honest and feigning samples (Rogers, 1997b), outperforming the MMPI-2 in some studies (Kurtz & Meyer, 1994).

The current study is the first to document how DID patients and trained DID simulators perform on the SIRS. One of the goals of this study is to determine the classification rates on the SIRS for honest responders (i.e., DID patients) and feigners (i.e., DID simulators). We report preliminary data of a larger, ongoing study on the malingering of DID on standard psychological assessment measures. Only data on the SIRS will be presented here.

Because DID patients typically endorse experiencing a wide variety of severe psychiatric symptoms (e.g., Coons, Bowman, & Milstein, 1988; Dell, 1998; Ellason & Ross, 2004; Fink & Golinkoff, 1992; Loewenstein, 1991; Scroppo, Drob, Weinberger, & Eagle, 1998; Welburn et al., 2003), we hypothesized that DID patients would appear to be feigning on some SIRS scales. Specifically, we hypothesized that DID patients would score higher than the "honest responding" range on the scales measuring Subtle Symptoms (i.e., symptoms which untrained individuals would see as everyday problems rather than as signs of mental illness), Severity of Symptoms (i.e., symptoms endorsed as being extreme or unbearable), and Selectivity of Symptoms (i.e., indiscriminant endorsement of psychiatric problems) due to the breadth and severity of their symptoms. Three items on the Rare Symptoms scale address dissociative phenomena (feeling outside one's body, one's face looking unfamiliar in the mirror, and major changes in the perception of one's

body). Indeed, items measuring these symptoms are found in the DES and SCID-D. Thus, we hypothesized that DID patients would score higher than the "honest responding" range on Rare Symptoms. Given that feigners typically score more pathologically than do honest responders (Rogers, 1997a; Wellburn et al., 2003), we hypothesized that simulators would have higher SIRS scales and total SIRS scores than would DID patients.

METHOD

Participants

DID Participants. The 20 DID patients were recruited from inpatient and day treatment units at a trauma disorders program, as well as from outpatient practices in the community. Announcements were made in hospital patient community meetings to recruit participants. The inpatients' treatment teams gave permission for the patients to participate. Outpatient therapists were also informed of the study so that they could refer appropriate patients. DID participants were paid $20 for participating in the study. The study took approximately five hours to complete. Additionally, with patient consent, treating clinicians were informed of the testing results. All participants gave informed consent.

The 20 DID patients had an average age of 40.5 (SD = 9.2) and 18 (90%) were female. Sixteen (80%) were Caucasian, 1 (5%) was African American, 1 (5%) was "other" unspecified ethnicity, and 2 (10%) were of unknown ethnicities. Six (30%) were hospitalized on a trauma disorders inpatient unit, primarily because of dangerousness to self and/or others. Accordingly, most of the inpatients were suffering from an acute exacerbation of dissociative, PTSD, and affective symptoms. The average length of time since the last psychiatric hospitalization of the 14 outpatient DID patients was 10.3 months (SD = 11.3, Median = 6). Thus, most of the DID sample was severely impaired at the time of assessment, which may limit the generalizability of the results to all DID patients. However, there was a range of functioning and symptom severity among the DID subjects. For example, one had never had a psychiatric hospitalization and another had stabilized significantly with appropriate treatment. There were no data on prior hospitalizations for three DID patients.

Simulating Participants. The 43 DID simulators were undergraduate students with an average age of 21.5 (SD = 3.0). Thirty-six (83.7%)

were female, 40 (93%) were Caucasian, one (2.3%) was African American, one (2.3%) was biracial, and one (2.3%) was "other" ethnicity. Simulators were undergraduate students at a Mid-Atlantic university. All simulators were required to have taken a class in abnormal psychology to ensure that they were familiar with general psychopathology, as well as having had brief exposure to the types of validity scales on personality tests. Given that none of the simulators had known exposure to the SIRS, they were unlikely to have had specific information regarding its strategies for detecting feigning.

