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Differentiating Dissociative from Non-Dissociative Disorders: A Meta-Analysis of the Structured Clinical Interview for DSM Dissociative Disorders (SCID-D)

Journal of Trauma and Dissociation

Matthew P. Mychailyszyn, PhD^a, Bethany L. Brand, PhD^a, Aliya R. Webermann, MA^b, Vedat Şar, MD ^c, and Nel Draijer, PhD^d

^aDepartment of Psychology, Towson University, Towson, Maryland, USA; ^bDepartment of Psychology, University of Maryland, Baltimore, Maryland, USA; ^cDepartment of Psychiatry, Koç University School of Medicine, Istanbul, Turkey; ^dDepartment of Psychiatry, VU Medical Center, Amsterdam, Netherlands

ABSTRACT

Inaccurate diagnosis of dissociative disorders (DDs) remains a frequent problem. Misdiagnoses may lead to delayed or ineffective treatment, and subsequently poorer quality of life for those struggling with DDs, who frequently utilize mental health treatment and evidence high rates of self-harm and suicidality. This study's objective was to examine the magnitude of the effects with which the Structured Clinical Interview for DSM-IV Dissociative Disorders (SCID-D) and revised version (SCID-D-R) – henceforth referred to as the “SCID-D interviews” – provide diagnoses of DDs and differentiate them from nondissociative disorders as well as factitious and simulated dissociative presentations. For inclusion, studies had to be empirical investigations comparing SCID-D data of DD populations with other populations. Using combined methods of searching for “SCID-D” in electronic indexing databases, seeking recommendations from experts, and reviewing reference sections of identified studies, 15 studies were identified and subjected to meta-analytic review. Analyses showed that the overall SCID-D interview score (effect size 3.12) as well as each of the five subscales – particularly amnesia and identity alteration (effect sizes 2.16 and 2.87, respectively) – significantly differentiated DD from non-DD. Findings suggest that the SCID-D interviews show good validity identifying and differentiating those with DDs as compared to those without DDs. The SCID-D interviews are valid instruments for diagnosing and differentiating DD from other psychiatric disorders and feigned presentations of DD. Clinicians, researchers, and forensic experts can use the SCID-D interviews with confidence to make differential diagnoses of DDs. Future research using the SCID-D interviews is discussed.

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The study of dissociative disorders (DDs) has progressed notably within the past 30 years to address the growing need to provide accurate assessment,

CONTACT Matthew P. Mychailyszyn  mmychailyszyn@towson.edu  Department of Psychology, Towson University, 8000 York Road, Towson, MD 21252, USA

diagnosis, and treatment to those with DDs. In decades prior, large sample studies and analytical reviews of large case series (e.g., Ross, Norton et al., 1989; Boon & Draijer, 1993a; Kluft, 1991; Loewenstein & Putnam, 1990; Putnam et al., 1986) provided important descriptions of DD patients' etiologies, symptoms, and treatments. These studies provided clarity about patients with DDs, a frequently misunderstood and misdiagnosed group of individuals who take an average of seven years or more to be accurately diagnosed and referred to specialized dissociation-focused treatment (e.g., Boon & Draijer, 1993c; Ross, Joshi et al., 1990; Fraser & Raine, 1992; Hornstein & Putnam, 1992; Lloyd, 2011; Putnam et al., 1986; Ross & Dua, 1993).

Misdiagnosis among this group is associated with negative impacts including the prolonging of poor quality of life, excessive disability, and high utilization of inpatient hospitalizations (Leonard et al., 2005). These individuals' pronounced safety struggles, severe symptomatology (e.g., Boon & Draijer, 1993a; Putnam et al., 1986; Kluft, 1995; Ross & Norton, 1989), and their positive response to specialized intervention with associated reductions in treatment costs (Brand et al., 2019; Brand et al., 2009, 2013; Ellason & Ross, 1997; Jepsen et al., 2014, 2009; Myrick et al., 2017) make it imperative that mental health professionals can accurately and readily diagnose DDs to ensure that appropriate treatment can be delivered and suffering ameliorated more promptly. The complex trauma and dissociation field needs a valid and reliable way to diagnose DDs, to differentiate the DDs from one another, and to differentially diagnose DDs from non-dissociative psychopathology.

