Maladaptive Daydreaming, Dissociation, and the Dissociative Disorders

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Objective: Studies on maladaptive daydreaming have shown that it has a number of comorbidities including dissociative disorders, yet no studies have examined the reciprocal relationship. The aim of this study was to determine the frequency of maladaptive daydreaming in a sample of psychiatric inpatients with high levels of dissociation.

Methods: The Dissociative Experiences Scale (DES), Self-Report Dissociative Disorders Interview Schedule, Maladaptive Daydreaming Scale-16 (MDS-16), Structured Clinical Interview for Maladaptive Daydreaming, and the Obsessive Compulsive Inventory were administered to a sample of 100 inpatients in a psychiatric hospital program specializing in dissociative disorders.

Results: Of the 100 participants, 93 reported childhood physical and/or sexual abuse, 33 met criteria for dissociative identity disorder; 56 met criteria for other specified dissociative disorder, 49 met criteria for maladaptive daydreaming disorder, and 23 met criteria for unspecified maladaptive daydreaming. The average score on the DES was 39.1 and the average score on the MDS-16 was 33.9. Individuals with maladaptive daydreaming disorder scored significantly higher than those without on many different symptom clusters.

Conclusions: This sample of 100 highly traumatized and dissociative inpatients reported high levels of maladaptive daydreaming along with many other forms of comorbidity. Maladaptive daydreaming is a previously under-recognized aspect of complex dissociative disorders and requires further attention in both research and clinical practice.

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Maladaptive daydreaming has been the subject of a series of previous studies (1–26). Somer and colleagues (12) found that maladaptive daydreaming is characterized by extensive daydreaming that occupies many hours per day, causes significant subjective distress and interferes with function, and is accompanied by extensive comorbidity (12). It can be differentiated from normal daydreaming with both self-report measures and a structured interview that incorporates proposed diagnostic criteria for the disorder (11, 13). The daydreaming involves a complex inner world with many characters and elaborate plots. The daydreaming has an addictive or compulsive aspect to it, but the person realizes that it is an internal fantasy world and does not confuse the fantasy with external reality.

The most frequent forms of comorbidity in maladaptive daydreaming, in one study, were attention deficit hyperactivity disorder (76.9%), anxiety disorders (71.8%), major depressive disorder (56.4%), and obsessive-compulsive disorder (OCD; 53.9%; 12). At present, the authors do not have a theory to explain why these are the most common forms of comorbidity. Clinically it appears that maladaptive daydreaming often provides an escape from life circumstances that are depressing and anxiety-provoking, and the daydreaming is often described as being compulsive in nature. Perhaps, in a subset of individuals with maladaptive daydreaming, attention deficit hyperactivity disorder is a consequence of so much attention being turned to daydreams and the inner world. At this point, these are simply clinical observations and thoughts, not formal theories.

HIGHLIGHTS

- Individuals with maladaptive daydreaming have high levels of dissociation.
- Inversely, individuals with dissociative disorders have high levels of maladaptive daydreaming.
- Maladaptive daydreaming may help us understand cases of dissociative identity disorder with large numbers of 'personalities'.

TABLE 1. Differences and similarities between dissociative identity disorder and maladaptive daydreaming

Clinical feature	DID	MD
An internal set of characters	+	+
Person realizes the characters are a conscious fantasy	−	+
Experience inner selves as real, separate people	+	−
Often parts do not realize they live in the same body	+	−
Often some parts do not realize what year it is	+	−
Parts think they can kill the host personality and be unaffected	+	−
Switching of executive control	+	−
Amnesia for periods when other parts are in executive control	+	−

Abbreviations: DID, dissociative identity disorder; MD, maladaptive daydreaming.