To provide them with the type of information available to those who might wish to feign DID, potential feigners were required to read the book or view the movie, *Sybil* (Schreiber, F.R. 1976) and read an Internet fact sheet about DID from a trauma website (Sidran Institute, n.d.). Following this, they had to prove that they were knowledgeable about DID by passing a factual test with a score of 70% or better. Although no student failed, they were told that if they failed, they would not be allowed to participate. They received class credit for participating. To further enhance motivation to fake well during this lengthy, three hour study, the student who best malingered DID each semester won $50. Rogers (1997a) and others advocate this kind of incentive driven methodology in malingering research to increase simulators' motivation and knowledge of the feigned disorder. To rule out the possibility that simulators experienced pathological dissociation, those scoring 20 or higher on the Dissociative Experiences Scale taxon (DES, Bernstein & Putnam, 1986; DES-T; Waller, Putnam, & Carlson, 1996) were excluded. A DES-T score of 20 was found to maximize both sensitivity and specificity in a general population sample (Waller & Ross, 1997). No feigning subject was excluded based on this criterion.

Procedure

The patients were diagnosed with DID via the SCID-D-R (Steinberg, 1994). Three quarters of the SCID-D-R interviews were conducted by the first author (BB) or another psychologist, both of whom have extensive experience with the clinical and psychological assessment of trauma and dissociative disorders. In the remainder, psychology postdoctoral fellows from the hospital's trauma disorder program, under the supervision of the first author, administered the SCID-D-R. The first author determined all SCID-D-R severity scores and diagnoses.

Advanced honors psychology undergraduates, with extensive formal training in diagnostic interviewing and counseling, conducted the SIRS

with the simulators. The research assistants were not familiar with the study's hypotheses or the DID assessment literature. They received training in conducting the SIRS in the standardized format suggested by Rogers (Rogers et al., 1992). Undergraduates have been shown to be able to reliably administer and score the SIRS (Rogers et al., 1992). The first author or research assistants with extensive experience working with psychiatric inpatients administered the SIRS to the DID sample. The first author scored all the SIRS interviews.

Measures

The Structured Interview of Reported Symptoms (SIRS; Rogers et al., 1992). The SIRS is a 172-item clinician administered interview developed to assess feigning of psychiatric symptoms. It has been validated with clinical (both inpatient and outpatient), community and correctional populations. Construct validity has been demonstrated through factor analyses, discriminant function analyses, and correlational evidence of convergent and discriminant validity with tests including the MMPI (Rogers et al., 1992). The mean alpha reliability coefficients for the eight primary scales are .86 and .75 for the supplementary scales (Rogers et al., 1992). It has shown high discriminability across 17 samples which include diverse research settings, clinical and non-clinical populations, and participants varying in age, gender and race (Rogers et al., 1992). The SIRS even maintains a relatively high classification rate when participants have been coached about malingering detection strategies and about the characteristics of the feigned disorder (Rogers et al., 1992).

The SIRS consists of eight primary and five supplementary scales that reflect 12 different strategies for detecting feigning and one scale that detects defensiveness. Items are rated "X" for no information, "0" for not present, "1" for sometimes, and "2" for a definite yes. Each subscale has its own set of cutpoints to indicate "honest responding," "indeterminate responding," "probable feigning" and "definite feigning." SIRS profiles are considered to be feigned if any of three conditions is met: if any SIRS scale is in the "definite feigning" range; if three or more primary scales are in the "probable feigning" range; or if the sum total of SIRS scores (all scores except repeated inquiries) is above 76. When using the first criterion, the average correct classification rate for feigning was 78.8% and 96.5% for honest responding (Rogers et al., 1992). Using the second criterion, 48.5% of simulators and 95.5% of honest responders were correctly classified. Using the total SIRS score

criterion, 56.6% of simulators were correctly identified (Rogers et al., 1992). The SIRS manual does not list the correct classification rate for honest responding using this criterion.

Structured Clinical Interview for DSM-IV Dissociative Disorders-Revised (SCID-D-R). The SCID-D-R (Steinberg, 1994) is a 277-item semi-structured interview that quantifies five dissociative symptoms: amnesia, depersonalization, derealization, identity confusion, and identity alteration. The SCID-D-R also diagnoses the five DSM-IV dissociative disorders. The SCID-D-R assesses not only the presence or absence of dissociative symptoms, but also their frequency and clinical severity. The SCID-D-R has good-to-excellent reliability and validity for each of the five dissociative symptoms and the five dissociative disorders. The total SCID-D-R score correlates .78 with the DES (Boon & Draijer, 1993). Only patients who were diagnosed with DID via the SCID-D-R were included in this study.