To aid in the assessment and diagnosis of DDs, clinicians can use screening measures and diagnostic measures. Screening measures are self-report scales screening for elevated dissociative symptoms which may be indicative of a possible DD, while diagnostic measures match symptoms onto the diagnostic criteria for DDs found within the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR/DSM-5; American Psychiatric Association, 2000/2013). The most useful measures examine a breadth of dissociative symptoms, including amnesia, depersonalization, derealization, identity confusion, and identity alteration, among others. Two of the frequently used screens for dissociation include the Dissociative Experiences Scale (Carlson et al., 1993) and the Multiscale Dissociation Inventory (Briere et al., 2005).

In terms of diagnostic interviews, the Structured Clinical Interview for DSM-IV Dissociative Disorders-Revised (SCID-D-R; Ross et al., 2002; Kundakçi et al., 2014; Steinberg, 1994, 2000) is regarded as one of the most psychometrically sound approaches to the diagnosis of DDs, as is its original iteration, the Structured Clinical Interview for DSM-III-Revised (DSM-III-R) Dissociative Disorders (SCID-D; Steinberg, 1993). Items on both versions of the measure are identical, although the SCID-D uses the DSM-III term

‘multiple personality disorder’, while the SCID-D-R uses the DSM-IV term ‘dissociative identity disorder’ (DID) for the equivalent disorder. A reissued version of the SCID-D is in press (Steinberg, [in press](#)) which will include the SCID-D and SCID-D-R required questions necessary for reaching DDs diagnoses. However, the reissued version will include a limited number of optional questions to assist interviewers new to diagnosing DDs. The reissued version of the SCID-D will allow for making diagnoses based on DSM-5 as well as ICD-11 criteria for DDs (Marlene Steinberg, personal communication January 1, 2020). Given the consistency of the required questions across all versions of the SCID-D, results can be compared and interpreted across versions of the SCID-D. Thus, a meta-analysis relying on data from both currently available versions is timely, relevant and urgently needed and will be applicable to the forthcoming version. In this context, we used “SCID-D interviews” throughout this paper for ease of reading, rather than alternating reference to various versions.

Other useful diagnostic interviews include the clinically-oriented Office Mental Status Examination (OMSE; Loewenstein, 1991) and the Dissociative Disorders Interview Schedule (DDIS; Ross, Heber et al., 1990, 1989). The OMSE does not utilize quantitative or cutoff scores and is thus more subjective and not used for research. The DDIS does not yield information on severity, duration, or the onset of symptoms, nor requires as much experiential, subjective description from patients. As such, it may be less useful in challenging diagnostic contexts such as forensic evaluations or when malingering or factitious presentations need to be considered.

The mental health field needs a valid and reliable method of diagnosing DDs and differentially diagnosing them from other disorders and presentations. The extant literature suggests that the SCID-D interviews may be the most rigorous method for assessing DDs (psychometric data on these assessments is described in the Methods section). The SCID-D interviews are semi-structured interviews, using a SCID format (Spitzer et al., 1990), yielding scores for five subscales, including amnesia, depersonalization, derealization, identity confusion, and identity alteration, as well as a total score. Numerous studies have demonstrated the strong psychometric properties of the SCID-D interviews, including high interrater and test-retest reliability, as well as discriminant validity in distinguishing severe dissociation and DDs from other psychiatric disorders (Boon & Draijer, 1991; Boon & Draijer, 1993c; Goff et al., 1992; Kundakçi et al., 2014; Steinberg et al., 1990).

However, evaluation of the SCID-D interviews is needed across studies to provide further evidence of its diagnostic efficacy. Thus, the aim of the present study was to examine the magnitude of the effects with which the SCID-D interviews provide diagnoses of DDs and can differentiate DDs from other psychiatric disorders as well as factitious and simulated presentations within clinical and community samples. We conducted a meta-analysis using

mean and standard deviation scores for each SCID-D subscale (when available) as well as Total scale scores. We calculated effect sizes to capture the magnitude with which the SCID-D interview is able to differentially diagnose DDs from one another and from non-DD disorders, as well as its utility in distinguishing DDs from factitious and malingered presentations, and healthy controls.

