

# SCL-90 symptom patterns: Indicators of dissociative disorders

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*The purpose of this study was to examine the SCL-90 profiles of adult outpatients with and without dissociative disorders. A total of 194 participants were administered the Structured Clinical Interview for DSM-IV Dissociative Disorders-Revised (SCID-D-R) and the Symptom Checklist-90 (SCL-90). Patients with dissociative identity disorder (DID) reported significantly higher SCL-90 Global Severity Index (GSI) and individual subscale scores than those without dissociative disorders. It is recommended that patients who are polysymptomatic on the SCL-90 be considered for follow-up dissociative symptom assessment to aid differential diagnosis and to inform subsequent treatment. (Bulletin of the Menninger Clinic, 69 [3], 237-249)*

**Dissociative disorders** are characterized in the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* as “a disruption in the usually integrated functions of consciousness, memory, identity, or perception of the environment” (American Psychiatric Association, 1994). Dissociation may be conceptualized as a psychological defense that is often employed by survivors of abuse and trauma in an attempt to escape overwhelming pain and anxiety. Dissociative symptoms and disorders are more prevalent than previously recognized (Allen, 2005; Chu & Dill, 1990; Coons & Bowman, 2001; Coons, 1984; Kluff,

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1984; Putnam, Guroff, Silberman, Barban, & Post, 1986; Steinberg, 1995; Steinberg & Schnall, 2001). For example, a study of 1,008 nonclinical adults in rural North Carolina found that 10% had severe or recurrent depersonalization or derealization experiences that resulted in dysfunction or distress (Aderibigbe, Block, & Walker, 2001). In addition, recent studies of inpatients, outpatients, and college students have found dissociative symptoms and disorders to be relatively common and have found inpatient prevalence rates between 1% to 10% for dissociative identity disorder (DID), the most severe of the dissociative disorders (Boon & Draijer, 1999; Gast, Rodewald, Nickel, & Emrich, 2001; Ray & Faith, 1995; Sar, Tutkun, Alyanak, Bakim, & Baral, 2000).

Historically, individuals who exhibited dissociative symptoms were misunderstood and often mistreated by others, including mental health professionals (Coons, 1984; Kluft, 1995; Putnam et al., 1986; Steinberg, 1995, 2001). Although individuals with dissociative disorders have benefited from our increasing clinical knowledge and understanding, they tend to be misdiagnosed several times before receiving appropriate treatment (Coons, 1984; Kluft, 1995). When accurately diagnosed, individuals with dissociative disorders, including DID, tend to respond positively to specialized psychological treatments (Coons & Bowman, 2001; Kluft, 1984; Steinberg & Schnall, 2001).

Accurate screening and diagnosis of dissociative disorders were greatly enhanced with the development of screening (Bernstein & Putnam, 1986; Nijenhuis, Spinhoven, Van Dyck, Vander Hart, & Vanderlinden, 1996) and diagnostic tools (Steinberg, 1994b, 2000; Ross, Heber, Norton, Anderson, & Barchet, 1989). *The Structured Clinical Interview for DSM-IV Dissociative Disorders-Revised (SCID-D-R; Steinberg, 1994b)* is a semistructured clinical interview that is widely viewed as the “gold standard” in the assessment of dissociative symptoms and disorders (Allen, 2000; Putnam & Loewenstein, 2000; Welburn et al., 2003). It was designed to systematically assess the presence and severity of five core dissociative symptoms: amnesia, depersonalization, derealization, identity confusion, and identity alteration. On the basis of the patient’s SCID-D symptom profile, a clinician may assess for possible *DSM-IV* dissociative and acute stress disorders.

Patients with a dissociative disorder exhibit significantly higher SCID-D dissociative symptom severity and total SCID-D scores than those with other psychiatric disorders (Gast et al., 2001; Goff, Olin, Jenike, Baer, & Bultolph, 1992; Steinberg, 2000; Steinberg, Cicchetti, Buchanan, Rakfeldt, & Rounsaville, 1994). Patients with a dissociative disorder are often polysymptomatic, tend to be misdiagnosed, and may not initially present at a treatment facility that specializes in dissociative disorders. Consequently, it may be important for clinicians and re-

searchers to recognize the symptom profiles of patients with a dissociative disorder on more commonly employed measures of general psychiatric distress.

