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A Longitudinal Naturalistic Study of Patients With Dissociative Disorders Treated by Community Clinicians

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Severe dissociative disorders (DD) are associated with high levels of impairment, treatment utilization, and treatment costs, yet relatively little systematic research has focused on treatment for these challenging patients. The goal of this naturalistic observational 30-month follow-up study of an international sample of patients with dissociative disorders was to determine if treatment provided by community providers was associated with improvements in symptoms and adaptive functioning. The patients were diagnosed with dissociative identity disorder (DID) and dissociative disorder not otherwise specified (DDNOS). The patients and their therapists completed surveys at study entry and at 6-, 18-, and 30-month follow-up. At the 30-month follow-up, 119 of the original 226 patients completed the surveys. According to patients' reports, they showed decreased levels of dissociation, posttraumatic stress disorder symptoms, general distress, drug use, physical pain, and depression over the course of treatment. As treatment progressed, patients reported increased socializing, attending school or volunteering, and feeling good. According to therapists' reports, patients engaged in less self-injurious behavior and had fewer hospitalizations as well as increased global assessment of functioning scores (American Psychiatric Association, 2000) and adaptive capacities over time. These results suggest that treatment provided by therapists who have training in treating DID/DDNOS appears to be beneficial across a number of clinical domains. Additional research into the treatment of DD is warranted.

Keywords: dissociation, dissociative identity disorder, trauma, PTSD, treatment

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Dissociative disorders (DD) are common among psychiatric samples in North America as well as Western and Eastern Europe with ranges between 1 to 20.7% among inpatients (e.g., Friedl & Draijer, 2000; Gast, Rodewald, Nickel, & Emrich, 2001; (Rifkin,

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Ghisalbert, Dimatou, Jin, & Sethi, 1998; Ross, Anderson, Fleisher, & Norton, 1991; Tutkun et al., 1998) and 12 to 29% among outpatients (e.g., Foote, Smolin, Kaplan, Legatt, & Lipschitz, 2006; Şar et al., 2003; Şar, Tutkun, Alyanak, Bakim, & Baral, 2000). Patients with DD have high levels of comorbid psychiatric conditions including posttraumatic stress disorder (PTSD), depression (often treatment resistant), personality disorders, substance abuse, eating disorders, self destructiveness, and suicidality (e.g., Ellason, Ross, & Fuchs, 1996; Foote, Smolin, Neft, & Lipschitz, 2008; Johnson, Cohen, Kasen, & Brook, 2006; Karadag et al., 2005; Putnam, Guroff, Silberman, Barban, & Post, 1986). They almost invariably fit the construct of "complex posttraumatic stress disorder" (Courtois & Ford, 2009; Herman, 1992; Loewenstein & Welzant, 2010).

DD are associated with high levels of impairment. A representative survey of adults in New York state found mean impairment scores were 50% higher among patients with DD than among the other psychiatric disorders (Johnson et al., 2006). After controlling for other disorders, age and gender, individuals with DD had significantly lower global assessment of functioning scores (GAF; American Psychiatric Association, 2000) than did individuals without DD (60.8 and 77.2, respectively). Individuals with DD have been found to have higher rates of multiple suicide attempts than individuals with borderline personality disorder, posttraumatic stress disorder, and substance abuse disorders who do not have comorbid DD (Foote et al., 2008).

DD are also associated with high rates of treatment utilization and high treatment costs. A study of service utilization among spouses of military personnel found patients with DD utilized the highest number of outpatient therapy sessions of any of the 17 psychiatric disorders studied (Mansfield et al., 2010). Inpatient treatment costs for dissociative identity disorder (DID) accounted for 33.5% of the total Medicaid inpatient costs in Massachusetts from 1993 to 1996 despite being only 2.5% of the sample (Macy, 2002). Preliminary cost efficacy data indicate that specialized phasic treatment for DD is associated with significant cost savings, although cost reductions were most notable in patients with less chronic treatment courses (Loewenstein, 1994).