Data Analyses

Comparisons between DID patients and simulators were conducted using row $\times$ column tests for homogeneity of proportions (e.g., chi-square tests) for categorical variables and t-tests for independent means of continuous variables. Significance tests for categorical variables and t-tests were conducted using SAS/STAT software (Version 9, 2002). Group comparisons of SIRS scale means were conducted using t-tests holding the False Discovery Rate (FDR) to .05 (Benjamini & Hochberg, 1995). Logistic regression analysis was used to develop a model to classify DID patients and Simulators based on SIRS scale responses. Because classification proportions based on a model derived from the same sample are trivially high, sensitivity, 1-specificity, positive and negative predictive values, and overall correct classification proportions are reported in both model-derived and cross-validated versions. K-fold cross-validation (Hastie, Tibshirani, & Friedman, 2001) was used such that cases were randomly assigned to $K = 6$ partitions, the model fit on five of the six partitions and tested on the remaining one. The model was refit on sets of 5 partitions until all six individual partitions were exhausted as test partitions. By setting $K = 6$, models were fit on approximately 50 cases and tested on samples of approximately 10. Results (sensitivity, 1-specificity, positive and negative predictive values, and overall correct classification proportions) were averaged across the six folds. Logistic regression and K-fold cross-validation analyses

were conducted using the glm and boot packages in R (R Development Core team, 2004).

RESULTS

Means and standard deviations for both patients and simulators on each of the SIRS primary and supplementary scales are shown in Table 1. Simulators had significantly larger means for four scales: Symptom

TABLE 1. SIRS Scale Means by Group

	Patients (*N* = 20)		**Students** (*N* = 43)		
SIRS Scales	Mean	SD	Mean	SD	Cohen's *d*
Rare Symptoms (RS)	4.0	2.8	5.9	3.9	−0.47
Symptom Combinations (SC)[a]	1.6	3.1	3.9	2.9	−0.73
Improbable or Absurd Symptoms (IA)	1.0	1.5	2.1	2.2	−0.51
Blatant Symptoms (BL)	8.7	4.1	9.5	5.3	−0.16
Subtle Symptoms (SU)	16.9	5.3	15.4	4.4	0.30
Selectivity of Symptoms (SEL)	16.6	3.3	15.9	4.5	0.16
Severity of Symptoms (SEV)	8.9	5.3	9.0	4.8	−0.01
Reported vs. Observed Symptoms (RO)[a]	3.2	2.7	5.5	2.5	−0.84
Direct Appraisal of Honesty (DA)	2.5	1.2	3.2	2.5	−0.40
Defensive Symptoms (DS)	28.7	5.9	29.0	5.3	−0.05
Overly Specified Symptoms (OS)	0.5	1.4	1.5	2.2	−0.63
Symptom Onset (SO)[a]	1.6	1.7	3.2	1.1	−1.53
Inconsistency of Symptoms (INC)[a]	2.2	2.0	4.3	4.3	−0.52
Total	87.4	23.0	100.7	28.0	−0.48
	N (%)		*N* (%)		
≥ 3 probable feigning scales	7 (35%)		20 (46%)		
≥ 1 definite feigning scale	2 (10%)		11 (25%)		
> 76 on total SIRS score	15 (75%)		34 (79%)		

Note: [a]indicates t-test is significant holding False Discovery Rate to .05. Cohen's *d* effect sizes can be compared to values of .2 (small), .5 (medium), .8 (large) to indicate magnitude.