The Symptom Checklist-90 (SCL-90; Derogatis, Lipman, & Cavi, 1973) is an established measure of general psychiatric distress (Derogatis, 1994; Derogatis et al., 1973; Derogatis, Rickels, & Rack, 1976). In spite of the SCL-90's widespread use in screening for psychiatric symptoms, there is little application of research that examines the SCL-90 in dissociative versus non-dissociative disorders. To date, the authors are not aware of previous research which evaluates SCL-90 profiles in dissociative disorders as compared to other psychiatric disorders. In a study of 144 adult psychiatric inpatients, Ellason and Ross (1997) found that the SCL-90-R psychoticism subscale score was predictive of the reported number of perpetrators who had abused the patients as children. Sandberg and Lynn (1992) compared 33 college students with low Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986) scores to 33 college students with high DES scores. They found that participants with high DES scores reported significantly higher SCL-90 subscale scores and a significantly higher overall Global Severity Index (GSI) compared to those with low DES scores. Both studies used the SCL-90 to screen for general levels of psychopathology rather than to evaluate the distribution of the SCL-90 subscale profile in individuals diagnosed with dissociative disorders.

The present study aimed to examine the SCL-90 profiles of patients with dissociative disorders as compared to patients with other psychiatric disorders. Given that individuals with dissociative symptoms and dissociative disorders tend to be polysymptomatic and that early accurate assessment is important for successful treatment, it may be particularly important to ascertain their symptom profiles on the SCL-90—one of the most widely used general measures of psychiatric distress.

## Methods

### *Subjects*

One hundred and ninety-seven psychiatric outpatients were evaluated for an outpatient clinical trial of dissociative disorders. For the current study, 194 subjects were retained (three subjects did not have complete SCL-90 data).

Of the 194 participants, 183 were diagnosed with a *DSM-IV* Axis I disorder by their referring outpatient clinicians; the other 11 participants (5.7%) did not have an outpatient clinician and thus did not have a *DSM-IV* referral diagnosis. Of the 183 with a *DSM-IV* diagnosis, 26.8% ( $n = 52$ ) were diagnosed with a primary affective disorder,

25.3% ( $n = 49$ ) with a dissociative disorder (diagnosed or suspected), 17.0% ( $n = 33$ ) with an adjustment disorder, 10.3% ( $n = 20$ ) with an anxiety disorder, 9.3% ( $n = 18$ ) with a psychotic spectrum disorder, 4.6% ( $n = 9$ ) with a substance abuse disorder, and 1% ( $n = 2$ ) with borderline personality disorder. Of the 49 participants with a referring clinician diagnosis of dissociative disorder (diagnosed or suspected), 53.1% ( $n = 26$ ) were referred with a diagnosis of a dissociative disorder ( $n = 19$ , dissociative identity disorder;  $n = 7$ , dissociative disorder, not otherwise specified) and 46.9% ( $n = 23$ ) were suspected as having a dissociative disorder ( $n = 12$ , dissociative identity disorder;  $n = 11$ , dissociative disorder, not otherwise specified) as their primary DSM-IV diagnosis.

Subjects ranged in age from 16 to 72 (mean age, 36.3; *SD*, 11.4). Of the 192 subjects who provided information about their ethnic background, 71.9% ( $n = 138$ ) described themselves as Caucasian, 17.2% ( $n = 33$ ) as Hispanic, 6.3% ( $n = 12$ ) as African American, 2.6% ( $n = 5$ ) as Asian, 1% ( $n = 2$ ) as Native American, and 1% ( $n = 2$ ) endorsed the "other" category. Of the 192 subjects who provided information about their relationship status, 58.9% ( $n = 113$ ) were single, 19.3% ( $n = 37$ ) were married, 18.2% ( $n = 35$ ) were divorced, and 3.6% ( $n = 7$ ) were separated.

Subjects were well educated. Of the 193 subjects who provided information about their highest level of academic achievement, 17.6% ( $n = 34$ ) had completed or were currently enrolled in postgraduate programs, 46.1% ( $n = 89$ ) had completed or were currently enrolled in undergraduate education, 15.6% ( $n = 30$ ) had taken some post-high school course work, 15.6% ( $n = 30$ ) completed high school, and 5.1% ( $n = 10$ ) were either in high school or had not obtained their high school diploma. Exclusion criteria for this study included severe agitation, acute suicidal ideation, organic brain syndrome, or mental retardation. Written informed consent for study participation was obtained after a complete description of the study was given to the subjects.