To date, no studies have reported on the reciprocal relationships between maladaptive daydreaming and disorders comorbid with it: how frequent is maladaptive daydreaming in samples of individuals with various Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) disorders (27)? It is important to know the frequency of comorbidity between two disorders in both directions because disorder A may commonly accompany B while disorder B rarely accompanies disorder A. The relative rates of comorbidity may increase the index of suspicion for the other disorder more in one direction than in the other. Also, if disorder A is commonly comorbid with disorder B, but B is rarely comorbid with A, this will affect the need to measure both disorders in research, depending on whether disorder A or B is the focus of the research. Fully understanding the relationships between two disorders requires knowing the rates of comorbidity in both directions.

In the Somer and colleagues (12) study, the frequency of dissociative disorders in the sample of maladaptive daydreaming participants was 12.8%. Based on our clinical experience, however, we thought that maladaptive daydreaming might be quite common in dissociative identity disorder. Dissociative identity disorder and maladaptive daydreaming have features in common but also have key features that differentiate them (28, 29), as summarized in Table 1. Despite the clear differences between the two disorders, in some cases of dissociative identity disorder with large numbers of identity states, the complexity and elaboration of the inner characters, and their interactions can resemble those in maladaptive daydreaming.

For these reasons, and because of our clinical interest in dissociative disorders, we elected to interview a sample of highly dissociative inpatients in a hospital Trauma Program specializing in trauma and dissociation with a self-report measure and a structured interview for maladaptive daydreaming, and a self-report measure for dissociation and a structured interview for dissociative disorders. We included a self-report measure for OCD as well for several reasons; obsessive compulsive disorder is a common comorbidity in maladaptive daydreaming; no self-report scores for obsessive compulsive symptoms in individuals with maladaptive daydreaming have been reported previously; in order to determine how strong the overlap or relationship between maladaptive daydreaming and obsessive compulsive disorder is in this sample; and because individuals with maladaptive daydreaming often report that the daydreaming has a compulsive, intrusive, involuntary aspect to it. We thought it would be useful to have psychometric data when thinking about the relationships between maladaptive daydreaming and one of its most common comorbidities.

In order to investigate the relationship between dissociative identity disorder and maladaptive daydreaming, we made a set of specific hypothesis:

1. Maladaptive daydreaming symptoms will be common in individuals with dissociative identity disorder
2. Individuals with maladaptive daydreaming disorder will report much higher levels of dissociation than those without

These hypotheses are focused on dissociation as a symptom and on the most severe form of dissociation, dissociative identity disorder. Similarly, they are focused on maladaptive daydreaming as a symptom and on the most severe form of maladaptive daydreaming that meets criteria for a disorder. We expected to find a correlation or relationship between dissociation and maladaptive daydreaming both at the level of symptoms, and at the level of diagnosable disorders.

METHODS

Sample

A sample of 100 inpatients in a private psychiatric hospital Trauma Program specializing in dissociative disorders was interviewed with measures of dissociation and maladaptive daydreaming. Participants included 21 men and 79 women with an average age of 36.4±27.5 years. Participants were approached by the research interviewers outside their group and individual therapy sessions, the study was explained to them, and they were asked whether they would like to participate before informed consent was obtained. Neither of the research interviewers provided group therapy to any of the participants. One of the interviewers provided individual therapy to a small number of the participants; we didn't record the exact number but it was fewer than 10 individuals. All participants gave written informed consent and the study was approved by the medical staff of the hospital, which acts as the Ethics Committee for the hospital. As part of the consent procedure, participants were advised in writing that they could withdraw

from the study at any time and that either withdrawal or nonparticipation would have no effect on their treatment. Consent was obtained and the study was conducted according to procedures approved by the Ethics Committee.

Measures

All of the participants completed a battery of self-report measures and structured interviews that included every measure used in the study.

The 16-item Maladaptive Daydreaming Scale (MDS-16). The MDS has good criterion-related validity (r=0.58,=0.01) and test-retest reliability (r=0.92), and a sensitivity of 95% and specificity of 89% for the detection of maladaptive daydreaming (12). The MDS-16 was developed in Israel within the last decade and was tested on samples obtained from online support groups for maladaptive daydreaming, and by Internet and email requests for participation in research studies by the developers of the scale. It was also administered to nonclinical comparison participants and to clinical samples of patients with other disorders. A score of 50 is recommended as a cutoff for a diagnosis of maladaptive daydreaming.