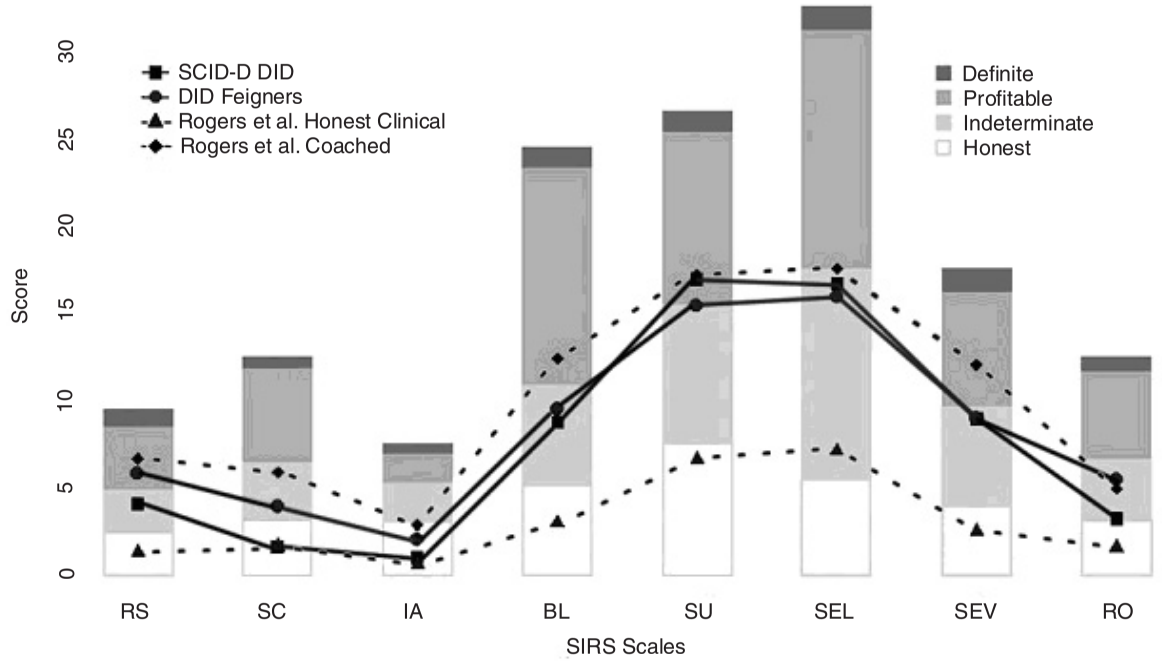
Combinations, Reported vs. Observed Symptoms, Symptom Onset, and Inconsistency of Symptoms. Means for DID patients and DID simulators on the eight primary SIRS scales are shown in Figure 1. Coached and patient groups from Rogers et al. (1992) are shown for comparison. For all eight scales DID patients had higher means than the Rogers et al. patient group, and for all scales but RO, the DID simulators had lower means than the Rogers et al. coached group.

Gender differences were examined to see if differences between groups depended on gender. A MANOVA was conducted with all 14 SIRS scales (8 primary, 5 supplemental, one total score) as dependent variables, and gender, diagnostic group, and the interaction between the two as factors. The gender × group interaction was not significant, $F(13, 47) = 1.04$, $p = 0.224$. A second MANOVA was conducted to determine whether age was differentially associated with response in each group by using group, age, and the group × age interaction as factors. The interaction was not significant, $F(13, 46) = 0.83$; $p = 0.632$. Ethnicity differences were not examined due to the large majority of Caucasian participants.

Using Rogers Clinical Decision Model (3 or more scales probable or 1 definite) to detect feigning, half of simulators were misclassified as honest responders and 35% of patients were misclassified as simulators (overall correct 54%; Table 2). Although simulators' and DID patients' SIRS total scores were jointly high and not different from each other (Table 1), when the SIRS total score was added to the Clinical Decision Model, correct classification of simulators improved slightly (19% simulators classified as honest responders; overall correct 67%). Overall correct classification using these criteria falls well below that reported by Rogers for other diagnostic groups (97.4%-100%, Rogers, 1997b).

A second approach to classifying individuals was taken by developing an empirically based logistic regression model containing primary and secondary scales. The classification proportions (raw and 6-fold cross validated) from the best fitting model are reported in Table 2. The logistic regression model raw and cross-validated classification proportions were higher than those found by using Clinical Decision Model criteria (87% and 82% vs. 67%), but still resulted in less accurate detection of feigning and honest responding than found in other studies.

FIGURE 1. Profiles of SIRS Primary Scale Means for DID Patients, DID Feigners, and Rogers et al. Comparisons Groups



Note: The Rogers et al. (1991) coached sample included 30 undergraduates. The Rogers et al. (1992) honest clinical sample included 100 inpatients and outpatients with a variety of non-DID diagnoses.