#### *Procedures and measures*

Participants were recruited through study advertisements posted at a local community mental health center and private practice offices. Clinicians at these settings were mailed a letter requesting study referrals. Advertisements and letters mailed to clinicians solicited referrals for a study related to coping with stress coordinated by one of the authors (M.S.). Study announcements were also sent to all clinicians practicing in Connecticut who were members of the International Society for the Study of Dissociation. Thus, recruitment was geared toward finding patients with dissociative symptoms/disorders. Participants responding to

study announcements were self-selected and were not selected randomly from the general adult psychiatric outpatient population.

Study participants had outpatient clinicians who provided referral diagnoses, including presence, absence, and suspicion of dissociative disorders. After entering into the study, patients were assessed and provided with “expert” dissociation-related diagnoses.

*DSM-IV* expert diagnoses were based on independent and reliable administration of the SCID-D-R (Steinberg, 1994b). The SCID-D-R is a widely used diagnostic instrument with good-excellent interrater and test-retest reliability (interrater reliability kappa = .88 for the presence of a dissociative disorder; Steinberg, 2000) and very good discriminant validity for the assessment of dissociative symptom severity and dissociative disorders in a variety of populations (Boon & Draijer, 1999; Gast et al., 2001; Goff et al., 1992; Steinberg, 2000; Steinberg et al., 1990, 1994). The SCID-D can be used with adolescents (Carrion & Steiner, 2000; Steinberg & Steinberg, 1995) and adults, and can assist in distinguishing valid versus simulated dissociation (Steinberg, Hall, Larean, & Cicchetti, 2001; Welburn et al., 2003).

The SCID-D-R was conducted by one of five trained clinical interviewers blind to each subject's referring clinician diagnosis. Interviewers were social workers, psychiatric nurses, and psychiatrists who were trained in the delivery of the SCID-D-R. Training included review of the SCID-D-R, the *Interviewer's Guide to the SCID-D* (Steinberg, 1994a), and videotapes of interviews with prototypical subjects with dissociative disorders and other psychiatric disorders, as assessed by the SCID-D-R. Upon completion of this training and achievement of an acceptable level of interrater reliability (scoring discrepancy of no more than 2 points on the Summary for the full SCID-D-R) with one of the authors' (M.S.) independent assessment, interviewers were considered adequately trained. Following the training, one of the authors (M.S.) reviewed the administration of the SCID-D-R with the interviewers on an ongoing basis in an attempt to minimize potential drift. This training protocol has proven effective in previous studies (Steinberg, Rounsaville, & Cicchetti, 1990; Steinberg et al., 1994).

Participants completed the SCL-90 (Derogatis et al., 1973) prior to the SCID-D-R. The SCL-90 is a widely used 90-item measure of general psychiatric distress. Psychometric evaluations have reported good internal consistency (alpha coefficients .77 to .90), good test-retest reliability, and good concurrent, construct, and discriminant validity (Derogatis, 1983, 1994; Derogatis, Wiederman, & Magnus, 1976; Morgan et al., 1998). The 90 items comprise nine subscales: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, anger-hostility, phobic anxiety, paranoid ideation, and

psychoticism. Items are rated on a 5-point scale of symptom distress, which ranges from “not at all” (0) to “extremely” (4). The GSI—the average score for all 90 items—is an overall measure of psychiatric distress with established reliability and validity (Derogatis, 1983, 1994).

#### *Data presentation and analysis*

Data of the general psychiatric symptoms of patients with and without a dissociative disorder (DD) are presented. First, the diagnostic category (DD vs. non-DD based on SCID-D) patterns in the SCL-90 subscales and GSI are described. Second, a factor analysis on the 90 SCL symptoms is performed in order to provide an added level of specificity to that provided by the SCL-90 subscales and GSI. Third, the symptom patterns as a function of diagnostic category in the factors produced by the factor analysis are examined.

## Results

#### *Diagnostic category patterns in SCL-90 subscales and GSI*

Figure 1 summarizes the findings for patients with and without DD on the SCL-90 subscales and GSI. A multivariate analysis of variance (MANOVA) revealed an overall significant difference between the DD and non-DD groups,  $F(10, 182) = 7.91, p < .001$ . Analysis of variance (ANOVA) was used to test for group differences on the individual SCL-90 subscales and GSI.