Patients with high levels of dissociation appear to be at risk for poor response to current treatments and higher relapse rates when only treated for anxiety disorders, substance abuse, borderline personality disorder, and depression without directly addressing dissociative psychopathology (Friedman et al., 2009; Kleindienst et al., 2011; Michelson, June, Vives, Testa, & Marchione, 1998; Somer, 2003; Spitzer, Barnow, Freyberger, & Grabe, 2007). However, studies have shown that individuals with complex trauma and high levels of dissociation respond to specialized trauma-focused treatment with reductions in dissociation and other trauma-related difficulties (e.g., Lynch, Forman, Mendelsohn & Herman, 2008). Because these studies have not included patients diagnosed with specific DD, more research is needed to clarify the impact of dissociation on their treatment trajectories.

Despite the chronicity, severity, and difficulties associated with treating highly dissociative individuals, current evidence indicates that patients with DD benefit from treatment that specifically addresses their trauma-related dissociation in phase-oriented treatment (for a review, see Brand, Classen, McNary & Zaveri, 2009). Studies suggest that patients with DD appear to respond to treatment with decreases in dissociation, depression, and PTSD, as well as decreases in self-destructiveness and comorbid Axis I and II disorders (Brand, Classen, Lanius, et al., 2009). However, these studies have considerable methodological weaknesses, including a reliance on small samples, patients mostly located in the United States, and expert therapists. In addition, most of the studies have used inpatient samples, which may confound treatment effects with regression to the mean phenomena. None have used randomized controlled trials or a large cohort of outpatients treated by clinicians in the community. Thus, the efficacy of outpatient treatment provided by community therapists is unknown.

Given the prevalence, severity, high rates of treatment utilization, and high costs associated with DD, it is critical to develop rigorous outcome research with DD patients, using large outpatient samples, including patients outside North America, and a wide range of therapists, not just "experts." With these methodological issues in mind, we developed the treatment of patients with dissociative disorders (TOP DD) study. This is an international, prospective, naturalistic study of DD patients treated by therapists in the community. The baseline cross-sectional results of this study (Brand, Classen, Lanius, et al., 2009) indicated that across both patient ($N = 280$) and therapist ($N = 292$) reports, patients in the last stage of treatment engaged in fewer self-injurious behaviors, had fewer hospitalizations, and demonstrated higher levels of adaptive functioning than those in the initial stage of treatment. Patients in the last stage of treatment reported lower levels of dissociative, PTSD, and distress symptoms than patients in the initial stage of treatment.

It is important to determine if these promising cross-sectional results are supported using within patient comparisons as the patients in the TOP DD study are followed over time. In the current study, we test the hypothesis that community treatment for patients with DD is associated with decreased symptoms and increased adaptive functioning over 30 months.

Method

The present study relied on practice network methodology in which community therapists and their patients are recruited as the participants in research. The methodology of this study is explained in detail in Brand, Classen, Lanius, et al. (2009).

Participants

Baseline participants consisted of 298 therapists and 237 patients. Therapist recruitment began in 2007 from the member register of the International Society for the Study of Trauma and Dissociation (ISSTD), graduates of the ISSTD's Dissociative Disorders Psychotherapist Training Program (DDPTP), and mental health professional listserves. Initial email invitations described the research as a treatment outcome study of DD in which clinicians and their patients with DD were invited to participate. The only exclusion criteria for patients were being younger than 18 or being unable to read English. To ensure our sample was representative of community samples of patients with DD, we did not exclude patients based on typical exclusion criteria in treatment outcome studies. For example, a meta-analysis of PTSD treatment studies found that 62% of the studies excluded patients with substance abuse and another 62% excluded patients with serious comorbid disorders (Bradley, Greene, Russ, Dutra & Westen,

2005). Therapists invited one patient to participate in the study from their caseload of those diagnosed with either DID or dissociative disorder not otherwise specified (DDNOS).

Therapists completed password-protected, web-based surveys. The methodology and therapist survey were adapted from a naturalistic community study of borderline personality disorder (BPD; Zittel Conklin & Westen, 2005). To protect patient confidentiality and to recruit a wider range of participants—including those who did not have access to the Internet—patient measures were sent via postal mail to therapists' work addresses. Therapists gave packets of measures to their patients, who completed them outside of treatment and without the presence of the therapist. Patients returned the packets directly by mail to the researchers. All surveys were identified by code numbers to match pairs of patient and therapist surveys. The study received institutional review board approval and all participants (therapists and patients) provided informed consent prior to participation. Neither therapists nor patients were compensated for participation.