The Structured Clinical Interview for Maladaptive Daydreaming (SCIMD). The SCIMD (13) incorporates the proposed diagnostic criteria set for the disorder. In a study involving participants with maladaptive daydreaming and a group of control participants without maladaptive daydreaming, the rate of agreement between two interviewers for the diagnosis of maladaptive daydreaming was 0.63 using Cohen's kappa. Using a cutoff score of 50 on the MDS-16, the rate of agreement between the SCIMD and the MDS-16 for the diagnosis of maladaptive daydreaming was 0.81 for one interviewer and 0.68 for the other. The SCIMD was the only measure administered by the interviewers in the present study, the rest being self-report measures. The SCIMD was reviewed with the interviewers prior to the project being started; it is easy to administer, involves reading the questions aloud, and does not involve any rater judgments. For all the measures, written scoring rules were provided to one of the interviewers, who entered the results in a spreadsheet for analysis.

As for the MDS-16, the SCIMD was developed in Israel within the last decade and was tested on samples obtained from online support groups for maladaptive daydreaming, and by Internet and email requests for participation in research studies by the developers of the scale. It was also administered to nonclinical comparison participants and to clinical samples of patients with other disorders. The SCIMD makes dichotomous diagnoses of maladaptive daydreaming or no maladaptive daydreaming based on proposed diagnostic criteria for the disorder. It also makes a diagnosis of unspecified maladaptive daydreaming disorder.

The Dissociative Experiences Scale (DES). The DES is a 28-item self-report measure that yields an overall score ranging from zero to 100 (30–34). It has been used in hundreds of published studies (33) and had a test-retest reliability of 0.84 in its initial form. The updated version of the DES, which uses response options of 10%, 20% of the time and so on for the frequency of symptoms inquired about, rather than a visual analogue scale, had a correlation of 0.95 with the original version in a sample of 87 inpatients with dissociative identity disorder (34). The DES also yields a taxon score derived from eight of the items on the full scale (35, 36). The DES-taxon score (DES-T) yields a dichotomous category of in or out of the dissociative taxon. This means that the individual does or does not report pathological dissociation.

The DES was first developed in the mid-1980's in the United States and was tested on individuals with multiple personality disorder, other mental disorders, and on nonclinical comparison samples.

The Dissociative Disorders Interview Schedule, Self-Report Version (DDIS-SR). The DDIS is a 131-item structured interview that has been used in many studies (29, 37–39). The self-report version of the DDIS used in the present study contains the same questions as the interviewer-administered version. In a previous study (37) the DDIS had a good agreement rate with a clinical interviewer, the DES-T and the Structured Clinical Interview for DSM-IV Dissociative Disorders (40) for the presence of dissociative identity disorder or dissociative disorder not otherwise specified versus no dissociative disorder in a sample of general adult psychiatric inpatients. Cohen's kappa was above 0.70 for these three agreement rates. In a study of 100 psychiatric inpatients in a trauma program there were no significant differences between the frequencies of any of the diagnoses made by the structured interview when comparing the results using the DDIS and the DDIS-SR (41). There are no published data on the test-retest reliability of the DDIS-SR. Besides diagnosing the dissociative disorders, the DDIS-SR also diagnoses major depressive disorder, another common comorbidity in maladaptive daydreaming. The DDIS-SR also makes a DSM-5 diagnosis of borderline personality disorder based on a verbatim version of the DSM-5 criteria, but there are no data on the agreement rate between the DDIS-SR and other diagnostic measures for borderline personality disorder.

The DDIS was initially developed in the second half of the 1980's in Canada and was tested on patients with multiple personality disorder, other mental disorders, then on nonclinical samples from the general population. The DDIS-SR was developed in the last decade in the United States and its agreement rate with the DDIS was tested on psychiatric inpatients in a trauma program specializing in psychological trauma and dissociative disorders.

