The Comorbidity of Daydreaming Disorder (Maladaptive Daydreaming)

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Abstract: To determine the comorbidity profile of individuals meeting criteria for a proposed new disorder, daydreaming disorder (more commonly known as maladaptive daydreaming [MD]), the Structured Clinical Interview for *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (*DSM-5*) and the Structured Clinical Interview for *DSM-IV* Dissociative Disorders were administered to 39 participants who met criteria for MD on a structured interview. We determined high rates of comorbidity: 74.4% met criteria for more than three additional disorders, and 41.1% met criteria for more than four. The most frequent comorbid disorder was attention deficit hyperactivity disorder (76.9%); 71.8% met criteria for an anxiety disorder, 66.7% for a depressive disorder, and 53.9% for an obsessive-compulsive or related disorder. Notably, 28.2% have attempted suicide. Individuals meeting criteria for MD have complex psychiatric problems spanning a range of *DSM-5* disorders. This finding provides evidence that MD is different than normal daydreaming and that these individuals experience considerable distress and impairment.

Key Words: Maladaptive daydreaming, daydreaming disorder, comorbidity, psychopathology, absorption, attention deficit hyperactivity disorder

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The recent literature on daydreaming disorder, more commonly referred to as maladaptive daydreaming (MD), designated MD as a disorder in which an individual is excessively absorbed in an internal fantasy world in a manner that causes clinically significant distress or impairment in social, occupational, or other important areas of functioning (Somer, 2002; Somer et al., in press, 2016a, 2016b, 2016c). Individuals with MD develop highly structured internal worlds with many different characters who interact as in a play or novel. The person is often a character in this internal world but has skills, qualities, social success, and other attributes that are missing in the outside world. For instance, in the internal world, the person may be a famous musician, movie star, or heroic figure. The daydreaming often has an addictive or compulsive quality to it, but the individual knows that it is an internal fantasy world and is not delusional about it. MD may be accompanied by stereotyped movements and has several potential triggers such as music, boredom, or social isolation. Frequently, persons with MD have made repeated unsuccessful attempts to stop MD.

Individuals with MD have often sought treatment, but their MD has either been dismissed as clinically insignificant, not recognized, or attributed to some other disorder. Usually, treatment for comorbid disorders is not effective for the MD, in our clinical experience. Often, individuals with MD are relieved when a name is put to their disorder, when they realize that others experience the same problem, and when they learn that MD is the subject of ongoing research into its antecedents, clinical features, reliability, and validity. The clinical presentation of MD has previously been described by Bigelsen and Schupak (2011) and Bigelsen et al. (2016).

The disorder is usually referred to as MD in the large online community devoted to it, but as a proposed future *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*) disorder, it has also been labeled "daydreaming disorder (MD)" (Somer et al., in press) to be consistent with *DSM-IV-TR* (American Psychiatric Association, 2000) and *DSM-5* (American Psychiatric Association, 2013) terminology. The authors will use the term MD in this article, however, because the disorder has not yet been accepted into the *DSM* system. In previous research, a structured interview, the Structured Clinical Interview for Maladaptive Daydreaming (SCIMD) (Somer et al., in press) and a 16-item self-report measure, the Maladaptive Daydreaming Scale (MDS-16) (Somer et al., 2016a), have been developed and shown to be able to discriminate individuals with MD from normal controls and to have good agreement with each other when an MDS cutoff score of 50 (MDS range, 0–100) is used to define MD.

In our clinical experience with MD, we have observed that individuals with the disorder are highly distressed and commonly meet criteria for a number of different *DSM-5* disorders. MD is part of a complex psychiatric presentation involving many different forms of psychopathology, and this fact, in our experience, differentiates it from normal absorption, daydreaming, or fantasy. However, to date, there has been no attempt to document the *DSM-5* comorbidity of MD using standardized structured diagnostic interviews. To attempt to confirm our clinical impression of high levels of psychiatric comorbidity in MD and gain better insight into the types of disorders most commonly associated with MD, we undertook the present study by interviewing a sample of individuals who meet a screening criterion for MD with two structured interviews, the Structured Clinical Interview for the *DSM-5*, Clinician Version (SCID-5 CV) (First et al., 2015), and the Structured Clinical Interview for *DSM-IV* Dissociative Disorders (SCID-D-R) (Steinberg et al., 1994).