Method

Searching

Studies for the present meta-analysis were identified through the use of several search strategies. The search term “SCID-D” was specifically utilized so as to inclusively capture all relevant versions of the assessment interview (e.g., the SCID-D-R) and was entered into electronic databases (PsycINFO and PubMed) with no additional delimiters; the final search was conducted on June 10, 2019. As per recommendations in meta-analytic searching, reference sections of identified studies were also reviewed to locate other potentially relevant studies that may not have been returned by electronic indexing. Finally, to maximize comprehensiveness, five experts in the field of DDs were consulted – including the author of the SCID-D and SCID-D-R – to inquire into other relevant studies not identified by the strategies described above.

Selection

We reviewed the records returned from the search procedures outlined above. Studies were selected for review in the present meta-analysis if they met the following inclusion criteria: (a) reported the results of an empirical investigation utilizing the SCID-D or SCID-D-R to compare individuals with DDs to control groups of those without DDs; (b) participant samples were adults, operationally defined herein as being college-aged and older; (c) provided the statistical information (e.g., sample size, means, standard deviations) needed for calculation of effect sizes; (d) the publication was written in English. To preserve independence (e.g., double-counting of identical data), a sample can only be represented once in analyses, and thus additional publications reporting on the same set of participants were excluded.

Data abstraction

Effect size (ES) data from relevant studies was extracted by one of the article authors, consistent with guidelines provided from meta-analytic experts Lipsey and Wilson (2001): “In small meta-analyses, the coding will be done entirely by the researcher” (p. 90). Consistent with the study selection criteria

described above, a study was excluded if missing quantitative data for effect sizes could not be obtained through communication with authors.

Measures

The Structured Clinical Interview for DSM-IV Dissociative Disorders Revised (SCID-D-R) and its predecessor, the SCID-D (Steinberg, 1994, 2000), are semi-structured interviews that yield scores for five subscales, including amnesia, depersonalization, derealization, identity confusion, and identity alteration, as well as a total score. Scores are obtained through base questions assessing the presence or absence of symptoms, as well as symptom duration, frequency, severity, and associated impairment and distress. Each subscale is rated on its frequency as absent, mild, moderate, or severe (range of 1–4), with a possible total score of 20 (Steinberg, 1994, 2000). Higher scores indicate greater and recurrent levels of psychopathology. The strength of the SCID-D is the combination of both direct and indirect questions to identify dissociation in its different manifestations. It is intended for the trained diagnostician familiar with the differentiation of DDs from disorders that may be mistaken for DDs, as well as feigned and factitious DDs.

The SCID-D-R can diagnose all DDs as well as rule out DDs when dissociation may be better accounted for by other phenomenon, such as drug and alcohol use, medical illness, transient stress-related dissociative experiences, and traumatic brain injury, among others.

Psychometrics of SCID-D Interviews

This family of assessment instruments demonstrate excellent interrater reliability ($\kappa = .76-.96$; Boon & Draijer, 1993b; Kundakçi et al., 2014; Steinberg et al., 1990), test-retest reliability ($\alpha = .72-.96$; Kundakçi et al., 2014; Sar et al., 2014; Steinberg et al., 1990), and good discriminant validity in distinguishing DID from feigned dissociation and schizophrenia (Steinberg et al., 1994; Weber, 1996; Welburn et al., 2003), conversion disorders (Bowman & Coons, 2000), and DDs patients from a nondissociative mixed psychiatric population (Kundakçi et al., 2014; Boon & Draijer, 1993).

External validity

The SCID-D interviews have been validated in a variety of traumatized and severely dissociative populations, including college students (Sar et al., 2014), psychiatric inpatients (Kundakçi et al., 2014) and outpatients (Mueller-Pfeiffer et al., 2013). Additionally, the interview has been validated in both U.S. (e.g., Goff et al., 1992; Steinberg, 1994; Steinberg et al., 1990) and international samples with both in- and outpatient populations (e.g., Boon & Draijer, 1991; Gingrich, 2009; Kundakçi et al., 2014; Tamar-Gurol et al., 2008).