The Obsessive Compulsive Inventory (OCI). The OCI (42) is a 42-item self-report measure scored on a five-point Likert scale ranging from 0 to 4. It has good discriminant validity and had a test-retest reliability of 0.87 in 99 patients with OCD and 0.89 in 126 normal control participants. Average scores were 66.4 (SD=29.4) in the OCD patients and 34.2 (SD=21.2) in the healthy control participants. The OCI was developed in the United States in the 1990's and was tested on outpatients.

All these measures have good to excellent reliability and validity for their stated purposes, as demonstrated by published reports on their statistical properties.

Statistical Methods

Average scores on the different measures and on symptom categories of the DDIS-SR were tabulated and a Pearson correlation matrix was constructed using these variables: the purpose of the correlations was to determine the overall relationships between maladaptive daydreaming, dissociation and other forms of comorbidity at the level of symptoms. Participants with and without dissociative identity disorder were compared on the various measures using analysis of variance and t-tests to test our hypothesis 1 (maladaptive daydreaming symptoms will be common in individuals with dissociative identity disorder). Similarly, participants with and without maladaptive daydreaming disorder were compared to test our hypothesis 2 (individuals with maladaptive daydreaming disorder will report much higher levels of dissociation than those without). A stepwise regression analysis was undertaken. For all analyses, significance was set at a p value of 0.05. Diagnoses of maladaptive daydreaming were based on the SCIMD irrespective of results on the MDS-16. This resulted in individuals with scores below the recommended MDS-16 cutoff score of 50 being included in the maladaptive daydreaming group.

RESULTS

Diagnoses and Trauma Histories

On the DDIS-SR the results were: 33 met criteria for dissociative identity disorder; 56 met criteria for other specified dissociative disorder; 72 met criteria for borderline personality disorder; 95 met criteria for major depressive episode; 97 met criteria for somatic symptom disorder; and 52 reported substance use disorder. Eighty-six of the participants reported childhood sexual abuse, and 81 reported childhood physical abuse; 93 reported childhood physical and/or sexual abuse.

Maladaptive Daydreaming, Dissociation, Obsessive-Compulsive Symptoms and other Symptom Clusters

The participants reported high levels of dissociation on the DES with an average score of 39.1±26.4; 50 of the participants were in the dissociative taxon on the DES-T. Results for the DES, the OCI, the MDS-16 and the symptom subscales of the DDIS-SR are shown in Table 2; scores for the 23 participants with unspecified maladaptive daydreaming were intermediate between those with maladaptive daydreaming and those without maladaptive daydreaming. Of the 49 individuals meeting criteria for MD on the SCIMD, 24 scored below the recommended cutoff of 50 on the MDS-16; 10 scored below 35. Of the 28 individuals not meeting criteria for MD or unspecified maladaptive daydreaming, only one scored above 50 on the MDS-16.

Prior to conducting the t-tests reported in Table 2, an analysis of variance was comparing participants with maladaptive daydreaming (N=49), with unspecified maladaptive daydreaming (N=23), and no maladaptive daydreaming (N=28). Results of the analyses of variance were: MDS-16, F=33.693, p=0.0001; DES, F=6.634, p=0.002; secondary features of DID, F=4.041, p=0.03; psychotic symptoms, F=4.444, p=0.02; extrasensory/paranormal (ESP)/paranormal experiences, F=5.338, p=0.006; borderline personality disorder criteria, F=3.570, p=0.04; somatic symptoms, F=2.769, NS; and OCD, F=3.507, p=0.04.

When a Bonferroni correction for multiple comparisons (43) was applied to the eight variables in Table 2, a significance level of p=0.006 was obtained, which rendered the results for all the scales except the MDS-16, DES, and secondary features of dissociative identity disorder section of the DDIS insignificant.