Follow-up rates/retention. Sample sizes for therapist interviews are as follows: Time 1, $n = 295$; Time 2, $n = 189$, (189/295 = 64% follow-up); Time 3, $n = 174$ (59%); and Time 4, $n = 135$ (46%). Sample sizes for patients at each follow-up were: Time 1, $n = 226$; Time 2, $n = 171$ (76%); Time 3, $n = 131$ (58%); and Time 4, $n = 111$ (49%). Two patients completed the Time 2 follow-up only and four completed the Time 4 only. None of these patients were included in the follow-up rate calculation ($n = 173$ and $n = 115$ total interviews at Time 2 and 4, respectively). Data were missing due to either attrition or patient termination. Length of time to the first follow-up averaged 205.9 days ($SD = 44.8$), 584.5 ($SD = 64.0$) to the second follow-up, and 936.9 ($SD = 59.8$) to the final follow-up.

Therapists and/or patients who completed at least two protocols, of which one was the final follow-up, were considered retained. All other respondents were considered either lost to follow-up or were terminated from treatment independently of study participation. Of the 30 patients who were terminated, 12 (40%) terminated for objective/external reasons (e.g., patient relocation, insufficient funds, therapist retirement), 14 (47%) for subjective/psychological reasons (e.g., negative feelings about treatment, decompensation, suicide), and four (13%) for mutually agreed successful resolution of problems. We are aware of two patient suicides; thus, 1.8% of the final sample committed suicide in 30 months. Although all available data from all respondents were used in data analyses, baseline data from those retained, lost to follow-up, or terminated were compared to find any systematic differences between retention groups.[1] Patients who terminated from treatment had higher baseline Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986) scores and were more likely to have a substance use/alcohol dependence disorder yet were less likely to have a mood disorder compared to patients who were retained or lost to follow-up. Patients lost to follow-up were less likely to have therapists that were DDPTP graduates than those who were retained.

Clinician Measures

Clinical data form. This form, adapted from Zittel Conklin and Westen (2005), assessed variables including the therapists' and patients' demographics, stage of treatment (one through five), rates of self-harm, suicide attempts, and hospitalization, and GAF (American Psychiatric Association, 2000). Descriptive anchors were listed for stages of treatment with Stage 1 described as "stabilization and establishing safety," Stage 3 as "processing memories of trauma with full emotion and grieving related losses," and Stage 5 as "integration and reconnection within self and with others."

PITQ. The Progress in Treatment Questionnaire (PITQ) was developed for this study and is described in detail in Brand, Classen, Lanius, et al., 2009. The PITQ measures capacities developed throughout the stages of DID/DDNOS treatment including: affect tolerance, impulse control, PTSD and dissociative symptom management skills, internal communication and cooperation among self states, ability to tolerate fully knowing about and experiencing emotional and sensory experiences related to trauma, integrating self states, and increasing ability to view oneself and others in an integrated, realistic way that is not dominated by trauma-based perceptions. Therapists estimated what percentage of the time (0–100%) their patient is capable of demonstrating each capability. The PITQ achieved acceptable reliability at each follow-up (Cronbach's α coefficients range = .938–.945). The PITQ is available from the first author.

Patient Measures

Behavioral checklist. Behavioral questions were modeled after those used in the National Health and Nutrition Examination Survey (National Center for Health Statistics, 2006). Patients reported how often in the last 30 days they had engaged in self-injurious behavior; suicide attempts; behaviors that were dangerous enough to result in death, alcohol, and drug consumption; and "very impulsive" behaviors. Patients reported the frequency of positive experiences and adaptive behaviors in the last 30 days including: volunteering or attending school, working for pay, using symptom management techniques, socializing, and feeling good "even if for a brief period." They also reported the days hospitalized at inpatient and day treatment programs in the last month. Because these outcomes were strongly positively skewed, each of the behavioral measures was recoded to "occurred/did not occur."