Effect Size

The form of effect size we utilized is the standardized mean difference (SMD; Lipsey & Wilson, 2001). This approach compares an identified target group to comparison groups (*the latter of which may be of varying compositions*). This is one of – the most commonly employed analytical approaches in meta-analytic research, as it allows important between-groups comparison. The aggregated effect size, Hedge's g is interpreted as small if g is between 0.2–0.49, medium if between 0.5–0.79, and large if 0.8 and higher.

Results

Study characteristics

Application of the search and selection procedures above led to the identification of 15 unique investigations that met inclusion criteria (see Figure 1). Table 1 summarizes the included studies, which were conducted across 7 different countries, with a total of 1194 individuals included in the analyses (463 diagnosed with dissociative disorders). Of the studies included, 13 were published in peer-reviewed journals, one was published in a book, and one was an unpublished doctoral dissertation.

Quantitative data synthesis

Standardized mean difference effect size

For the 15 studies evaluating the SCID-D interviews in terms of overall ability (e.g., total score) to differentiate between adults with DDs and a comparison group of any type without DD, the aggregated effect size (Hedge's g) was significant at 3.12 (95% CI [2.30, 3.94], $p < .001$).

Subscale analysis

Amnesia. Out of the 15 available studies, 13 presented data on the individual subscale of Amnesia. For these investigations, the effect size representing the ability of the SCID-D interviews to differentiate those with DDs versus any non-DDs comparison group was significant at $g = 2.16$ (95% CI [1.50, 2.81], $p < .001$)

Depersonalization. From among the 15 studies meeting inclusion criteria, 13 presented data on the subscale examining depersonalization. For these studies, the effect size reflecting the capacity to discriminate those with DDs from those comparison individuals without DDs was significant at $g = 1.63$ (95% CI [1.19, 2.06], $p < .001$).

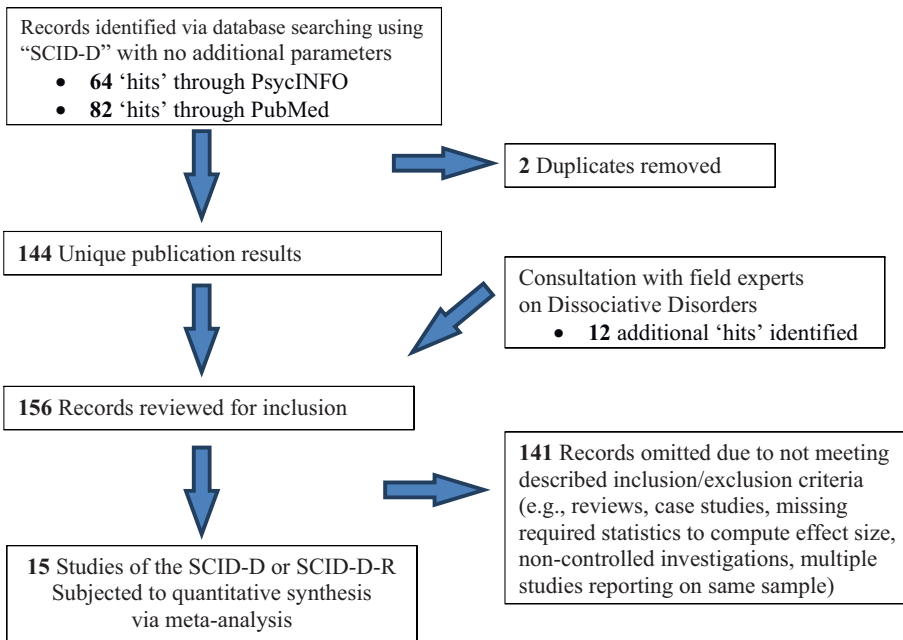


Figure 1. PRISMA flow chart of study inclusion.