METHODS

Participants and Procedure

A call for participants in a new study of MD was posted on online MD communities. Sixty-nine individuals initially responded to our solicitation and completed the online phase of the study. After signing an online informed consent form, they were referred to an MD screening question. Consequently, all respondents (100%) identified themselves as having MD. Next, they were referred to an online self-report questionnaire assessing MD and a brief screen for personality disorders. On the basis of a previous research, we determined the inclusion criteria for participation in the interview phase of the study to be the cutoff score of 50 on the MDS-16 total score. This value was the optimal cutoff score for the identification of clinical-level MD (*ie*, MD that impairs functioning or causes clinically significant distress; Somer et al., in press). Of the 69 participants who completed the MDS, 59 (85.51%) had a score of 50 or higher (mean, 72.11; SD, 11.45; range, 50.00–96.25), whereas only 10 (14.49%) had scores of less than 50 (mean, 40.31; SD, 11.65; range, 16.88–49.38). Those scoring higher than 50 were invited by the first author (E. S.) via e-mail to

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participate in the interview phase of the study. However, 14 of them did not respond to the invitational e-mail. In addition, two participants could not be interviewed because of either weak Internet connection or problems in scheduling the interview because of time zone differences. Two additional participants were excluded because they were underage. Finally, one participant was excluded during the e-mail exchange, because she reported that after an antidepressant medical treatment, her MD had not been active during the past month. We were left with a sample of 40 participants who were all interviewed by the first author (E. S.) over the Internet using a video chat application. One interviewee was excluded during his SCIMD (Somer et al., in press), because he reported no clinically significant distress or functional impairment (see description of this assessment tool below in the measures section). Most interviews lasted for about 90 minutes (range, 60–120 minutes, depending on the number of symptoms endorsed).

Thus, our final sample comprised 39 interviewees who were all diagnosed with MD based on the structured clinical interview after having met diagnostic criteria for MD. An independent-samples *t*-test on the MDS-16 total score, comparing the 39 interviewees and the 20 participants who had scored higher than 50 but had either dropped out or were excluded, indicated no significant difference between the groups {interviewees: mean, 71.41; SD, 10.98; noninterviewees: mean, 73.47; SD, 12.50; mean difference, 2.06; SE, 3.16 (95% confidence interval [CI] of the difference, −4.28 to 8.40); $t_{(57)} = 0.65$, ns]. In addition, these groups did not differ in their personality disorder screen scores (interviewees: mean, 3.95; SD, 1.75; noninterviewees: mean, 4.25; SD, 1.62; mean difference, 0.30; SE, 0.47 [95% CI of the difference, −0.64 to 1.24]; $t_{(57)} = 0.64$, ns). Our 39 interviewed participants (25 [64.10%] females; age mean, 29.40; SD, 11.54; range, 18–60) were from 12 countries around the world; the majority ($n = 24$) were from English-speaking countries (16 from the United States, 6 from the UK, 1 from Canada, and 1 from Australia). Another eight were from various European countries, five from Asia (mostly India), and two from the Middle East (an Arab and a Jew, both from Israel).

There were no missing data in this study except for one participant's age and another participant's cohabitation status; thus, each of those data are reported for 38 participants.

Measures

Screening Question

Participants responded to an MD classification question that helped us screen individuals with potential MD, based on Somer et al. (in press). The screener question was worded as following:

"Daydreaming is a universal human phenomenon that a majority of individuals engage in on a daily basis. We are interested in learning more about people's experience with what they regard as excessive or maladaptive daydreaming experiences, and we thank you for agreeing to participate in our research interview. For the purposes of the study, we define daydreaming as fantastical mental images and visual stories/narratives that are not necessarily part of your life. Therefore, we are not referring to such acts such as reminiscing over past events, planning for future activities such as a meeting with your boss, or thinking about your mental 'to do' list. We also do not include pure sexual fantasies in this study. Examples of daydreams that can be included would be hanging out with a favorite celebrity, winning the Nobel Prize, telling off your boss after winning the lottery or having an affair with an attractive co-worker who isn't the slightest bit interested in you, living in a parallel fantasy world, engaging in heroic or rescue actions, speaking with historical figures, etc. Any daydreams involving fictional characters or plots should also be included. Maladaptive daydreaming is defined as extensive (in terms of duration and/or frequency) daydreaming that can be experienced as addictive, replaces human interaction and/or interferes with academic, interpersonal or vocational functioning and/or creates emotional distress (for example: guilt, shame, frustration, sadness, anxiety). According to this definition your daydreaming is: (a) normal or (b) maladaptive."

