Childhood Antecedents and Maintaining Factors in Maladaptive Daydreaming

Eli Somer, PhD, Liora Somer, MA,† and Daniela S. Jopp, PhD‡§*

Abstract: This study explored the fantasy activity of 16 individuals who were seeking online peer-support and advice for maladaptive daydreaming (MD). MD is an under-researched mental activity described as persistent vivid fantasy activity that replaces human interaction and/or interferes with important areas of functioning. We employed a grounded theory methodology that yielded seven common themes presented as a sequential descriptive narrative about the nature, precursors, and consequences of MD. The presented "storyline" included the following themes: (1) daydreaming as an innate talent for vivid fantasy; (2) daydreaming and social isolation—a two-way street; (3) the role of trauma in the development of MD; (4) the rewards of daydreaming; (5) the insatiable yearning for daydreaming; (6) shame and concealment; (7) unsuccessful treatment attempts. A main conclusion of our study is that there is an urgent need for early identification of MD and its correct diagnoses in adulthood.

Key Words: Fantasizing, absorption, mind wandering, maladaptive daydreaming

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The purpose of the current study was to explore a mental activity termed Maladaptive Daydreaming (MD). This activity was first described more than a decade ago as "extensive fantasy activity that replaces human interaction and/or interferes with academic, interpersonal or vocational functioning" (Somer, 2002, p. 199).

Daydreaming in and of itself is not maladaptive and should therefore not be seen as a psychological aberration. In fact, it is regarded as extremely prevalent (Singer, 1966) and involves almost half of all human thought (Killingsworth and Gilbert, 2010), with hundreds of brief fantasizing episodes activated daily (Klinger, 2009). Most research studies on the subject address cognitive activities associated with daydreaming and mind wandering by focusing on brain areas that operate when a person is not attentive to external stimulation. Such mental processes are known as default mode network activation patterns (Raichle et al., 2001). Other associated research efforts investigated eye movement and pupil dimensions during mind wandering (Smallwood et al., 2011), decoupling of attention from perceptual input (Smallwood et al., 2012), or cognitive control failure and its detrimental influence on academic performance and mood (McVay and Kane, 2010).

The founding fathers of clinical psychology were also interested in daydreaming, a phenomenon they initially regarded as an effort to manage deprivation states and subconscious conflicts (Freud, 1908, 1962). Freud's contemporary Pierre Janet offered much more explicit descriptions and theorizing about MD in his description of a patient who regarded her MD as the point of departure for all her other difficulties in daily life, such as the absence of attention, the suppression of will, and problems with sleeping (Janet, 1903 p. 267–8). Janet regarded MD as a form of psychasthenia expressed by the lowering of mental efficiency and manifested in the inability to deal with the complexities of real life (Janet, 1909). Daydreaming was later theorized as a derivative of implicit, often adaptive (Hartman, 1958; Zhiyan and Singer, 1997), conflict-free psychological matter (*e.g.*, Bollas, 1992; Winnicott, 1971). Further attempting to differentiate types of MD experiences, Zhiyan and Singer (1997) identified two additional dysfunctional daydreaming styles: guilty-dysphoric (associated with neuroticism) and poor attentional control (linked with lower levels of consciousness). Unfortunately, these findings only resulted in scanty research on the rather under-regulated, less controllable forms of daydreaming.

The first publication on the construct of MD (Somer, 2002) identified six patients in treatment for neglect- and trauma-related childhood experiences who showed a preference for living in elaborate fantasy worlds while engaging in repetitive physical movements to deal with their real-life situation. All six participants were socially isolated and had difficulty with occupational functioning. Only two additional publications on MD ensued. In 2009, Schupak and Rosenthal presented a case study on a highly functioning woman with a reported uneventful childhood who complained that her excessive daydreaming was distressful. The patient's pathological daydreaming was ultimately controlled with treatment by Fluvoxamine, often used to treat obsessive-compulsive disorders. The third published paper on MD represented the largest study of the phenomenon to date (Bigelsen and Schupak, 2011). The authors applied content analysis to written descriptions by 90 self-identified maladaptive daydreamers (MDers) who engaged in their inner worlds on average over half of their waking hours. Participants described MD as providing endless comfort and satisfaction and as causing agony due to its addictive and time-consuming properties. Similar to the subject in the Schupak and Rosenthal (2009) case study and unlike Somer's report (2002), most participants in Bigelsen and Schupak's study (2011) reported no childhood trauma, possibly indicating that there are different pathways to MD. Recently, a valid and reliable measure of MD was developed (Maladaptive Daydreaming Scale, MDS). The MDS was associated with self-reported obsessive-compulsive behavior and thoughts, dissociative absorption, attention deficit, and high sense of presence during daydreaming, but less with psychotic symptoms (Somer et al., 2016).