Derealization. Out of the 15 included studies, 13 presented data for the subscale of the SCID-D interviews exploring derealization. For these investigations, the effect size representing the ability of the SCID-D to differentiate those with DDs versus any non-DDs comparison group on derealization was significant at $g = 1.29$ (95% CI [0.87, 1.71], $p < .001$)

Identity Confusion. Thirteen studies explored the ability to distinguish between DDs samples compared to comparison groups. The effect size was significant at $g = 1.85$ (95% CI [1.35, 2.35], $p < .001$), indicating identity confusion differentiated the groups.

Identity Alteration. There were 13 studies from the available 15 that reported data on identity alteration. The effect size was significant at $g = 2.87$ (95% CI [1.92, 3.81], $p < .001$), indicating identity alteration differentiated individuals with DDs from non-DDs groups.

Discussion

Results of the meta-analysis of 15 studies indicated that the SCID-D interviews are valid clinical diagnostic instruments to assess DDs and discriminate them from other psychiatric conditions including feigned presentations in

Table 1. Characteristics of studies.

| Study | Country | N | Type of Dissociative Disorder | Type of Control Group | Effect Size (Total Score) |
|--------------------------------|-------------|-----|---|---|---------------------------|
| Benjamin et al. (1996) | USA | 91 | DID, DDNOS | Psychiatric Patients, Hospital Staff | 4.39 |
| Boon and Draijer (1991) | Netherlands | 44 | DID, DDNOS | Personality Disorder | 2.96 |
| Boon and Draijer (1993b) | Netherlands | 90 | DID, DDNOS | Psychiatric Patients | 3.95 |
| Boon and Draijer (1993c) | Netherlands | 113 | DID, DDNOS | Personality Disorder (borderline, histrionic, Cluster B) | 2.80 |
| Gingrich (2009) | Philippines | 60 | DID, DDNOS, Dissociative amnesia | College Students | 2.81 |
| Karadag et al. (2005) | Turkey | 112 | DID, DDNOS, Dissociative amnesia, depersonalization disorder | Substance Users | 3.27 |
| Kundakçi et al. (2014) | Turkey | 68 | DID, DDNOS | Psychiatric Patients | 5.70 |
| Mueller-Pfeiffer et al. (2013) | Switzerland | 160 | DID, DDNOS, Dissociative fugue, depersonalization disorder | Psychiatric Patients | 3.46 |
| Rodewald et al. (2011) | Germany | 150 | DID, DDNOS | Psychiatric Patients, Healthy Controls | 4.29 |
| Sar et al. (2003) | Turkey | 44 | DID, DDNOS, dissociative amnesia, depersonalization disorder | Borderline Personality Disorder | 1.62 |
| Sar et al. (2014) | Turkey | 133 | College students with DID, DDNOS, dissociative amnesia, or depersonalization disorder | College Students with and without Borderline Personality Disorder | 3.61 |
| Steinberg et al. (1990) | USA | 48 | Dissociative Disorders | Psychiatric Patients, Healthy Controls | 2.08 |
| Steinberg et al. (1994) | USA | 50 | DID | Schizophrenia, Schizoaffective Disorder | 1.45 |
| Weber (1996) | USA | 46 | DID | Factitious DID, Psychiatric Patients | -1.34 |
| Welburn et al. (2003) | Canada | 31 | DID | Normal, Feigners, Schizophrenia | 1.73 |

adults. The SCID-D interviews address the five core dimensions of dissociative psychopathology: dissociative amnesia, depersonalization, derealization, identity confusion, and identity alteration. Our meta-analyses found large effect sizes for all five symptom areas. The largest effect sizes were obtained for overall comparisons of DDs to other psychiatric disorders ($g = 3.12$), followed by comparisons of identity alteration ($g = 2.87$) and dissociative amnesia ($g = 2.16$). This suggests that overall the SCID-D interviews can effectively distinguish DDs from other disorders quite well. Furthermore, identity alteration and dissociative amnesia are particularly useful in distinguishing DDs from other psychiatric disorders, as these two dissociative symptom areas constitute the main DSM-5 diagnostic criteria of DID, which is the most severe DD. The implication is that the SCID-D interviews are particularly useful in differentiating DID from other disorders.