In comparison to their non-DD counterparts, patients with DD reported significantly greater scores on somatization,  $F(1, 191) = 40.05, p < .001$ , obsessive-compulsive,  $F(1, 191) = 56.23, p < .001$ , interpersonal sensitivity,  $F(1, 191) = 37.65, p < .001$ , depression,  $F(1, 191) = 49.62, p < .001$ , anxiety,  $F(1, 191) = 41.04, p < .001$ , anger-hostility,  $F(1, 191) = 22.95, p < .001$ , phobic anxiety,  $F(1, 191) = 24.13, p < .001$ , paranoid ideation,  $F(1, 191) = 33.44, p < .001$ , psychoticism,  $F(1, 191) = 66.38, p < .001$ , and general symptom index,  $F(1, 191) = 58.35, p < .001$ . Patients with DD continued to report significantly higher SCL-90 subscale and GSI scores than those without DD even after application of a Bonferroni adjustment for multiple comparisons ( $.05 \div 10 = p < .005$ ). There was no significant gender effect on any of the SCL-90 subscales, GSI, or factor scores among those with or without DD.

All 26 cases referred with a clinician diagnosis of DD were confirmed on the SCID-D. Twenty-two of the 23 suspected cases of DD were confirmed by the SCID-D. In addition, the SCID-D identified 47 new cases of DD ( $n = 29$ , DDNOS;  $n = 12$ , DID,  $n = 5$ , depersonalization disorder;  $n = 1$ , psychogenic amnesia). New cases are those individuals who were

SCL-90 symptom patterns

Table 1. *Varimax Solution with Three Factors for SCL-90 in 194 Adult Outpatients<sup>a</sup>*

SCL-90 Item	Factor Loading <sup>b</sup>		
	Anx-Dep <sup>c</sup>	Par-Psy <sup>d</sup>	Pan-Phob <sup>e</sup>
<b>Factor 1: Anxiety-Depression</b>			
2 Nervousness	0.588	0.299	0.343
14 Low energy	0.688	0.000	0.208
28 Feeling blocked	0.672	0.310	0.143
29 Feeling lonely	0.688	0.278	0.173
30 Feeling blue	0.742	0.294	0.242
31 Worry	0.720	0.332	0.160
32 Lack of interest	0.659	0.325	0.257
33 Feeling fearful	0.679	0.316	0.345
57 Feeling tense	0.686	0.249	0.334
66 Restless sleep	0.606	0.000	0.335
71 Everything requires effort	0.699	0.214	0.341
86 Feeling pushed	0.494	0.341	0.161
<b>Factor 2: Paranoid-Psychotic</b>			
7 Thought control	0.000	0.643	0.287
8 Blame others	0.233	0.490	0.000
9 Trouble remembering	0.391	0.508	0.350
16 Hearing voices	0.134	0.610	0.191
18 Lack of trust	0.304	0.657	0.178
35 Thought broadcasting	0.228	0.523	0.107
37 Disliked by others	0.354	0.604	0.340
62 Thought insertion	0.123	0.729	0.271
65 Repetitive behavior	0.239	0.400	0.303
68 Unusual beliefs	0.307	0.529	0.124
84 Disturbing thoughts about sex	0.128	0.533	0.331
85 Punishment for sins	0.142	0.722	0.192
<b>Factor 3: Panic-Phobia</b>			
4 Faintness	0.196	0.164	0.555
12 Heart/Chest pains	0.162	0.198	0.526
13 Fear open places	0.133	0.318	0.566
25 Fear going out alone	0.000	0.341	0.609
27 Lower back pain	0.232	0.000	0.507
47 Afraid of public transportation	0.000	0.234	0.539
48 Trouble getting one's breath	0.347	0.220	0.636
49 Hot or cold spells	0.236	0.000	0.705
52 Numbness/Tingling	0.194	0.276	0.633
53 Lump in one's throat	0.224	0.251	0.534
56 Feeling weak	0.230	0.299	0.655

<sup>a</sup>Total percent of variance = 50.28%. <sup>b</sup>Shaded areas represent the criteria that correspond to each factor. <sup>c</sup>Eigenvalue = 38.19; percent of variance = 42.43%. <sup>d</sup>Eigenvalue = 3.78; percent of variance = 4.20%. <sup>e</sup>Eigenvalue = 3.28; percent of variance = 3.65%.

not suspected as having a DD by their referring clinician and whom were subsequently identified as having a DD on the SCID-D.

