

**Testing the Diagnosis of Dissociative Identity Disorder through Measures of
Dissociation, Absorption, Hypnotizability and PTSD: A Norwegian Pilot
Study.**

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Abstract

14 women with dissociative identity disorder (DID) were compared with 10 women with other dissociative disorder, and 14 non-diagnosed comparison participants with regard to dissociativity, absorption, trauma related symptoms and hypnotizability. Both of the clinical groups reported histories of childhood trauma and attained high PTSD scores. The DID group differed significantly from the group with persons with other dissociative diagnoses and the non-diagnosed comparison group with regard to hypnotizability and the variety and magnitude of serious dissociative symptomatology. However, no significant differences between the two clinical groups were detected with regard to absorption, general dissociative level or symptoms related to traumatic stress. Results support the notion that DID can be regarded as a clinical entity which is separable from other dissociative disorders. Results also indicated that hypnotizability is the most important clinical feature of DID.

Keywords: DID, trauma, hypnotizability, absorption

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Introduction

Dissociative identity disorder (DID; APA, 1994) has good diagnostic validity (Gleaves, May, & Cardeña, 2001) and is supported by taxometric research, whereby two types of dissociation have been identified: Pathological dissociation, whose features are consistent with DID, and non-pathological dissociation (Waller, Putnam, & Carlson, 1996). On these grounds, and within the framework of a pilot study, we aimed to investigate if DID is a separable clinical entity in relation to other dissociative disorders.

Dissociative disorders are characterized by disruptions in the usually integrated functions of consciousness, memory, sense of identity, and perception of the environment (APA, 1994). Such disruptions must not be related to a neurological condition or processes such as overlearning or distraction (Cardeña, 1994). DID is characterized by the presence of two or more distinct identities, each with its own relatively enduring pattern of perceiving, relating to, and thinking about the environment and self (APA, 1994).

Dissociative phenomena are believed to occur as defences, both during and after traumatic experiences (Spiegel, Hunt, & Dondershine, 1988). Pathological dissociation is linked to severe traumatic stress during childhood (Kirby, Chu, & Dill, 1993). Boon and Drajer (1993) found that a history of childhood physical and/or sexual abuse was reported by 94.4% of 71 patients with DID. 80.6% met the criteria for posttraumatic stress disorder (PTSD; APA, 1994).

Persons with dissociative disorders have been proven to be significantly more hypnotizable than persons with other mental disorders and non-diagnosed persons

(Frischholz et al., 1992). In addition, assessment instruments for dissociation, such as the Dissociative Experience Scale (DES; Bernstein & Putnam, 1986) and its subscale for pathological dissociation, the DES-T (Waller et al, 1996), show high correlations with standardized hypnotizability measures (Butler & Bryant, 1997; Carlson & Putnam, 1989).

Although trauma may induce pathological dissociation, trauma is not associated with increased hypnotizability (Putnam & Carlson, 1998). Putnam et al. (1995) found that abuse victims were not more hypnotizable than non-abuse controls. However, in the abuse group, highly hypnotizable subjects were significantly more dissociated than low hypnotizable.

Based on earlier findings we should expect that persons with DID and other dissociative disorders, compared to normal controls, had higher scores on a series of measures related to both dissociation and PTSD. Furthermore we should expect that higher levels of dissociation were related to higher levels of hypnotizability. Lastly, we should expect that persons with DID, to some extent, would be separable from persons with other dissociative disorders, with regard to measures of dissociativity, hypnotic susceptibility and PTSD.

Method

Participants

Participants were assigned to three groups depending on their diagnostic status: Persons with DID (the DID group, n = 14), persons with other DSM-IV dissociative disorders (the DD group, n = 10), and non-diagnosed persons (the NODD group, n =

14). Participants in the DID group were recruited via a nationwide search among 46 psychiatric institutions, and came from all over Norway. Participants in the DD and the NODD group were recruited by contacting nearby psychiatric institutions, through newspaper advertisement, and through an e-mail based recruitment campaign at the University of Tromsø. Prior to this investigation, participants in the two clinical groups had only been tentatively diagnosed, mainly by their therapists, with regard to dissociative disorders.