The 16-Item Maladaptive Daydreaming Scale

The MDS (Somer et al., 2016a) is a 14-item self-report MD questionnaire that is rated on a 10-point Likert scale presented as percentages (0%–100%). The MDS discriminated well between self-identified individuals with and without MD (overall and subscale mean scores differed between individuals with MD and controls with effect sizes of Cohen's $d = 1.8$ or higher), and it demonstrated sound internal consistency and temporal stability (test-retest reliability, $r = 0.92$; average time in between the administrations was 21.17 weeks; SD, 5.62 weeks). The MDS has previously shown excellent sensitivity (95%) and high specificity (89%) levels. On the basis of evidence about the important role of music in MD (Somer et al., 2016c), we used a 16-item version of the MDS that included two additional items that gauge the relevance of music in the respondent's MD experience. Cronbach's alpha for the MDS in this study was .86.

Standardized Assessment of Personality–Abbreviated Scale

The Standardized Assessment of Personality–Abbreviated Scale (SAPAS) (Moran et al., 2003) is an eight-item questionnaire. Each item represents the general description of eight *DSM* personality disorders. Respondents are instructed to circle Y (yes) or (N [no] in the case of the reverse-worded question 3) if they think that the description applies most of the time and in most situations. Sample items are as follows: "In general, do you have difficulties making and keeping friends?" or "Are you normally an impulsive sort of a person?" A score of 3 on the screening interview correctly identified the presence of *DSM-IV* personality disorder in 90% of participants. The sensitivity and specificity were 0.94 and 0.85, respectively. The reported alpha coefficient for the total score of the SAPAS was .68 in the original study and .57 in the current study.

Structured Clinical Interview for Maladaptive Daydreaming

The SCIMD (Somer et al., in press) was developed on the basis of proposed diagnostic criteria for MD. It is administered by a clinician or trained mental health professional who is familiar with MD diagnostic criteria. The SCIMD consists of a 10-question probe (and subsequent additional follow-up questions) for inclusion criteria and one probe for an exclusion criterion (and its follow-up questions). A diagnosis of MD is made if participants respond affirmatively to questions pertaining to two or more of the inclusion criteria and the differential diagnosis exclusion criterion (not due to the direct physiological effects of a substance or a general medical condition). The SCIMD demonstrated both good interrater reliability and an excellent agreement with a self-report measure for the disorder.

Structured Clinical Interview for the *DSM-5*, Clinician Version

The SCID-5 (First et al., 2015) is a semistructured interview guide for making *DSM-5* diagnoses. It is administered by a clinician or trained mental health professional who is familiar with the *DSM-5* classification and diagnostic criteria. THE SCID-5 CV is an abridged and reformatted version of the research version of the instrument (SCID-5-RV) for use by clinicians. It covers the diagnoses most commonly seen in clinical settings. The SCID-5 CV can be used in research settings as long as the disorders of particular interest to the researcher are among those included in the SCID-5-CV. Screening questions only are provided for the diagnoses that are included in their entirety in the SCID-5-RV but that have been left out of the SCID-5-CV (*eg*, body dysmorphic disorder, illness anxiety disorder). If the respondent

TABLE 1. Frequency and Descriptive Statistics of the SAPAS Scores Among the 39 Interviewees

SAPAS Score	Frequency of Participants	%	Cumulative Percentage
0	1	2.56	2.56%
1	3	7.69	10.25%
2	3	7.69	17.94%
3	8	20.51	38.45%
4	10	25.64	64.09%
5	6	15.38	79.47%
6	5	12.82	92.29%
7	3	7.69	100.00%
Total	39	100	

answered any of these screening questions in the affirmative, the interviewer followed up with an unstructured clinical assessment of the diagnostic requirements for the screened disorders. Research on the *DSM-IV* version of the SCID revealed moderate to excellent interrater agreement (Lobbestael et al., 2011).

Structured Clinical Interview for *DSM-IV* Dissociative Disorders

The SCID-D-R (Steinberg et al., 1994) is specific to the assessment of *DSM-IV* dissociative disorders and acute stress disorder. The SCID-D comprehensively evaluates the severity of five dissociative symptoms (amnesia, depersonalization, derealization, identity confusion, and identity alteration) and the dissociative disorders. Several investigations have reported good to excellent reliability and validity of the SCID-D (Steinberg et al., 1993).

RESULTS

As mentioned above, one of the 40 interviewees received a score of 1 on the SCIMD (indicating no clinically significant distress or functional impairment and, hence, no diagnosis of MD), and thus, all further analyses excluded that participant and are conducted on the remaining 39. Notably, this means that in the current study, using the cutoff of 50 for the MDS (suggested by Somer et al., in press) yielded nearly perfect sensitivity (97.5%) for identifying persons who would be positive for MD according to the interview.