DES. The Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986) is a widely used 28-item self-report measure for assessment of dissociative experiences (Carlson et al., 1993). Cronbach's alpha coefficients for the DES calculated at each follow-up for the current study ranged from .95 to .96.

PCL–C. The Posttraumatic Stress Checklist–Civilian (PCL–C; Weathers, Litz, Huska, & Keane, 1994) is a widely used 17-item measure of PTSD symptomatology and severity. Respondents rate how much each symptom has bothered them in the past month using a 5-point scale ranging from 1 (*not at all*) to 5 (*extremely*). Total scores are calculated by summing responses from all items. Total scores of 50 points or more are consistent with a PTSD diagnosis (e.g., Weathers & Ford, 1996). Cronbach's alpha coefficients for the PCL–C calculated at each follow-up for the current study ranged from .89 to .93.

SCL–90–R. The 90 items of the Symptom Checklist 90–Revised (SCL–90–R; Derogatis, 1994) measure a variety of psy-

[1] The results of these analyses can be found online in Supplemental Table 1 at the link on the first page of this article.

chiatric symptoms. Items are rated on a 5-point scale of symptom distress ranging from 0 (*not at all*) to 4 (*extremely*). The Global Severity Index (GSI), the average score for all 90 items, patients with DD typically score higher on the SCL–90–R than other psychiatric outpatients and inpatients (Ellason & Ross, 2004; Steinberg, Barry, Sholomskas, & Hall, 2005). In addition to the GSI, the depression subscale was used in this study. Across the four follow-ups, Cronbach's alpha coefficients in the current study ranged from .96 to .98 for the GSI and from .88 to .93 for the depression subscale.

Data analysis. Descriptive statistics reported for continuous variables included the mean, standard deviation, minimum, and maximum. Percentages are reported for categorical variables. Statistical analyses were conducted using the statistical programming environment R (R Development Core Team, 2011) and random effects models were implemented using lme4 package (Bates, Maechler, & Bolker, 2011) within R. In addition to the intercept, time in months since baseline interview (Month), and the square of time ($Month^2$) were assessed as both fixed and random effects. In no case was the random effect of time squared a plausible effect. If the random linear effect of time did not appreciably improve model fit, it was dropped. All models thus have random intercepts, and a few have random linear effects of time, but none have random curvilinear time effects.

Correlates of missingness. Missing data were accommodated by using full information maximum likelihood (FIML) supplemented with auxiliary variables (Collins, Schafer & Ham, 2001; Enders, 2005). Auxiliary variables are correlates of missingness status. Cases that are missing observations in later follow-ups have systematically different values for auxiliary variables than cases that are observed at each time point. By including auxiliary variables in the models for the outcomes, the process of missingness is incorporated, potentially reducing bias in the estimation due to exclusion of cases lost to follow-up. The search for auxiliary variables was conducted with data at each follow-up point. Background characteristics of patients and therapists were correlated with missingness at all three follow-up points. Although several variables were correlated with missingness at each time point, only number of previous patients treated and graduation from the Dissociative Disorders training program[2] were significantly associated with missingness at all three follow-ups with both therapist and patient missing data status ($rs = |0.11| - |0.22|$). Cases with observed data tended to have therapists who had treated more patients and who had graduated from the ISSTD's DDPTP, a therapist training program, compared to cases with no follow-up data. The consistency of these associations and representation in both categorical and continuous domains suggested these as good candidates for auxiliary variables in the FIML maximum likelihood method approach to missing data. Auxiliary variables "number of patients treated" and "DDPTP program graduate" were subsequently included as covariates in all longitudinal models.

Results

Patient-Rated Symptoms and Dysfunctional Behaviors

Patient reports of dissociative symptoms, general psychiatric symptoms, depression, and PTSD symptoms decreased significantly over the course of the study (see Table 1). Except for DES, the decreases attenuated over time as indicated by statistically significant positive quadratic effects. For each of the symptom outcomes, variance components for intercepts were large. Interclass correlations (ICC) ranged from .78 (DES) to .65 (SCL–Depression). ICCs for month slope coefficients were much smaller, ranging from .0005 (SCL–90) to .0003 (DES).