Participants in the DID group (mean age 38; mean educational level 13.6) had all been hospitalized due to their mental disorder, but only three were currently in treatment. Seven were chronically disabled and seven were either working or studying at college/university level.

In the DD group (mean age 33.7; mean educational level 11.8) seven participants met the criteria for dissociative amnesia and three met the criteria for depersonalization disorder. Three participants were chronically disabled, two were in rehabilitation programs, three worked either full-time or part-time, and two were university students. All participants had been hospitalized due to their mental disorder, one was currently receiving treatment at a ward, and the rest received treatment from outpatient clinics.

None of the participants in the NODD group (mean age 29.3; mean educational level 13.7) were currently in treatment for mental health problems or had histories of such treatment. Eleven were university students, one participant worked full-time, and three worked part-time, of which two participated in work related rehabilitation programs.

The research was approved by the Regional Committee for Medical Research Ethics in Health Region V in Norway, and was conducted according to the Declaration of Helsinki. Written informed consent was obtained from all participants. No monetary reward was given.

Measures

Dissociative diagnosis was determined through the SCID-D (Steinberg, 1995), a 276 item structured clinical interview designed to make DSM -IV dissociative disorder diagnosis. SCID-D has an overall interrater reliability of 0.68 (Kappa), a sensitivity of 90%, and a specificity of 100% for diagnosing DID.

The variety of serious dissociative symptomatology was measured by adding the number of dissociative subcategories from the SCID-D suffered from to a serious degree. The sub-categories include Amnesia, Depersonalization, Identity confusion, and Identity change (rated from non-existent, through mild, moderate, to serious).

The magnitude of dissociative symptomatology (i.e., how many dissociative symptoms are experienced) was measured by adding the number of SCID-D items that had a positive registration (items 1 – 276).

Dissociative level (i.e., to which degree are symptoms present) was measured with The DES, a 28-item self-report questionnaire reported to be reliable, internally consistent, and temporally stable (Dubester & Braun, 1995). Subjects indicate in increments of

10% (0 - 100) the percentage of time they have the experience described within each item. A total score is computed as the mean of the responses to the 28 items.

Pathological dissociation was measured by the DES-T which consists of item 3, 5, 7, 8, 12, 13, 22 and 27 from the DES. A total score is computed as the mean of the responses to the 8 items.

Absorption was measured with The Tellegen Absorption Scale (TAS; Tellegen & Atkinson, 1974); a 34 item (true-false) self-report questionnaire designed to measure experiences of “hypnotic-like” occurrences where one is either absorbed by external phenomena (e.g. movies) or internal events (e.g. fantasies). A total score is computed as the summation of all items that are responded to as “true.”

Hypnotizability was measured with the Harvard Group Scale of Hypnotic Susceptibility (HGSHS; Shor & Orne, 1962), which is a 12-item scale that has a reliability measure of .83. The HGSHS usually lasts 45 – 60 minutes.

Current and lifetime traumatic stress was measured with The CAPS (Clinician-Administered PTSD Scale; Blake, et al. 1997), a structured interview designed to register current and lifetime prevalence of the 17 DSM-IV based PTSD core symptoms. Each symptom is assessed along a five point scale (0 – 4) with regard to frequency and intensity. A total score is computed by adding the frequency and intensity scores for each of the symptoms.

Current and lifetime subjective distress was measured with the CAPS. Scores are registered along a five point scale (0 - 4), from “none” to “extreme.”

Exposure to traumatic events was measured with the CAPS, wherein traumatic events are defined according to Criterion A in the DSM-IV diagnosis of PTSD and include 16 life-threatening situations, such as natural disaster, physical/sexual assault, and combat exposure. Scores for each individual were computed by adding the number of traumatic events experienced. In order to evaluate the data in line with the relatively strong theoretical basis that dissociative disorders develop as a result of sexual and physical abuse during childhood, we also organized reports of traumatic events into the following 7 categories: (1) Sexual assault during lifetime, (2) Sexual assault during childhood, (3) Sexual assault by a close relative during childhood, (4) Physical assault during lifetime, (5) Physical assault during childhood, (6) Physical assault by a close relative during childhood, and (7) Accidents, serious illness, sudden death, and natural disaster during lifetime.