TABLE 2. Classification of Patients and Simulators Using Clinical Compared to Empirical Decision Rules

Clinical Decision Model: 3 or more probable, 1 or more definite		
	True Status	
SIRS Classification	Patient (N = 20)	Feigner (N = 43)
Patient (N = 35)	13 (65%)	22 (50%)
Feigner (N = 28)	7 (35%)	21 (49%)
Sensitivity (13/20) 65%		
1-Specificity (22/43) 51%		
Positive Predictive Value (13/35) 37%		
Negative Predictive Value (21/28) 75%		
Overall correctly classified (34/63) 54%		
Clinical Decision Model: 3 or more probable, 1 or more definite, total > 76		
	True Status	
SIRS Classification	Patient (N = 20)	Feigner (N = 43)
Patient (N = 21)	13 (65%)	8 (19%)
Feigner (N = 42)	7 (35%)	35 (81%)
Sensitivity (13/20) 65%		
1-Specificity (8/43) 19%		
Positive Predictive Value (13/21) 62%		
Negative Predictive Value (35/42) 83%		
Overall correctly classified (48/63) 76%		
Empirical Model: (SC + BL + SU + SEV + DS + SO)		
	True Status	
SIRS Classification	Patient (N = 20)	Feigner (N = 43)
Patient (N = 22)	17 (85%)	5 (12%)
Feigner (N = 41)	3 (15%)	38 (88%)
Sensitivity (17/20) 85% [76%[a]]		
1-Specificity (5/43) 12% [15%[a]]		
Positive Predictive Value (17/22) 77% [67%[a]]		
Negative Predictive Value (38/41) 93% [89%[a]]		
Overall correctly classified (55/63) 87% [82%[a]]		

Note: [a]6-fold cross-validated indices italicized in brackets. Coefficients for logistic regression model were Intercept B = −3.82 (SE= 3.07), SC B = −0.42 (SE = 0.21), BL B = 0.46 (SE = 0.22), SU B = 0.88 (SE = 0.30), SEV B = −0.72 (SE = 0.32), DS B = −0.15 (SE = 0.09), SO B = −1.46 (SE = 0.47); Residual deviance: 40.19 (df = 56), AIC: 54.19.

DISCUSSION

As predicted, the DID patients were higher than the "honest responding" range for Subtle Symptoms, Severity of Symptoms, Selectivity of Symptoms, and Rare Symptoms. Average scores were in the "honest range" for only three of eight primary scales: the Symptom Combinations, Improbable and Absurd Symptoms, and Reported vs. Observed Symptoms. In contrast, seven scales were in the honest range for the standardization sample of honest clinical outpatients and inpatients (Rogers et al., 1992).

Elevations on SIRS scales are frequently attributed to dissimulation of symptoms. A person who is elevated on several SIRS scales may be misreporting, or he/she may be accurately reporting his/her poly-symptomatic experience. DID patients experience and report many different types of psychiatric symptoms. The high level of symptom endorsement may reflect the diverse and severe psychiatric symptoms that DID patients experience which are the manifestations of disturbances in several dimensions of functioning (e.g., Coons et al., 1988; Dell, 1998; Ellason & Ross, 2004; Ellason, Ross, & Fuchs, 1996; Fink & Golinkoff, 1992; Loewenstein, 1991; Putnam, 1997; Scroppo et al., 1998), including problems with affect tolerance (e.g., severe anxiety as well as mood and state instability), dissociativity, interpersonal difficulties, impaired self functions such as an ability to self-soothe, disturbances of body image and somatization, and posttraumatic cognitive distortions (e.g., Loewenstein, 1991; Putnam, 1997).

Several of the SIRS scales may be related to symptoms associated with DID. First, it was expected that DID patients would score high on Rare Symptoms because three of the items on this scale appear to assess dissociative phenomena (e.g., feeling outside one's body). Second, the Subtle Symptoms scale assesses difficulties such as problems with motivation and organization, making decisions, and waking up early in the morning. These items may be related to depression, a common comorbid condition for DID patients, as well as the internal conflicts among dissociated self-states found in DID patients (e.g., Coons et al., 1988; Ellason et al., 1996; Kluft, 2001). Third, the Blatant Symptoms scale includes not only obvious psychotic signs of mental illness (e.g., people plotting against one, communicating with other planets), but also depressive and dissociative symptoms that are common among DID patients (e.g., having one's body move strangely, having strange thoughts, hearing voices, suicidal thoughts, and being very depressed). High scores on Selectivity of Symptoms may have been an artifact of

the high degree of overlap between the Blatant Symptoms, Subtle Symptoms, and Severity scales.