For the three subscales of the DES, the maladaptive daydreaming group scored significantly higher than the no-maladaptive daydreaming group on each one. On the absorption subscale, the scores were: maladaptive daydreaming 55.8±SD=24.6 and no-maladaptive daydreaming 35.2±24.4, df=73, t=3.69, p=0.001; depersonalization subscale, maladaptive daydreaming 41.4±28.6 and no-maladaptive daydreaming 23.6±24.4, df=74, t=2.72, p=0.008; and amnesia subscale, maladaptive daydreaming 34.6±26.0 and no-maladaptive daydreaming 14.6±17.9, df=70, t=3.94, p=0.001.

Correlations Between Maladaptive Daydreaming and Other Symptoms

The correlations between the self-report measures and the subscales of the DDIS-SR are shown in Table 3. Correlations between the MDS-16 and the subscales of the DES were: absorption/imaginative involvement, 0.632; depersonalization, 0.504; and amnesia, 0.497; all these correlations were significant at p=0.0001. Correlations between the secondary features of dissociative identity disorder on the DDIS-SR and the subscales of the DES were: absorption/imaginative involvement, 0.608; depersonalization, 0.689; and amnesia, 0.698; all these correlations were significant at p=0.0001. None of the correlations between the subscales of the DES and the MDS-16 were significantly different from the others at p=0.05 using z scores. The same was true for the secondary features section of

TABLE 2. Dissociation, maladaptive daydreaming and obsessive-compulsive symptoms in a sample of highly dissociative inpatients (N=100)

	Overall	Sample (N=100)	MD (N=49)		No MD (N=28)			
	M	SD	M	SD	M	SD	t	p
MDS-16	33.9	26.6	49.8	25.4	9.9	14.1	7.6519	0.0001
DES	39.1	22.3	45.8	23.7	27.3	18.0	3.5789	0.0006
2^0 DID	8.1	4.6	9.3	4.7	6.4	4.4	2.6645	0.01
Psychotic	4.6	3.2	5.4	3.2	3.3	2.8	2.8950	0.005
ESP	4.9	3.2	5.9	3.2	3.7	2.4	3.1617	0.003
BPD	5.9	2.4	6.5	2.2	5.4	2.3	2.0761	0.04
Somatic	13.8	8.2	15.7	8.1	12.4	8.0	1.7274	NS
OCD	63.0	33.6	71.4	33.6	54.6	37.8	2.0164	0.05

Note: p values are for MD versus no MD.
Abbreviations: DES, Dissociative Experiences Scale, possible scores range from 0 to 100, with scores above 30 indicating a high likelihood of a dissociative disorder; BPD, diagnostic criteria for borderline personality disorder, possible scores range from 0 to 9 with scores of 5 or more indicating DSM-5 borderline personality disorder; ESP, extrasensory perception, possible scores range from 0 to 12, with no specific cutoff established for any diagnosis; 2^0 DID, secondary features of dissociative identity disorder, possible scores range from 0 to 12, with scores above 6 indicating a high likelihood of dissociative identity disorder; MD, Maladaptive daydreaming disorder; MDS-16, Maladaptive Daydreaming Scale-16, possible scores range from 0 to 160, with scores above 50 indicating a high likelihood of maladaptive daydreaming disorder; No-MD, No maladaptive daydreaming disorder; OCD, Obsessive Compulsive Inventory score, possible scores range from 0 to 168 with scores above 40 indicating a high likelihood of obsessive compulsive disorder; Psychotic, psychotic symptoms, possible scores range from 0 to 11, however this scale does not differentiate whether the symptoms are psychotic or dissociative in nature; Somatic, somatic symptoms, possible scores range from 0 to 33, with one or more symptoms indicating DSM-5 somatic symptom disorder.