Of our 39 interviewees, 23 (58.97%) were currently employed, whereas the remaining 16 (41.03%) were not. Cohabitation status (for which we have data only on $n = 38$) was mostly ($n = 19$) living with family (either family of origin such as parents and siblings [$n = 11$], or living with spouse or children [$n = 7$], or both [$n = 1$]); 9 participants lived with roommates and 10 lived alone. Twenty-nine (74.36%) participants reported having a history of therapy for emotional or psychiatric problems, and eight (20.51%) participants reported having an inpatient history for their mental health problems. Five (12.82%) participants reported past therapy for substance abuse. Twelve (30.77%) participants reported having current physical health problems, and 16 (41.03%) reported a history of being an inpatient for physical health problems (mostly for a sport injury or a minor surgery). Over a quarter of the sample ($n = 11$, 28.21%) reported at least one past suicide attempt.

Table 1 presents frequencies of the SAPAS scores. According to Moran et al. (2003), a score of 3 and higher indicates a personality disorder with high probability. As can be seen in the table, two thirds of the sample ($n = 32$; 82.05%) scored 3 or higher. The mean score of the sample was 3.95 (SD, 1.75).

Next, we turn to the *DSM-5* diagnoses given to our sample based on the SCID-5 and SCID-D interview. Table 2 presents comorbidity frequency; specifically, it presents the number of diagnoses participants received. As can be seen in the table, all 39 (100%) participants received at least one diagnosis, and 38 (97.44%) of them received more than 1. Table 3 presents frequencies of each SCID-5 diagnosis given in this study. As can be seen in the table, over three quarters of the sample ($n = 30$, 76.92%) met criteria for attention deficit hyperactivity disorder (ADHD). Of these, 27 were of the predominantly inattentive type, 1 was primarily hyperactive/impulsive, and 2 had a combined presentation. More than half of the sample ($n = 22$, 56.41%) had major depressive disorder. Of these, 21 were recurrent, whereas only 1 was a single episode. Fifteen were in partial ($n = 12$) or full ($n = 3$) remission, whereas seven were current; for current episodes, one was severe, four were moderate, and two were mild. There were also very high rates of anxiety disorders and obsessive-compulsive spectrum disorders, with a surprisingly high rate of excoriation (skin-picking) disorder ($n = 11$, 28.21%). There was only one case of a psychotic disorder (although one individual diagnosed with major depressive disorder had mood-incongruent psychotic features).

DISCUSSION

To establish the diagnostic reliability and validity of a mental disorder, a number of requirements must be met (Egger and Emde, 2011; Narrow and Kuhl, 2011; Robins and Guze, 1970; Swets et al., 2000; WHO, 1994). These include a clinical description of the disorder, face validity of the disorder in the form of a consensus of expert opinion, operationalized diagnostic criteria, interrater reliability of the disorder, concurrent validity with other measures, and the disorder cannot be better accounted for by another disorder. An additional requirement is that there be a specific biological marker for the disorder, but this requirement has not been met for any of the *DSM-5* disorders. As part of the validation of MD, we assessed 39 individuals with MD using two different structured interviews to determine the comorbidity of the disorder: this effort contributes to both the clinical description of MD and its differentiation from other disorders.

As anticipated, we found high rates of comorbidity in MD: of the 39 participants, 74.4% met criteria for more than three additional disorders, and 41.1% met criteria for more than four. The most frequent comorbid disorder was ADHD (76.9%; 69.2% were predominantly the inattentive type); 71.8% met criteria for an anxiety disorder, 66.7% for a depressive disorder, and 53.9% for an obsessive-compulsive or related disorder. In addition, more than a quarter of the sample had at least one past suicide attempt, and more than 40% were unemployed, possibly

TABLE 2. Comorbidity Frequencies: The Number of Diagnoses Given to 39 Interviewees With MD

No. Diagnoses	Frequency of Participants	%	Cumulative Percentage
0	0	0.00	0.00%
1	1	2.6	2.6%
2	4	10.3	12.8%
3	5	12.8	25.6%
4	13	33.3	58.9%
5	5	12.8	71.8%
6	5	12.82	84.6%
7	3	7.69	92.3%
8	2	5.13	97.4%
9	1	2.56	100%
Total	39	100	

TABLE 3. Frequencies of *DSM-5* Diagnostic Categories as well as Specific Diagnoses Among the 39 Interviewees