Procedure

Participants completed the two self-report questionnaires. Afterwards, they underwent clinical assessment with the two clinical interviews, the CAPS and the SCID-D (administered by the second author) and the HGSHS (administered by the first author).

Data analyses

Descriptive and psychometric statistics for all groups were calculated (mean scores,

CIs and SDs) and the distribution of the data was examined by Levene's test for equality of variance. Because the clinical variables failed to meet the normal distribution of the scores, we chose to use the Mann-Whitney test, a non-parametric analysis of variance, in combination with a post test Bonferroni adjustment of significance level (in order to control for type 1 error).

Differences across groups with regard to age, educational level, and trauma categories were analyzed with independent samples t-tests. To ascertain if educational level could explain the variance in any of the other variables t-tests were performed on these variables with educational level, serving as the independent variable, broken into two: (1) low education participants, 9 – 12 years, and (2) high-education participants, 12 - 16 years. Significance level was adjusted post test for these analyses through the Bonferroni procedure.

Power analyses on the DES and the DES-T data were performed to determine how much larger the samples would need to be in order to reach an alpha value of $p = .050$.

Results

Age and educational level

Mean age varied across groups but there were no significant differences between groups. There were significant differences in educational level between the DID and the DD group ($t = 2,517, df = 22, p = .02$) and between the DD and the NODD group ($t=-2.126, df=22, p = .045$), but educational level, when broken into a high and a low education group, did not influence significantly any of the clinical variables.

Absorption and hypnotizability

There were no significant group differences with regard to absorption as measured by the TAS (Table 1.). The DID group scored significantly higher on the HGSHS than both the DD group ($p = .003$) and the NODD group ($p = .xxx$). The difference between the DD and the NODD group was non-significant (Table 1.).

Dissociative level and pathological dissociation

The DID and the DD group differed significantly from the NODD group with regard to DES scores (Table 1.), but the difference between the two clinical groups was non-significant ($p = .508$). Power analyses showed that samples of $n = 220$ would be needed in order to reach an alpha level of $p = .050$ (two tailed). DES-T scores varied slightly, but not significantly, across the clinical groups. The NODD group scored significantly lower than both the DID group and the DD group (Table 1.). Power analyses showed that samples of $n = 90$ would be needed in order to reach an alpha level of $p = .050$ (two tailed).

Variety and magnitude of serious dissociative symptomatology

The DID group had a significantly higher number of SCID-D subcategories, from which they suffered to a serious degree, than the DD group ($p = .xxx$) and the NODD group ($p = .xxx$). There was also a significant difference between the DD and the NODD group in this respect ($p = .xxx$) (Table 1.). Furthermore, the DID group scored significantly higher than the DD ($p = .xxx$) and the NODD group ($p = .xxx$) with regard to SCID-D items, and there was a significant difference between the DD and

the NODD group here ($p = .xxx$).

Insert Table 1 about here

Exposure to traumatic events

All participants in the DID and DD groups reported histories of traumatic events, but only one participant in the NODD group had had such an experience (Table 1.). The DID group did not differ significantly from the DD group in this respect.

When groups were compared with regard to our 7 categories of traumatic events, there are more reports in the DID group, compared to the DD group, of both sexual and physical abuse during lifetime, sexual and physical abuse during childhood, and sexual assault by a close relative during childhood (Table 2). T-tests showed that there were no significant differences across the clinical groups across these 7 subcategories.