TABLE 3. Correlations between dissociation, maladaptive daydreaming and other forms of comorbidity in a sample of highly dissociative inpatients (N=100)

	MDS-16	DES	2^0 DID	Psychotic	ESP	BPD	Somatic
MDS-16							
DES	0.584***						
2^0 DID	0.342***	0.766***					
Psychotic	0.427***	0.468***	0.461***				
ESP	0.361***	0.285*	0.313*	0.542***			
BPD	0.357**	0.449***	0.286*	0.472***	0.296*		
Somatic	0.328**	0.373***	0.267*	0.293*	0.230*	0.342**	
OCD	0.377***	0.341***	0.165*	0.289*	0.095*	0.320**	0.446***

Abbreviations: BPD, diagnostic criteria for borderline personality disorder; DES, Dissociative Experiences Scale; ESP, extrasensory perception; 2^0 DID, secondary features of dissociative identity disorder; MDS-16, Maladaptive Daydreaming Scale-16; OCD, Obsessive Compulsive Inventory score; Psychotic, psychotic symptoms; Somatic, somatic symptoms.
*NS; **p<0.001; ***p<0.0001.

the DDIS-SR. When a Bonferroni correction for multiple comparisons was applied to the 28 correlations in Table 3, a significance level of p=0.001 was obtained.

Maladaptive Daydreaming and Dissociation in Participants With and Without Dissociative Identity Disorder

The 33 participants meeting criteria for dissociative identity disorder on the DDIS had average DES scores of 51.6±20.0 compared to 9.2±6.0 for the 11 participants not meeting criteria for any dissociative disorder. The 33 participants with dissociative identity disorder had average scores on the MDS-16 of 36.4±24.3 compared to 7.1±10.3 for the 11 participants with no dissociative disorder.

The Stepwise Regression Analysis

In a stepwise regression with MDS-16 scores in the full sample of 100 participants as the dependent variable, three predictor variables entered the equation at a significance level of p<0.05: first, DES scores (β=0.46, t=5.14, p=0.01); second, ESP/paranormal experiences (β=0.20, t=2.35, p=0.02); and third, OCI scores (β=0.19, t=2.15, p=0.03). Together these three variables accounted for 37% of the variance in MDS-16 scores (F(3,91)=19.54, p=0.001).

DISCUSSION

Overall Findings and Core Hypotheses

Our hypotheses were confirmed by the data: (1) individuals with dissociative identity disorder had average MDS-16 scores of 36.4 compared to 7.1 for those without that disorder; (2) individuals with maladaptive daydreaming reported significantly more symptoms of dissociation on the DES and in the secondary features of dissociative identity disorder on the DDIS than those without the disorder, as shown in Table 2. This finding remained significant after correction for multiple comparisons, while the other nondissociative symptom clusters failed to be significant after correction for multiple comparisons; (3) in our correlation matrix, the highest correlation with maladaptive daydreaming scores on the MDS-16 was with dissociation scores on the DES (r=0.584, p<0.001). This relationship

was confirmed by the stepwise regression with MDS-16 scores as the dependent variable; the first symptom to enter the equation was dissociation on the DES (β=0.46, t=5.14, p<0.01). Overall, the relationship between maladaptive daydreaming and dissociation was stronger than for any of the other forms of comorbidity.

Findings on the Subscales of the DES

Overall scores on the DES were much higher in participants with dissociative identity disorder than in those without. Similarly, overall DES scores were much higher in individuals with maladaptive daydreaming disorder than in those without. In terms of the subscales of the DES, the patterns were similar in comparing individuals with and without maladaptive daydreaming disorder and individuals with and without dissociative identity disorder. The scores on the absorption/imaginative involvement subscale were slightly higher than for the amnesia and depersonalization subscales in both comparisons. Also, the correlations between the absorption subscale of the DES and the MDS-16 were slightly higher than for the other two subscales. This was also true for correlations of the subscales of the DES with secondary features of dissociative identity disorder on the DDIS-SR. However, none of these differences in correlations between DES subscales and the MDS-16 or the secondary features of dissociative identity disorder were statistically significant. We thought this finding was important because it ruled out the possibility that the relationship between maladaptive daydreaming and dissociation could be explained entirely by absorption. In prior studies, scores on the absorption subscale of the DES have been higher than for the other two subscales in both clinical populations and the general population (29); the higher scores on the DES absorption subscale than on the other two subscales in our maladaptive daydreaming disorder group are typical of the results in studies with both clinical and nonclinical populations, and are not specific to maladaptive daydreaming disorder.