The second hypothesis, that the simulators would have higher SIRS scores compared to the DID patients, was only partially supported. Simulators' mean scores were significantly higher than those for DID patients on four out of 13 scales. Neither group had any mean score in the "definite feigning" range, which is consistent with other studies (e.g., Rogers et al., 1992), showing that this criterion is rarely met using grouped data. One mean score from each group was in the probable feigning range, which is unusual for both honest patients and feigners (Rogers et al., 1992). The third hypothesis, that the simulators would have higher total SIRS scores than would the DID patients, was not supported. Both the simulators and the DID patients had similarly very high total SIRS scores. In fact, both groups' mean total scores were much higher than the cutoff used to indicate feigning (Rogers et al., 1992). This high level of overall endorsement is thought to reflect the high levels of symptoms experienced by DID individuals, which were truthfully reported by the patients and well-simulated by the feigners. Classification of individuals using Rogers Clinical Decision Model resulted in considerably poorer correct classification proportions compared to those reported by Rogers for other groups (97.4%-100%, Rogers, 1997b). Together, these findings suggest that the SIRS (1) may be unable to detect motivated and well-informed simulators of DID and (2) may incorrectly lead to many actual DID patients being labeled as malingering.

The simulators were significantly different than the DID patients on only two of the primary scales, whereas in previous studies, simulators have produced significantly higher scores on all eight primary scales (Rogers et al., 1992). The simulators were not significantly different than the DID patients on nine of 13 scales, suggesting that these educated simulators had become well acquainted with the symptomatology of DID and were quite good at simulating DID responses on the SIRS. Our results are inconsistent with other research on the SIRS, which generally has found that simulators score higher across the scales than did those in the current study (Rogers et al., 1992).

Why were the simulators in this study so successful at feigning without being detected by the SIRS? Their success does not seem wholly attributable to level of education or to coaching about psychiatric disorders and strategies to detect malingering. Coaching simulators to avoid detection may somewhat reduce the differences between groups, although one study found that feigners were still significantly

higher than general psychiatric inpatients on all eight primary scales (Rogers, Gillis, Bagby, & Monteiro, 1991). This contrasts with the current study in which simulators and DID patients appeared much more similar in SIRS profiles (Figure 1). Nor does education fully explain the simulators' success because their means were considerably less elevated than the Rogers et al. (1991) coached undergraduate sample. Finally, education about symptoms of mental illness is not a sufficient explanation because simulators who were given lists of symptoms of schizophrenia, mood disorders, and PTSD in another study were not able to feign psychiatric disorders as successfully as did simulators in this sample (Rogers, Kropp, Bagby, & Dickens, 1992).

This study is unique in that simulators had to have taken a college class in abnormal psychology to participate in the study. This requirement may have given these subjects a much more accurate understanding of the range of symptoms of psychiatric disorders in general, and the symptoms of DID in particular. For example, the simulators in this study endorsed Improbable and Absurd symptoms less often than did Rogers et al.'s simulators (mean 1.4 and 4.72, respectively). Future research may help determine whether simulators of other psychiatric diagnoses besides DID who are educated in abnormal psychology can also avoid detection on the SIRS.

Using the Clinical Decision Model, the SIRS did not perform as well in this study as it has in studies of non-DID samples. At best, the overall correct classification proportions were 30% less than found by Rogers and others (67% vs. 97.4%). A logistic regression model developed using the current sample and a subset of scales was able to correctly classify simulators and patients much more effectively than the Clinical Decision Model (87%, cross-validated 82%), although still not to the same level at which the SIRS appears capable. The logistic regression model contained four primary scales and two supplementary scales and makes use of the continuity of the scale distributions instead of the threshold/cut-off point model recommended by Rogers (1997b). These results suggest that current scoring methods may be relatively ineffective at detecting feigned DID. Although it would be unwise to recommend specific scoring changes on the basis of a single study, additional standardization of the SIRS with DID patients would be advisable based on our preliminary data.