Depersonalization and derealization symptoms are quite common in patients with a variety of psychiatric diagnoses, including posttraumatic stress disorder (PTSD), anxiety disorders, eating disorders, and personality disorders (see Boon & Draijer, 1993b). Therefore, it is not surprising that these symptom clusters did not discriminate DDs from other psychiatric disorders quite as well as identity alteration and dissociative amnesia. However, although of smaller magnitude, the comparisons were still large when contrasting DDs to non-DDs on depersonalization and derealization. One study found that the SCID-D interview was able to distinguish between patients with DID and Dissociative Disorder Not Otherwise Specified (DDNOS) from patients with borderline personality disorder (BPD) or histrionic personality disorder (Boon & Draijer, 1993b).

Among the studies included in these meta-analyses, the study by Boon and Draijer (Boon & Draijer, 1993b) offers a valuable illustration of the importance of adherence to the specified diagnostic rules of the SCID-D interviews. The researchers found that out of six licensed experienced mental health professionals, the rater who had the lowest interrater reliability scores had difficulty following the diagnostic rules due to his 'disbelief' about the existence of DID. Specifically, this rater gave a subject the diagnosis PTSD and borderline personality disorder, while all of the other five raters assigned the diagnosis dissociative disorders NOS and borderline personality disorder. These five raters were in total agreement when they assigned the diagnosis MPD (DID) to six subjects and the diagnosis DDNOS to one subject. The diverging rater differed from the others in his evaluation of two DID subjects: in one case he gave a diagnosis of DDNOS and in the other he gave the diagnosis of depersonalization disorder. This suggested that if clinicians carefully follow the diagnostic rules for the SCID-D interviews, they can likely arrive at diagnoses that are valid, consistent and reliable.

A particular strength of the SCID-D interviews is that instead of a simple 'yes' or 'no' type of answer it requires patients who endorse a symptom to

provide an example of each dissociative symptom in their own words. These examples allow clinicians to utilize the individual's qualitatively described experience to distinguish clinical DDs from both other psychiatric diagnoses as well as from factitious and malingered DDs (Draijer & Boon, 1999). This leads to more conservative assessments and lower prevalence rates as is shown in the comparison of prevalence studies based on different instruments (Friedl et al., 2000).

Two studies in the meta-analyses included participants with feigned DID presentations (Weber, 1996; Welburn et al., 2003). As Table 1 shows, both studies' effect sizes were large indicating that the SCID-D interviews can differentiate between genuine, clinical DID and factitious DID ($g = -1.34$ in Weber, 1996) as well as consciously produced, simulated presentations of DID ($g = 1.73$ in Welburn et al., 2003). It is notable that the only negative effect size occurred with the Weber study. This negative effect size is likely due to patients presenting with factitious DID tending to report exaggerated experiences of dissociation that are more severe and frequent than those reported by individuals with clinical DID (Draijer & Boon, 1999).

As for factitious DID: individuals who feel "empty" and without a well-developed sense of self may be confused about who they are, and may inaccurately believe themselves to have DID. Yet their descriptions of what they describe as dissociative experiences can be distinguished from those with genuine dissociative pathology. For example, someone with borderline personality features may report, "My level of confidence and the way I act changes according to which friends I'm with or how much alcohol I've drank" versus someone with DID may report, "I act just like a little kid when I get scared. My partner tells me that I say hateful things that I know I must have said but I am horrified that I would ever say such things and I don't remember saying them". Furthermore, patients' descriptions on the SCID-D interviews can help clinicians distinguish DD from non-dissociative psychotic presentations (e.g., "God takes over and controls me some days and other days Satan possesses me") and bipolar presentations (e.g., "I feel like I am a totally different person when I have energy and feel good, but I am so different person when I can't get out of bed and cry all the time").