#### *Factor analysis of SCL-90 symptoms*

Table 1 summarizes a factor analysis of the 90 items reflecting general psychiatric distress. Generally speaking, items with a factor loading of less than .40 or that loaded significantly onto two or more scales were dropped. Reliability analyses were subsequently conducted using Cronbach alphas and item analyses. Items that reduced the alpha coefficient were removed from the factor. Finally, factors were examined from a rational perspective; items were dropped that did not fit conceptually with the other factor items. This resulted in two items being deleted from Factor 2. These two items did not significantly affect the factor's coefficient alpha.

Results of a principal components analysis (Norusis, 1994) indicated that the most appropriate solution comprised three factors. A varimax (orthogonal) rotation specifying a three-factor solution accounted for 50.28% of the variance (see Table 1). The first factor, which we labeled "anxiety-depression," comprised 12 items that centered on feeling blue, worry, feeling that everything requires effort, low energy, and feeling lonely. Item-total correlations ranged from .46 to .81. The second factor, which we labeled "paranoid-psychotic," comprised 12 items that centered on thought insertion, deserving punishment for sins, absence of trust, thought control, and hearing voices. Item-total correlations ranged from .48 to .71. The third factor, which we labeled "panic-phobia," comprised 11 items that centered on hot or cold spells, feeling weak, trouble getting one's breath, numbness/tingling, and fear of going out alone. Item-total correlations ranged from .48 to .74. The three factors had internal reliability coefficients or Cronbach alphas of .94, .89, and .88, respectively.

#### *Diagnostic category patterns in SCL-90 factors*

In comparison to their non-DD counterparts, patients with DD reported significantly greater scores on anxiety-depression,  $F(1, 191) = 48.32, p < .001$ , paranoid-psychotic,  $F(1, 191) = 49.99, p < .001$ , and panic-phobia,  $F(1, 191) = 31.06, p < .001$ .

#### **Discussion**

The study examined the SCL-90 profiles of outpatients with and without dissociative disorders. Although SCL-90 profiles did not vary significantly by gender, those with DD reported significantly higher scores on the overall GSI and on each of the nine subscales, namely, somatization,

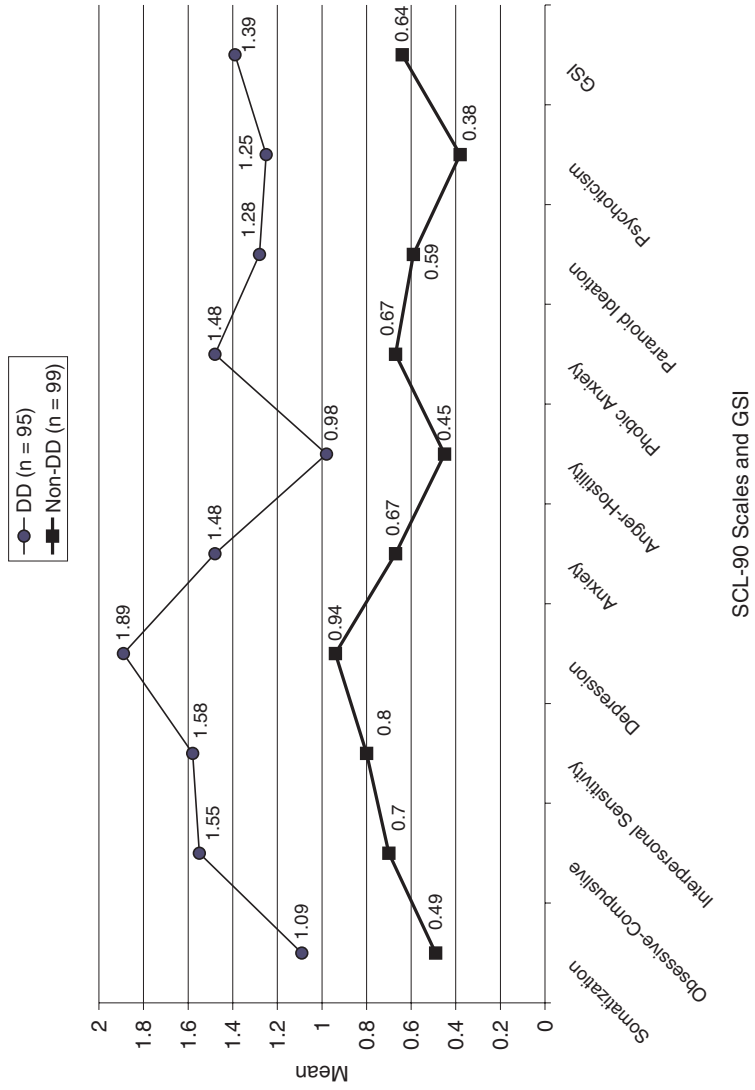


Figure 1. Comparison of Participants with and without a Dissociative Disorder (DD) on SCL-90