From these findings we conclude that absorption/imaginative involvement is a component of maladaptive daydreaming, but other forms of dissociation also play a significant role. In other words, maladaptive daydreaming cannot be reduced to or entirely explained by absorption. Other components are also key elements of the disorder including the ability for vivid internal visualization, the addictive and/or compulsive aspects of the disorder, and its behavioral avoidance functions. In general, the literature suggests that maladaptive daydreaming can provide avoidance from not just the effects of severe trauma, but from general stress, conflict, loneliness, and many forms of dysphoria (1–26).

Obsessive Compulsive Symptoms and Maladaptive Daydreaming Symptoms

The obsessive-compulsive nature of maladaptive daydreaming in our sample is consistent with the scores on the OCI; the average score on the OCI (63.0) was close to the average score for obsessive-compulsive disorder patients (66.4). The correlation between scores on the OCI and the MDS-16 was significant (r=0.377, p<0.0001), and scores on the OCI were significantly higher in those with maladaptive daydreaming disorder than in those without. Since this is the first study to report scores on the MDS-16 and a measure of obsessive compulsive symptoms, we think that the relationship between the two should be explored in future studies, despite the results of the correction for multiple comparisons.

As for absorption, the obsessive-compulsive aspects of maladaptive daydreaming disorder cannot account for or explain all of its features, although they do provide evidence of it being a disorder, not just a variation of normal. Many forms of comorbidity are higher in individuals with maladaptive daydreaming disorder than in those without. Affected individuals clearly suffer from a range of mental health problems and high levels of comorbidity. Their maladaptive daydreaming is not simply a normal phenomenon because it generates subjective distress and interferes with function in its own right. Like all forms of psychiatric symptomatology, and consistent with DSM-5 rules (27) it occurs on a continuum from normal to pathological but becomes a disorder at the extreme end of the continuum.

The Relationship Between Maladaptive Daydreaming and Comorbid Symptoms

In our view, the relationship between maladaptive daydreaming and other symptom clusters and disorders is complex and multi-directional. For example, severe maladaptive daydreaming could provide an escape from anxiety and depression, but could also cause or exacerbate depression, which would then in turn increase the motivation to daydream more frequently. In our view, maladaptive daydreaming can be viewed as fundamentally a strategy for disconnecting or dissociating from distressing internal and external circumstances. Thus, one could view it as a dissociative coping strategy that can operate with or without a diagnosable dissociative disorder.

Implications of Maladaptive Daydreaming for Dissociative Identity Disorder

Maladaptive daydreaming, either as a sub-threshold activity or as a mental disorder, has implications for clinical understanding of and psychotherapy for dissociative identity disorder. In one of two foundational texts on multiple personality disorder published in 1989 (44, 45), it was recognized that some patients report having hundreds or even thousands of personalities or identity states (44):

The most important thing to understand is that alter personalities are not people. They are fragmented parts of one person: There is only one person. (p. 109)

In complex MPD usually not more than seven or eight major personalities have handled the bulk of the life experience and do most of the work in therapy. . . In polyfragmented MPD there may be hundreds of states with separate names and ages. . . When there are hundreds of fragments, the process may not be the same as the formation of alters. . . It is important not to fall victim to the illusion that there are hundreds of personalities inside one person in such cases. Such claims discredit MPD as a serious disorder and stretch the meaning of the word *personality* far beyond any meaningful limit. (p. 81–82)

Perhaps study of maladaptive daydreaming can provide insight into the psychology of polyfragmented dissociative identity disorder. Perhaps there are two mechanisms or processes at work in such cases: whatever the mechanisms for the formation of fully formed alter personalities might be, then a second process more akin to maladaptive daydreaming. This could be so even though, in our clinical experience, most people with polyfragmented dissociative identity disorder consider all their parts to be real alter personalities, and do not think that two distinct processes are at work in their psyches.