Diagnostic Category	Diagnosis	Frequency[a]	%[b]
Neurodevelopmental disorders		30	76.92
	ADHD disorder (n = 27 predominantly inattentive type; n = 1 predominantly hyperactive/impulsive type; n = 2 mixed presentation)	30	76.92
Anxiety disorders		28	71.79
	Social anxiety disorder	17	43.59
	Generalized anxiety disorder	11	28.21
	Specific phobia[c]	7	17.95
	Panic disorder	7	17.95
	Agoraphobia	2	5.13
	Separation anxiety disorder	1	2.56
Depressive disorders		26	66.67
	Major depressive disorder[d]	22	56.41
	Premenstrual dysphoric disorder	11	28.21
	Persistent depressive disorder	6	15.38
Obsessive-compulsive and related disorders		21	53.85
	Excoriation disorder	11	28.21
	Obsessive-compulsive disorder	10	25.64
	Trichotillomania	4	10.26
	Body dysmorphic disorder	1	2.56
Sleep-wake disorders		9	23.08
	Insomnia disorder	7	17.95
	Hypersomnolence disorder	2	5.13
Bipolar and related disorders		6	15.38
	Bipolar II disorder	6	15.38
Substance-related and addictive disorders		6	15.38
	Cannabis use disorder	3	7.69
	Alcohol use disorder	2	5.13
	Stimulant use disorder	1	2.56
	Opioid Use Disorder	1	2.56
	Sedative, hypnotic, or anxiolytic use disorder	1	2.56
Dissociative disorders		5	12.82
	Depersonalization/derealization disorder	2	5.13
	Dissociative amnesia	2	5.13
	Unspecified dissociative disorder	1	2.56
Trauma- and stressor-related disorders		2	5.13
	Posttraumatic stress disorder	2	5.13
Somatic symptom and related disorders		2	5.13
	Illness anxiety disorder	2	5.13
Feeding and eating disorders		2	5.13
	Binge eating disorder	2	5.13
Disruptive, impulse-control, and conduct disorders		2	5.13
	Intermittent explosive disorder	2	5.13
Schizophrenia spectrum and other psychotic disorders		1	2.56
	Delusional disorder	1	2.56

Included in this table are only *DSM-5* diagnoses that were given to at least one participant in this study; notably, personality disorders were not included in the SCID-5 version used in this study.

[a]Frequencies of specific diagnoses may not add up to their respective diagnostic category frequency, because one person may have more than one diagnosis from the same diagnostic category (*eg*, two different anxiety disorders).

[b]The figures reported here represent the percentage of participants receiving the diagnosis, out of 39 participants.

[c]If a single participant had more than one specific phobia, it was counted as one.

[d]For one participant with MDD, there was a presence of mood-incongruent psychotic features.

indicating severe impairment. The main conclusion that can be drawn from this study is that individuals who meet criteria for clinical-level MD (as proposed by Somer et al., in press) are individuals in great distress, who are without a doubt a clinical sample, with several established psychopathological disorders. These findings are compatible with the notion that MD may be a disorder in its own right. High rates of comorbidity are common throughout *DSM-5* (American Psychiatric Association, 2013, p. 5): "The results of numerous studies of comorbidity and disease transmission in families, including twin studies and molecular genetic studies, make strong arguments for what many astute clinicians have long observed: the boundaries between many disorder 'categories' are more fluid over the life course than *DSM-IV* recognized, and many symptoms assigned to a single disorder may occur, at varying levels of severity, in many other disorders."

High levels of comorbidity similar to those we found in MD also occur with other *DSM-5* disorders. For example, more than 90% of individuals with dissociative seizures have at least one comorbid disorder, the most common being depression, anxiety, somatoform disorders, personality disorders, and posttraumatic stress disorder (Fritzsche et al., 2013). Similarly, in a study of 103 individuals with dissociative identity disorder (Ellason et al., 1996), 98.1% met criteria for a mood disorder, 91.4% an anxiety disorder, 65.4% a substance abuse disorder, and 43.9% a somatoform disorder using the Structured Clinical Interview for *DSM-III-R* (Spitzer et al., 1990). Likewise, in a study of ADHD, the disorder was found to be "highly comorbid with many other *DSM-IV* disorders assessed in the survey and was associated with substantial role impairment" (Kessler et al., 2006).