One hypothesis about why the SIRS did not distinguish well between genuine and feigned DID is provided by a meta-analysis conducted by Rogers and colleagues (2003) of the MMPI-2 and malingering of a variety of psychiatric disorders. Rogers et al. found that the effect sizes for

detecting malingered PTSD on the MMPI-2 were considerably smaller than for other disorders. Given the high comorbidity between DID and PTSD (e.g., Ellason et al., 1996), it is possible that the small to moderate effect sizes found in this study are related to the generally smaller effects sizes found with malingered PTSD. Rogers et al. suggested that it may be particularly difficult to detect feigned PTSD because of overlap between items thought to measure feigning and PTSD symptoms, and/or the possibility that a small subset of the PTSD samples were undetected feigners. This study's findings provide support for both possibilities. As noted above, we believe that some of the SIRS items may measure experiences common to DID patients. Thus, the symptom "overlap" possibility may have played a role in the inability of the SIRS to distinguish simulated from genuine DID.

Although genuine patients were carefully diagnosed with DID via intensive clinical and SCID-D-R interviews, two showed extremely high rates of symptom endorsement on the SIRS, and on other psychological tests (Brand, McNary, Dell, Kolos, Hood, Bowman et al., 2004). This means that 10 percent of this sample was clinically diagnosed with genuine DID as well as exaggerated psychological symptoms. Other researchers have described DID patients who present as highly dramatic or histrionic (see Armstrong & Loewenstein, 1990; Coons & Milstein, 1994; Draijer & Boon, 1999; Kluft, 1987; Loewenstein & Putnam 2004; Putnam, 1999). Patients with these dramatic presentations are likely to be suspected of malingering and/or factitious disorder, depending on the setting. In our cases, careful clinical and psychometric assessment, including the SCID-D-R interviews, allowed the discrimination of the apparently genuine from the apparently factitious aspects of the patients' presentations. As discussed by Loewenstein and Putnam (2004), it is important that we develop more systematic ways to separate individuals presenting with DID with fully feigned presentations from those who have bone fide DID with factitious aspects of their presentations. However, this issue is not limited to DID cases. It has also been reported in the general forensic psychiatry literature that genuinely psychotic criminal defendants have attempted to feign psychosis in the hope of being found NGRI for their crimes, resulting in a bizarre mixed feigned/genuine clinical picture (Morse, 1999).

On the other hand, the SIRS scores reported here are averaged across individuals. Twenty-five percent of DID patients in this sample scored as "honest" on the SIRS. This is consistent with our clinical and forensic experience, that many DID individuals will be assessed as "hon-

est" with the SIRS, corroborated by clinical interviews, the SCID-D-R and other psychological tests. Rogers and colleagues (1992, 1997b) recommend that the SIRS should not be the sole source of data upon which a determination of feigning should be made. Our data underscore the importance of this recommendation. Reliable classification of feigned and genuine DID may require information from a variety of sources including the SCID-D-R, skilled clinical interviews, and a battery of psychological tests conducted by a psychologist familiar with DID. In addition, in forensic contexts, it is usually crucial to obtain information from collateral sources and to review all available medical, forensic, and related records and documents about the case (Gutheil, 1998; Rogers, 1997a).

The small sample and somewhat unbalanced design of the study made finding moderate and small effect sizes impossible. The power to detect small to medium effect sizes (.2-.5) was less than .50. In other words, the number of meaningful differences between simulators' and patients' mean scores may be greater than what has been reported here, resulting in an overly negative evaluation of the SIRS. However, although statistical power is a consideration when comparing group means, the application of Rogers' clinical decision model does not require large samples and in fact is designed for use in making decisions about individual cases. The observation that the Rogers' clinical decision model was less effective than the empirical model in detecting DID simulation suggests that power was not the only reason the SIRS had difficulty detecting the simulators.

Other limitations of this study include using an analogue group of simulators, rather than individuals actually presenting with factitious or malingered DID. The investigators were not blind to the status of the participants, nor could they have been due to the location of the interviews. However, the research assistants were not familiar with the study hypotheses nor the assessment literature on DID.

This study should be replicated using a larger sample. In addition, it will be important to compare DID patients to simulators who are not well educated in the phenomenology of DID and/or in abnormal psychology. It will also be important to study individuals clinically diagnosed with factitious and/or malingered DID on the SIRS and compare them to actual DID patients.

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RECEIVED: 01/12/05
REVISED: 02/07/05
02/14/05
ACCEPTED: 02/15/05