Such a perspective might have important clinical implications. It might reduce incredulity in skeptics about dissociative identity disorder because it provides a plausible explanation for why some patients report having hundreds of alter personalities (these patients fail to differentiate between their limited number of alter personalities and a large collection of inner characters who resemble those in maladaptive daydreaming more than alter personalities in dissociative identity disorder) and it might have implications for psychotherapy. In the 1990's we had clinical experience with dissociative identity disorder patients treated to stable integration using standard techniques of therapy described in the 1980's (44, 45). However, some of these individuals also had elaborate internal worlds with fantastic landscapes and characters. None of these inner characters were ever worked with in therapy and they and their landscape dissolved without specific attention as the therapy with a small number of fully formed alter personalities was being completed. The treatment approaches for these two sectors of the inner world were distinctly different and the clinical outcomes for the whole person were excellent. One such individual functioned well as a physician through treatment, for example.

Study Limitations

Our study has several limitations. The sample size of 100 participants may have been insufficient, the participants were all inpatients in the same hospital, the data collected were cross-sectional and self-report in nature, and the participants may not be representative of all individuals with complex dissociative disorders. Conclusions about causality cannot be drawn from cross-sectional data. However, the participants' scores on the DES and DDIS were similar to previous samples (37–39), so they did not differ widely from other samples. An additional limitation of the study is the fact that, for fewer than 10 of the participants, the research interviewer was their individual therapist; this may have introduced an undetected bias or skew in the participants' responses because they may have felt pressured to participate. No overt pressure was exerted, but this possible effect on a small subset of the participants cannot be ruled out. Further research on maladaptive daydreaming in individuals with complex dissociative disorders should be undertaken, and thought and discussion should be directed at the implications of maladaptive daydreaming for the psychotherapy of dissociative identity disorder and other specified dissociative disorder. Given that only half (24 out of 49) of the individuals who received diagnoses of MD on the SCIMD had scores above the recommended cutoff score of 50 on the MDS-16, additional research is required on the agreement rate between the SCIMD and the MDS-16 and the optimal MDS-16 cutoff score in highly dissociative populations; only 10 individuals positive for MD on the SCIMD received scores below 35 on the MDS-16.

CONCLUSIONS

In summary, our two hypotheses were confirmed; there was a strong relationship between dissociation and maladaptive daydreaming both as symptoms and at the level of diagnosable disorders in this sample of individuals with high levels of trauma and dissociation. Maladaptive daydreaming is accompanied by and correlates with many forms of comorbidity but the relationship with dissociation was more significant than with any of the other forms of comorbid symptoms we measured.

We endorse a model of the relationship between maladaptive daydreaming and dissociation that is similar to the recent discussion of the relationship between complex-PTSD and borderline personality disorder by Hyland and colleagues (46): classical PTSD as defined in DSM-5 and borderline personality disorder can be differentiated from each other as discrete disorders both clinically and statistically, however, they co-occur as elements of complex PTSD in which case they are sub-domains of an overall category, not discrete disorders.

Similarly, it is clear to us clinically that there are cases of dissociative identity disorder with no elements of maladaptive daydreaming, and vice versa. Nevertheless, the two disorders co-occur with each other and maladaptive daydreaming is strongly linked to dissociation in populations with high levels of trauma and dissociation, such as our current sample. This is true both at the level of diagnosable disorders and at the level of symptoms as measured by the MDS-16 and the DES. In maladaptive daydreaming overall, however, other forms of comorbidity appear to be more common than dissociation. Further research should keep the above relationships in mind: there is likely a stronger relationship between maladaptive daydreaming and dissociation

in some clinical groups than in others. Our hypotheses concerning our population were confirmed by our data.

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