In general, then, high levels of comorbidity are recognized to occur with many *DSM-5* disorders and are not regarded as invalidating a given disorder. On the contrary, in our view, the high rates of comorbidity in MD confirm that it is a form of psychopathology. Its diagnostic features share similarities with and overlap with ADHD and obsessive-compulsive disorder. Past research shows that MD is related to dissociation in general and to dissociative absorption, in particular (Somer et al., 2016a). Future studies are needed to determine the relationship between MD and dissociative disorders.

Although more research is required, it is our impression that the high rate of comorbid ADHD (76.9%) is due to recurrent diversions from external world tasks caused by the compulsive need to attend to persistent inner-world distractions. Indeed, 27 of the 30 interviewees diagnosed with ADHD were of the inattentive type (69% of the entire sample). Our respondents have invariably attributed their disrupted attention and concentration functions to this absorptive form of fantasizing (MD). We, therefore, assert that MD cannot be better accounted for by a comorbid attention disorder. On the contrary, reports of participants in this study seem to suggest that their inattention symptoms are better explained by MD. In any case, 23.1% of our MD cases did not meet criteria for ADHD, and therefore, the MD cannot be fully accounted for by that disorder. In terms of obsessive-compulsive disorder, the rate of comorbidity is not as high as for other disorders (25.6%), but nevertheless, individuals with MD often describe a compulsive or addictive aspect to their daydreaming; this may be related to the fairly high rates found in this study of obsessive-compulsive spectrum disorders. The kinesthetic component of MD (stereotypical movements, Somer et al., 2016c) could be associated with other repetitive compulsions identified in our sample (specifically, excoriation disorder and trichotillomania).

Finally, we wish to note that although our sample was characterized by high comorbidity rates and severe impairment (suicidality and unemployment), psychosis was rare. Although this may be related, to some extent, to self-selection (*ie*, perhaps schizophrenic individuals are less inclined to be active in MD forums), it is also probably an important characteristic of MD, which, more often than not, involves retaining intact reality monitoring. For example, Bigelsen et al. (2011) stated that 98% of their respondents who reported MD indicated that they did not confuse fantasy and reality.

Our study has a number of limitations, the principal one being the relatively small sample size. It was not possible to conduct in-person interviews because the participants resided in many different countries; there is no MD clinic or treatment center with a large sample of cases that can be interviewed in person. Our participants, representing computer-savvy, English-speaking members of online MD communities, may not be representative of MD in general, and replications in larger samples should be undertaken. In addition, all interviews were conducted by a single clinician (E. S.). This procedure may introduce not only the desired standardization of the interviewing process but also a confounding bias. Finally, we did not have a control group in this study to formally show significant differences in rates of psychopathology and suicidality. However, we believe that the extremely high percentages of clinical distress presented in this study (*eg*, 28.1% with past suicide attempts) speak for themselves, even with no formal controls, and add important information to our burgeoning knowledge base on the characteristics of MD.

CONCLUSIONS

MD is accompanied by high levels of comorbidity. Individuals meeting proposed criteria for the disorder (Somer et al., in press) describe high levels of distress and interference with daily function. The disorder cannot be better accounted for by any other existing *DSM-5* disorder and is often not recognized or treated by clinicians. Although a small number of cases of MD may remit when comorbid conditions are treated, as occurred with one of the individuals excluded from this study, in the authors' clinical experience, this is rarely the case. More study and validation of MD are warranted to provide responsible, evidence-based treatment to these distressed individuals.

FUTURE DIRECTIONS

Future studies should examine if onset of MD precedes that of other disorders or follows them, and whether MD is independent of comorbid disorders, an epiphenomenon of them, or a coping mechanism for them. To that end, we suggest that future studies explore the temporal relationship between MD and indices of psychopathology. We are currently analyzing data from a longitudinal study that will, hopefully, shed light on possible causes and consequences of MD. The temporal relationship between MD and comorbid mental disorders could also be investigated by studying the comorbidity of MD in specific clinical populations. For example, a much lower incidence of MD in an ADHD sample (compared with a 77% comorbidity rate of ADHD in an MD sample) would suggest that MD might cause ADHD.

Our accumulated clinical and research experience suggests that MD could be a neurodevelopmental disorder because most respondents and clients have indicated they had been daydreaming extensively since childhood. Thus, it is of paramount importance to develop childhood MD checklists that could assist caretakers and teachers to screen, accurately, for childhood MD. Finally, to provide a remedy for countless sufferers worldwide, treatment protocols for MD must be developed. We believe that MD might respond to interventions informed by evidence-based treatments for behavioral addictions and compulsive symptoms.

DISCLOSURE

The authors declare no conflict of interest.

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