Insert Table 2 about here

Current and lifetime PTSD and subjective distress

Only the clinical groups attained PTSD scores (Table 1.). All participants in the DID group met the criteria for PTSD diagnosis, both current and lifetime. In the DD group, 8 (80%) met the criteria for current PTSD and 7 (70%) met the criteria for lifetime

PTSD. As shown in Table 1. there was not a significant difference between the clinical groups with regard to scores of current and lifetime PTSD and current and lifetime subjective distress.

Discussion

The DID group differed significantly from the group of participants with other dissociative disorders with regard to the magnitude and variety of dissociative symptomatology, and especially, with regard to hypnotic abilities. Hence, our study gives support to the notion that DID can be regarded as a clinical entity which is separable from other dissociative disorders (Waller et al., 1996).

As expected, histories of childhood sexual and physical assault were reported in both clinical groups and both these groups attained high PTSD scores. Although the clinical groups did not differ significantly with regard to scores of current and lifetime PTSD, some differences were observable with regard to the type and occurrence of abuse, with, e.g., a higher percentage of the DID group having experienced sexual assault by a close relative during childhood compared to the DD group. This is consistent with findings that imply that DID is linked to the nature of the assault and to the relationship between the victim and the perpetrator (Boon & Drajer, 1993).

The DID group had significantly more dissociative symptoms and a significantly wider range of serious dissociative symptomatology, as measured by the SCID-D, than the DD group. However, the DID group did not score significantly higher than the DD group on the DES or the DES-T. Hence, neither the DES nor the DES-T differentiated between DID and other dissociative diagnoses in this sample.

With larger groups, significant differences between the clinical groups might be attainable, at least on the DES-T.

Absorption did not significantly differentiate between the groups, implying that this measure has low predictive value with regard to DID.

Based on our findings we might assume that hypnotizability is one of the most important clinical features in DID. However, it is important to interpret the results within the limitations set by a small sample pilot study. Furthermore, groups were uneven with regards to age and educational level and there was a serious limitation in the design in that the person administering the hypnosis test was not masked to diagnosis. These issues must be addressed in future studies.

Hypnosis and dissociation are complex phenomena and there need not be a straightforward explanation of how they interact (Putnam & Carlson, 1998). In the neodissociation perspective (Hilgard, 1994), hypnosis and dissociation are regarded as inseparable phenomena, both characterized by an ability to divide awareness. Moreover, involuntary hypnotic responding, or “autohypnosis”, is hypothesized to be instrumental for how mental subsystems are dissociated/disconnected by amnesic barriers, as the case might be in DID. Butler et al. (1996) hypothesized that hypnosis and pathological dissociation share an underlying process: It was observed that hypnosis could produce a variety of dissociations and that the features of absorption, dissociation, and suggestibility/automaticity could be discerned in dissociative pathology.

Persons who develop DID have endured repeated exposure to extreme physical and sexual abuse (Boon & Drajer, 1993) and these persons are also highly hypno-

tizable, as our results show. Hence, we might imagine that those who develop DID, compared to those who develop other dissociative diagnoses, are more prone to use trance states to protect themselves against overwhelming life-threatening experiences. Such a reaction pattern can be depicted as both dissociative and “autohypnotic” (Butler et al., 1996).

Our results indicate that DID can be identified more precisely if patients are screened for hypnotic susceptibility. In accordance with Frischholz et al. (1992), it would be advisable for practitioners to use a standardized hypnosis test in combination with a standardized clinical instrument as a differential diagnostic procedure. Our results also give support to the notion that clinical hypnosis may play a central role in the treatment of DID and other dissociative disorders (Kluft, 1992).

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Table 1 Descriptive and psychometric statistics and group comparisons using the Mann-Whitney Test for all groups on measures of absorption, hypnotizability, dissociation and PTSD.