Patient self-report of days spent more than 10 hr or more in bed did not significantly change, whereas patient report of any pain significantly decreased over time.[3] This decrease became less sharp over time as indicated by a significant and positive quadratic effect of time. Patients reported significant decreases over time in 30 day rates of self-harm, doing something dangerous, and doing something very impulsive. These correspond to decreases of 4%, 5%, and 6% in the odds of engaging in self destructive behavior for self-harm, dangerous activity, and impulsive activity, respectively. Patient report of suicide attempts past 30 days did not significantly decrease. None of the models for self-destructive behaviors that contained quadratic effects fit better than models without, so only models with linear terms are reported for these behaviors. Self-reported alcohol use in the past 30 days did not decrease over time, but using prescription and street drugs to become intoxicated in the past 30 days decreased by 44% in the odds of use by month.

Therapist Report of Patient Destructive and Suicidal Behaviors

Similar to patient reports, the number of therapist-reported patient self-harm episodes decreased significantly over time (5% decrease in odds of self-harm report by month).[4] Unlike patient reports, therapist report of suicide attempts did significantly decrease with time; the odds of suicide attempts, as reported by therapists, decreased by 6% each month.

Hospital Use

Patients reported no change in probability of patient hospitalization or use of psychiatric day programs. In contrast, therapists reported a significant decrease in probability of hospitalization; the odds of hospitalization decreased by 31% each month.

Adaptive Functioning

Patient report. The odds of volunteering/going to school, feeling good feelings, and participating in social activities increased each month 3%, 10%, and 5%, respectively. However, there were no increases in the probability of working for pay or using symptom-management techniques.

Therapist report. PITQ and GAF assessments showed significant linear increases over time, but only the PITQ had a significant quadratic effect of time (see Table 2). This suggested that the initial increase in PITQ had leveled off by the end of the study. For both of these outcomes, variance components for the

[2] See the results of the missingness analyses in Supplemental Table 2 online.

[3] A table showing the results of patient-reported categorical outcomes is available in Supplemental Table 3 online.

[4] A table showing the results of therapist-reported categorical outcomes is available in Supplemental Table 4 online.

Table 1
Patient Rated Continuous Treatment Outcomes

	DES			SCL–GSI			SCL Depression			PCL–C		
Effect	*B*	*SE*	*t*	*B*	*SE*	*t*	*B*	*SE*	*t*	*B*	*SE*	*t*
Intercept	35.78	1.58	22.67	1.94	0.05	35.87	2.42	0.07	34.00	59.73	1.04	57.24
DDPTP	–0.68	2.93	–0.23	–0.09	0.10	–0.91	–0.13	0.13	–0.99	–2.16	1.94	–1.12
PT	–2.34	1.31	–1.79	–0.005	0.043	–0.12	–0.004	0.056	–0.08	–1.11	0.87	–1.28
Month	–0.56	0.20	–2.86*	–0.026	0.007	–3.59**	–0.03	0.01	–3.08**	–0.69	0.15	–4.68**
Month^2	0.01	0.006	1.61	0.0004	0.0002	1.96*	0.0007	0.0003	2.09*	0.014	0.005	2.96**
DDPTP × Month	0.20	0.35	0.56	0.007	0.013	0.51	0.004	0.019	0.19	–0.19	0.26	–0.73
PT × Month	0.04	0.13	0.30	–0.004	0.005	–0.96	–0.004	0.007	–0.59	0.08	0.10	0.79
DDPTP × Month^2	–0.001	0.01	–0.11	–0.00009	0.0004	–0.22	0.0001	0.0006	–0.16	0.008	0.008	1.02
PT × Month^2	–0.0002	0.004	–0.065	0.0002	0.0001	1.15	0.0002	0.0002	1.00	–0.0006	0.0029	–0.22
N	226			226			226			226		
Variance components												
Intercept	303.10			0.34			0.53			121.89		
Month	0.13			0.0002			0.0003			0.07		
Residual	91.42			0.13			0.28			50.85		

Note. DES = Dissociative Experiences Scale; SCL = Symptom Checklist 90–Revised; GSI = Global Severity Index; PCL–C = Posttraumatic Stress Checklist–Civilian; DDPTP = Dissociative Disorders Psychotherapist Training Program; PT = Number of patients treated.
* $p < .05$. ** $p < .01$.

intercepts were much larger than those for the random effect of month.