obsessive–compulsive, interpersonal sensitivity, depression, anxiety, anger–hostility, phobic anxiety, paranoid ideation, and psychoticism. These findings support those previously reported regarding the polysymptomatic presentation of patients with DD (Coons, 1984; Kluft, 1995; Putnam et al., 1986; Steinberg, 1995; Steinberg & Schnall, 2001).

In addition, patients with DD reported significantly higher scores on three factors derived from SCL–90 items: anxiety–depression, paranoid–psychotic, and panic–phobia. These findings are consistent with prior reports of the co–occurrence of anxiety, depression, and psychotic symptoms among individuals with dissociative symptoms and disorders, and of the importance of systematic assessment of dissociation for accurate differential diagnosis (Nijenhuis et al., 1997; Putnam et al., 1986; Spiegel, 1993; Steinberg et al., 1994).

Although individuals with DD may present with symptoms that mimic psychosis and may endorse items on the SCL–90 associated with psychosis, clinicians should be aware that elevated polysymptomatic profiles may reflect underlying dissociative rather than psychotic–spectrum disorders. Previous research with the second edition of the Minnesota Multiphasic Personality Inventory (MMPI–2: Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989) found that patients with dissociative problems endorse MMPI–2 scales typically associated with psychotic symptoms (Allen & Coyne, 1995; Bliss, 1984). Similar to the MMPI, the SCL–90 may aid clinicians in assessing the severity and nature of subordinate diagnoses of patients with polysymptomatic presentations, but it does not aid clinicians in confirming the presence of DD. Thus, patients who endorse multiple SCL–90 scale items should be further assessed using a clinical interview evaluating dissociation or with a standardized diagnostic interview such as the SCID–D–R to aid the differential diagnosis between psychosis and dissociative disorders. Accurate and early diagnosis is particularly important given that individuals with dissociative disorders typically respond positively to specialized psychological treatments (Coons & Bowman, 2001; Kluft, 1984; Steinberg & Schnall, 2001). Such specialized treatment can result in reduced dissociative symptoms and decompensations necessitating rehospitalization.

It is not surprising that this study identified 47 new cases of dissociative disorders because study subjects were not randomly selected. Instead, patients were referred to the study (1) by their clinicians and (2) by self–selection to a study announcement asking for volunteers for an investigation related to how people cope with stress. The patients' clinicians were aware that the study was being coordinated by one of the authors (M.S.) whose previous research entailed the evaluation of dissociative symptoms. Clinicians with patients with

dissociative symptoms may have been more likely to refer patients whom they suspected had a dissociative disorder. Patients with undetected dissociative disorders are in high distress, and they may seek out such studies in an attempt to better understand their untreated symptoms and resultant distress. In addition, numerous studies have documented the long delay in detection of dissociative disorders, resulting in treatment for comorbid disorders and/or overlapping symptoms, which in turn results in misdiagnosis prior to dissociative disorder detection (Coons, 1984; Kluft, 1985; Putnam et al., 1986).

Potential limitations of this study may include whether the findings generalize to DD and non-DD individuals who do not present for treatment. Such individuals may have different developmental histories or presenting manifestations of dissociative disorder features or psychological functioning. Furthermore, the study employed a cross-sectional design and thus limits statements regarding causality. Prospective longitudinal studies with repeated measures are needed to determine risk factors and the natural course of dissociative symptoms and disorders.

Overall, outpatients with DD in our study reported more psychiatric distress on the SCL-90 than did their non-DD counterparts. Patients who are polysymptomatic on the SCL-90 should be considered for a follow-up SCID-D-R assessment. Although the SCL-90 subscale and factor profiles may allow for rapid screening of patients with dissociative disorders, the use of the SCID-D allows for accurate differential diagnosis and informed subsequent treatment.

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