Measures	Groups	N	Mean scores	95% CI of mean	SD	Mann-Whitney test		
						Groups compared	U	Exact sign.
Absorption	DID	14	21.93	18.29 – 25.57	6.30	DID v.s DD	66.00	.841
	DD	10	23.00	20.30 – 25.70	3.77	DID v.s NODD	63.00	.114
	NODD	14	18.21	14.51 – 21.92	6.41	DD v.s NODD	38.50	.064
Hypnotizability	DID	13	9.15	0 – 12	3.05	DID v.s DD	19.00	.003
	DD	10	6.30	3 – 9	2.11	DID v.s NODD	21.00	.xxx
	NODD	14	4.28	0 – 10	2.99	DD v.s NODD	43.50	.122
Dissociative level	DID	14	41.07	26.94 – 55.20	24.48	DID v.s DD	58.00	.508
	DD	10	35.17	21.27 – 49.06	19.42	DID v.s NODD	9.00	.xxx
	NODD	14	8.43	5.81 – 11.06	4.54	DD v.s NODD	11.00	.xxx
Pathological dissociation	DID	14	40.5	25.15 – 55.88	26.61	DID v.s DD	54.50	.371
	DD	10	29.3	12.96 – 45.76	22.93	DID v.s NODD	7.00	.xxx
	NODD	14	5.4	2.76 – 8.07	4.60	DD v.s NODD	19.50	.002
#Variety of serious dis. symptomat.	DID	14	4.57	4 – 5	.51	DID v.s DD	13.00	.xxx
	DD	10	2.60	1 – 5	1.34	DID v.s NODD	.00	.xxx
	NODD	14	.00	0 – 0	.00	DD v.s NODD	11.00	.xxx
*Magnitude of dis. symptomat.	DID	14	50.71	28 – 66	9.46	DID v.s DD	2.00	.xxx
	DD	10	20.30	6 – 39	9.59	DID v.s NODD	.00	.xxx
	NODD	14	.00	0 – 0	.00	DD v.s NODD	.00	.xxx
Traumatic events	DID	14	7.57	3 – 13	2.60	DID v.s DD	39.50	.074
	DD	10	5.60	3 – 11	2.70	DID v.s NODD	.00	.xxx
	NODD	14	.07	0 – 1	.26	DD v.s NODD	.00	.xxx
Current PTSD	DID	14	75.15	45 – 96	15.10	DID v.s DD	32.50	.042
	DD	10	43.50	0 – 113	39.26	DID v.s NODD	.00	.xxx
	NODD	14	.00	0 – 0	.00	DD v.s NODD	7.00	.xxx
Lifetime PTSD	DID	14	102.30	81 – 128	13.84	DID v.s DD	31.00	.036
	DD	10	70.40	4 – 113	35.83	DID v.s NODD	.00	.xxx
	NODD	14	.00	0 – 0	.00	DD v.s NODD	.00	.xxx
Current subjective distress	DID	14	2.61	2 – 4	.76	DID v.s DD	28.50	.021
	DD	10	1.30	0 – 3	1.25	DID v.s NODD	.00	.xxx
	NODD	14	.00	0 – 0	.00	DD v.s NODD	28.00	.013
Lifetime subjective distress	DID	14	3.53	2 – 4	.66	DID v.s DD	31.50	.036
	DD	10	2.60	0 – 4	1.17	DID v.s NODD	.00	.xxx
	NODD	14	.00	0 – 0	.00	DD v.s NODD	7.00	.xxx

#Variety of serious dissociative symptomatology, *Magnitude of dissociative symptomatology

Table 2 Proportion of persons, as indicated in percentages and fractions, in each group who reported experiences within 7 trauma event categories.

Categories	Groups		
	DID	DD	NODD
(1) Sexual assault during lifetime.	100% (14/14)	90% (9/10)	0
(2) Sexual assault during childhood.	85% (12/14)	60% (6/10)	0
(3) Sexual assault by a close relative during childhood.	64% (9/14)	40% (4/10)	0
(4) Physical assault during lifetime.	92% (13/14)	80% (8/10)	0
(5) Physical assault during childhood.	57% (8/14)	50% (5/10)	0
(6) Physical assault by a close relative during childhood.	42% (6/14)	50% (5/10)	0
(7) Accidents, serious illness, sudden death, and natural disaster during lifetime.	100% (14/14)	100% (10/10)	0.07% (1/14)