During the last decade and in response to the four published articles described above, an internet-based reification of maladaptive daydreaming has developed. The exact term "maladaptive daydreaming" currently yields well over 92,000 related hits (Google search, January 22, 2016). There are YouTube videos, Facebook pages, personal blogs, forums and chat rooms, and even a Wikipedia page devoted to the topic. Many thousands of individuals from around the world are active on these webpages, seeking and offering support to each other for this enigmatic problem that is reportedly often misdiagnosed, mistreated, or dismissed by their therapists (*e.g.*, Maladaptive Daydreamers forum on Yahoo Groups had 3298 members on February 1, 2016; see https://groups.yahoo.com/neo/groups/maladaptivedaydreamers/info).

Despite the apparent need for help expressed online by countless sufferers, to date there seems to be poor professional knowledge and no systematic research efforts to enhance our understanding of the development of MD. In light of the paucity of descriptive psychological studies about MD and the ensuing dire need for more clinical knowledge on the etiology of the problem, further information gathered from

*School of Social Work, University of Haifa; †The Interdisciplinary Center for the Treatment of Survivors of Sexual Abuse, Bani Zion Medical Center, Haifa, Israel; ‡Institute of Psychology, Université de Lausanne; and §Swiss Centre of Competence in Research LIVES–Overcoming Vulnerability: Life Course Perspectives, University of Geneva, Geneva, Switzerland.

Send reprint requests to Eli Somer, PhD, School of Social Work, University of Haifa, 199 Aba Khoushy Avenue, Haifa 3498838, Israel. E-mail: somer@research.haifa.ac.il.

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individuals who struggle with MD is urgently needed. The purpose of the current study was to learn more from MDers about the etiology and developmental course of the problem. We hope this study will generate new information to aid scholars and clinicians in facilitating early identification of MD.

METHODS

This study employed the grounded theory methodology (Glaser and Strauss, 1999; Strauss and Corbin, 1998). Our goal was to generate substantive theory about the experience of self-identified maladaptive daydreamers (MDers) using narrative (open) data. We focused on multiple dimensions of the lived fantasy experiences through the identified resemblances in respondents' descriptions of their mental activities and resulting emotions. Thus, based on their spontaneous accounts, we aimed at determining the properties and meanings of excessive daydreaming and at shedding light on the question of normality versus pathology of this psychological phenomenon.

Participants

Individuals with firsthand MD experience were invited to participate in this research project. We used a purposive sampling strategy because this method promises to improve the understanding of particular individuals' experiences and/or develop concepts (Devers and Frankel, 2000). We invited study participants via advertisement on several Internet forums geared to individuals living with MD. The choice of participants from the purposefully selected population was by random selection. The first respondents to meet our inclusion criteria among those who expressed interest in the study were invited to take part. Participants were required (a) to have a mastery of either English or Hebrew and (b) to indicate whether their self-defined MD meets the following description (Somer et al., 2016):

> 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 currently part of your life. Therefore, we are not referring to such acts such as reminiscing over past events, planning for future activities such as mentally preparing for a meeting with your boss, or thinking about your mental "to do" list. We also do not include sexual fantasies in this study. Examples of daydreams that can be included would be hanging out with a favorite celebrity, winning a gold medal in the Olympics (unless you are an Olympic level athlete), 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 first 16 individuals to meet our inclusion criteria by a predetermined deadline all accepted our invitation to take part in this study. They then read our IRB-approved explanation of the study and signed an informed consent form (parental consent was also required for a 17-year-old participant), which they subsequently scanned and emailed to us. Of these 16 individuals, two were male and the rest female. Their ages ranged from 17 to 38. All but three participants were single; all but three had a post-baccalaureate education and were either gainfully employed or pursuing their education. Seven respondents were from the USA, four were Israelis, and there was one participant from each of the following countries: Austria, India, Indonesia, Turkey, and the United Kingdom (see Table 1).

Interview Procedure

Because all participants but one did not live in the authors' city but rather in different countries, all research interviews were conducted and video-recorded through a secure Internet video chat program with participants' permission. Interviews lasted between 45 and 90 minutes per person. Israelis were interviewed in Hebrew and the others in English. Our in-depth discussion followed an interview guide involving the following grand tour question (Spradley, 1980): "Could you describe the development and nature of your daydreaming?" Mini-tour questions used as probes or clarifying questions were asked only if sought-after information was missing or unclear (Spradley, 1980). An example of a mini-tour question was: "You identified yourself earlier as suffering from MD. Please tell me why you regard your daydreaming to be maladaptive." If information was not already spontaneously included in the respondents' replies, participants were asked at the end of the interview to provide demographic data about their gender, age, marital status, occupation, and country of residence. All interviews were transcribed and transcripts were combined with the interviewer's field notes (Strauss and Corbin, 1998). In addition, we e-mailed participants for their clarifications and validating feedback.