Therapist report of transition across stages of therapy at adjacent follow-ups (Time 1 to Time 2, Time 2 to Time 3, and Time 3 to Time 4) are found in Supplemental Table 5. An ordinal regression with stage of treatment as the outcome and time in months as a predictor revealed that there was statistically significant change in stage over time ($B = .023$ $SE = .006$, $Z = 4.09$; $p < .001$), such that the odds of progressing to a later stage increased by 2% per month.

Discussion

We found that treatment for the patients with DD in this international prospective, naturalistic study was associated with improvements in symptoms and adaptive functioning, as well as a decreased need for hospitalization at follow-ups at 6, 18, and 30 months. Patients with DID/DDNOS showed declines in dissociation, depression, general distress, using drugs to get high, engaging in dangerous behavior, physical pain, and posttraumatic symptomatology over the course of 30 months of treatment. Furthermore, patients reported more frequent involvement in volunteer jobs and/or attending school, socializing with friends, and feeling good as treatment progressed. These improvements were generally consistent with the therapists' reports. Therapists rated the patients as improving in their functioning (i.e., GAF scores) and increasing adaptive capacities (i.e., PITQ scores) over 30 months of treatment. Therapists indicated that patients engaged in less self-

Table 2
Therapist Rated Continuous Treatment Outcomes

	PITQ			GAF		
Effect	*B*	*SE*	*t*	*B*	*SE*	*t*
Intercept	193.09	3.67	52.66	29.29	1.34	20.35
DDPTP	0.70	6.88	0.10	4.37	2.69	1.62
PT	7.70	2.86	2.69*	2.39	1.07	2.24*
Month	1.91	0.36	5.33**	0.53	0.19	2.76**
Month^2	–0.05	0.01	–3.97**	–0.004	0.006	–0.71
DDPTP × Month	–0.72	0.65	–1.10	–0.65	0.35	–1.86
PT × Month	–0.13	0.27	–0.48	–0.16	0.14	–1.12
DDPTP × Month^2	0.03	0.02	1.30	0.01	0.01	0.91
PT × Month^2	0.001	0.008	0.15	0.004	0.004	0.83
N	274			277		
Variance components						
Intercept	2072.31			250.57		
Month	0.40			0.24		
Residual	580.61			168.27		

Note. PITQ = Progress in Treatment Questionnaire; GAF = global assessment of functioning scores; DDPTP = Dissociative Disorders Psychotherapist Training Program; PT = Number of patients treated.
* $p < .05$. ** $p < .01$.

injurious behavior, fewer suicide attempts, and required less frequent hospitalizations at the follow-ups compared to baseline. Furthermore, there was significant change from baseline to 30 month follow-up in terms of the number of patients who progressed to higher stages of treatment, as reported by the therapists, compared to the number who regressed to a lower stage of treatment. The differences in reports of suicide attempts and hospitalizations may have been due to the therapists and patients completing their surveys independently so they may have been referring to different months in treatment.

Whereas patients in this study show numerous important changes in symptoms and functioning over time, symptom relief was by no means complete. For example, the 30-month follow-up mean dissociation score, although lower than that at baseline (M = 35.4, SD = 19.9, SE = 1.3 vs. M = 28.8, SD = 20.1, SE = 1.9), is within one standard error of 30, a score typically used to indicate substantial dissociative symptomatology. This means that although treatment is certainly associated with improvements across a wide range of outcomes, patients are not typically "cured" of their chronic struggles with severe dissociation, PTSD, depression, and general psychiatric distress in 30 months of treatment. In fact, most patients had been in therapy for many years with a DD diagnosis. Prior to the study, the average number of psychiatric hospitalizations for this sample was 8.1 (SD = 12.6) and 23% had between one and three hospitalizations within the 6 months prior to beginning the study. That treatment does not completely ameliorate the symptoms of these patients within 3 years is not surprising, given how chronic and severe their symptoms were. The association between high levels of dissociation and limited response to treatment has been found in other outcome studies (e.g., Friedman et al., 2009; Michelson et al., 1998). Such findings highlight the need for developing better ways to engage and effectively treat patients with high levels of dissociation.