The identity alteration section of the SCID-D interviews inquires about symptoms such as age regression, disremembered behavior, experiences of possession, and experiencing oneself or being perceived by others as behaving so differently that the person seems to be almost a different person. Further questions inquire about secondary features of identity disturbance such as mood fluctuation, changes in abilities, flashback experiences, internal dialogs, and hearing voices. Each of these items is related to a certain aspect (e.g., memory, sense of agency, cognitions, psychomotor phenomena) of identity alteration whereas a particular individual may show only a subgroup of them. A factor-analytic study using a self-report identity

alteration questionnaire (Şar et al., 2017) yielded three clinically meaningful components: Mental intrusions from within the individual's mind, the experience of being a different person, and experiences located in the external world (e.g., others perceiving the person as acting as if they were a different person). All these components significantly correlated with the SCID-D interviews' identity alteration score collected concurrently from the same study group.

The dissociative amnesia section of SCID-D interviews inquires about acute and distinct symptoms of memory disruption such as generalized amnesia accompanying dissociated behavior (e.g., fugue states) and also subtle memory symptoms such as chronically occurring memory gaps and daily mundane periods of forgetting one's behavior. The SCID-D interviews were able to detect dissociative amnesia better than was a self-report measure completed by dissociative patients (Sar et al., 2014). Hence, SCID-D interviews may be more sensitive than patients' self-report (Kluft, 1988).

The SCID-D interviews are designed to make diagnoses based on criteria of DSM-IV. However, the DSM-5 made changes in the criteria for DDs. The differentiation of DID from other specified dissociative disorder type 1 (OSDD-type 1) may remain as one of the critical differences between the versions of the DSM, and therefore have implications for diagnosis using the SCID-D-R. These differences could influence the prevalence rates of both disorders in epidemiological studies. Specifically, the DSM-5 includes variations of mixed dissociative symptoms that were not fully described in the DSM-IV including the OSDD-type 1 identity disturbance without marked discontinuities in sense of self and agency. The various versions of the SCID-D assess the severity and frequency of these dissociative symptoms, so can be used to make the differential diagnosis between DID and OSDD-type 1. Another difference in the DSM-5 is the addition of experiences of possession, which is categorized as a form of identity alteration. The various versions of the SCID-D interviews include a question about possession. Although DSM-5 includes depersonalization and derealization into one single disorder, the SCID-D interviews can be used to assess the current DSM-5 depersonalization – derealization disorder. One major addition to DSM-5 is the “acute dissociative reaction to stress” as a type of ‘other’ dissociative disorders (Loewenstein et al., 2017) which is addressed by the SCID-D interviews' introductory section on acute dissociation. Finally, the SCID-D interviews would also be able to identify the dissociative subtype of PTSD, a novel category introduced by DSM-5 (DSM-5; American Psychiatric Association, 2013), although further study is required to determine what percentage of the PTSD-dissociative subtype patients actually meet the criteria of a DD (Swart et al., 2019)

Our meta-analyses strongly support the validity and utility of the SCID-D interviews. It remains puzzling why these specific assessment tools not used

more routinely by clinicians, researchers, and forensic experts. The time required to administer the interview may dissuade some from using it. Our findings suggest that the investment of time needed to conduct this interview is worthwhile, given the interview's ability to differentiate malingered or factitious presentations, and other disorders, from DDs. Reliance on the SCID-D interviews can promote solid diagnoses in a field in which some have challenged the validity and reliability of DDs.

Conclusions

The SCID-D interviews are consistently able to distinguish DDs from other conditions when used by various research teams across cultures. It is also able to address the severity and complexity of complicated dissociative conditions. Our meta-analyses of 15 studies found very large effect sizes for the SCID-D interviews, with the highest effect sizes for the symptom clusters of identity alteration and dissociative amnesia, both of which are diagnostic criteria of DID. Thus, these dissociative symptoms can be considered to be the symptoms most able to discriminate between DID and other psychiatric disorders when using the SCID-D interviews. These results indicate that clinicians, researchers, and forensic experts can use the SCID-D interviews with confidence to make differential diagnoses of DDs.

ORCID

Vedat Şar  <http://orcid.org/0000-0002-5392-9644>

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