Some patients regressed to an earlier stage in treatment. Although one interpretation might be that treatment worsened symptoms, it is more likely that these data are reflecting the fact that progress in therapy is not always linear. Although it is not possible to say precisely what may have caused decreased functioning, literature on the effects of life stressors and revictimization in traumatized populations suggest that these patients may be especially sensitive to stressors and that such events may exacerbate already existing symptoms (Classen et al., 2002; Koopman, Gore-Felton, & Spiegel, 2001). Currently, data from this sample on the incidence of revictimization and life stressors is being examined to better understand what may be happening in patients' lives when symptoms resurface or worsen. Therapy itself might function as a stressor at some points in treatment. For example, during early phases of treatment, patients may experience higher levels of symptoms when they are challenged about their pervasive dissociative defenses. In the phase of intensive memory processing, patients may report more intense posttraumatic, dissociative and depressive symptoms, at least for periods of time.

Linear decreases were observed for some outcomes including dissociation, GAF, self-injurious, dangerous and impulsive behaviors, and increases were observed for adaptive behaviors including volunteering/attending school, socializing, feeling good, and less frequent self-injurious behavior, and hospitalizations. On the other hand, other outcome variables showed initial improvement followed by a flattening of trend over time including PTSD symptoms, distress, depression, adaptive capacities (i.e., PITQ), and drug use. This pattern of change may reflect the composition of the sample. At intake into the study, 55% of the participants were in the stabilization stages of treatment, so treatment would focus on stabilizing self-destructive and impulsive behaviors. As those behaviors stabilized, fewer hospitalizations occurred. However, despite early treatment focused on symptom management, likely decreasing symptoms of dissociation, PTSD and depression, most patients will not experience a resolution of dissociation, PTSD, and depression until well after the middle stage's trauma processing.

Overall, these results suggest that treatment for patients with DD appears to be helpful across many domains of functioning according to both patient and therapist assessments. The insurance industry warns that patients with DID are among the most expensive patients in the mental health system to treat and have a high risk for early mortality (Galbraith & Neubauer, 2000). In view of the high cost associated with patients with DD, it is particularly noteworthy that treatment of patients with DD appears to be associated with improved social and occupational functioning, as well as decreases in self-destructive behaviors and suicide attempts. Although the current study design does not permit us to infer that treatment is the causal effect of the observed symptom and behavioral improvements, if treatment were the cause, these findings are what we would expect to see.

Strengths of the study include: (1) a large, international sample; (2) the use of, and consistency between, the therapist and patient reports; and (3) a prospective design. On the other hand, several design issues constrain our interpretations and limit the generalizability of these results. Without a control group we cannot be certain how much improvement patients would have experienced without treatment. Moreover, therapists may have selected patients especially well-suited for treatment from their caseload resulting in selection bias. Although a randomized trial comparing treated and untreated patients with DD would constitute a more stringent test of the effect of treatment, finding an ethical way to create a control group within such a severely symptomatic population is a challenge.

In summary, we found that, despite the severe current polysymptomatology and long-term mental health difficulties among these patients (Brand, Classen, McNary, & Zaveri, 2009), long-term treatment with therapists who were trained in treating individuals with dissociative disorders was beneficial. This naturalistic study, which prospectively followed an international sample of patients with DD in treatment for 30 months, found that treatment is associated with improvement in functioning and a decrease in symptoms in a broad range of domains as assessed by both patients and therapists. Lilienfeld and Lambert (2007) and Piper and Merskey (2004), among others, expressed strong opinions that the phasic trauma-focused model for DD is damaging to patients. On the contrary, the longitudinal data presented here, as well as the cross-sectional data (Brand, Classen, Lanius, et al., 2009), from the TOP DD study show significant benefit to the patients who are treated with this model.

These results support further treatment outcome research on DD. Indeed, further research is urgently needed given the prevalence of these patients in general and clinical populations, the significant burden of disease they carry, and the high costs of their care for both the patients themselves and for society.

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