Data Analysis

In the first coding process, we used Initial Coding (Glaser, 1992). This type of coding was chosen to examine, compare, and search

TABLE 1. Demographic Characteristics of Participants

Participants' Fictive Initials	Gender	Age	Marital Status	Occupation	Country
AB	Male	20	Single	College/university student	India
BC	Female	19	Single	College/university student	USA
CD	Female	28	Single	Secretary/student	Israel
DF	Female	17	Single	High school student	Israel
FG	Female	27	Married	Social worker	Israel
GH	Female	34	Single	On disability benefits	Israel
HI	Female	25	Single	College/university student	USA
IJ	Female	38	Married	Field representative	USA
JK	Female	25	Single	College/university student	USA
KL	Female	20	Single	Unemployed	USA
LM	Female	20	Single	College/university student	USA
MN	Female	33	Single	Disability	USA
NO	Female	25	Single	College/university student	Austria
OP	Female	24	Single	Lawyer	Indonesia
PQ	Male	18	Single	College/university student	Turkey
QR	Female	35	Married	Homemaker	UK

for similarities and differences throughout the verbatim transcriptions "to remain open to all possible theoretical directions indicated by your readings of the data" (Charmaz, 2006, p.46). During Initial Coding, we constantly asked ourselves questions such as the following. What does this data suggest? Which theoretical categories do the data indicate? When, how, and with which consequences are participants acting (Corbin and Strauss, 2007)? We took notes of emerging codes as well as the relationships between them. Based on the code chart that we created, we analyzed the participants' testimonies until the findings were saturated. Discrepancies among researchers were discussed until they were resolved. As expected, our complete data set featured repeated use of many of the same codes. We used Pattern Coding as our second-level coding (Martin and Turner, 1986). Through Pattern Coding, we created the basis for explanation of the major themes underlying the segments of the data to search for causes and explanations for the possible phenomenon. Following Hatch's (2002) suggestions, examples for recurring patterns included similarity (things that happen the same way), sequence (things that happen in a certain order), correspondence (things that happen in relation to other events), and causation (one thing appears to cause another) (p. 155). We then reviewed the interviews using comparative analysis with the previous two levels of coding, thereby applying a triangulation process that helped form new levels of conceptualization of the accumulated data (Saldaña, 2009). Triangulation is also referred to as a technique for accurately increasing fidelity of interpretation of data by using multiple methods of data collection (Glesne and Peshkin, 1992). In our case, we contacted select interviewees to ascertain our accurate understanding and interpretation of their accounts.

FINDINGS

The participants were eager to talk about their experiences. They talked in detail about their past and current life circumstances and the nature, precursors, and consequences of MD. For most, it was the first time they disclosed in detail a very important but always misunderstood part of their lives that they therefore tended to conceal. In this study, we focused primarily on the nature of this form of daydreaming and on how our respondents understood their experience. Our data analysis yielded seven common themes that best captured the essence of this behavior and its development. The themes are presented as a sequential descriptive narrative about the nature, precursors, and consequences of MD. The storyline (Strauss and Corbin, 1990) aids in the conceptualization of our data and includes the following themes: (1) daydreaming as an innate talent for vivid fantasy; (2) daydreaming and social isolation—a two-way street; (3) the role of trauma in the development of MD; (4) the rewards of daydreaming; (5) the insatiable yearning for daydreaming; (6) shame and concealment; (7) unsuccessful treatment attempts.

"I've Been Daydreaming as Long as I Have Been Alive": Daydreaming as an Innate Talent for Vivid Fantasy

Our respondents reported an inborn capacity for rich, evocative fantasy. Many disclosed that they had accidentally discovered the rewarding properties of this mental ability very early in their lives and that they had been daydreaming vividly since then. Here are some examples: "*I've been daydreaming as long as I have been alive… Earliest memories of daydreaming—just lying in bed as a toddler experimenting myself in different fantasy worlds*" (MN). "*Of course I could play with others and make friends, but it never felt as comfortable as having my own private time with myself and my thoughts*" (HI). "*One day Mom suggested that I tell myself a story. I adopted the idea… the (day) dreams allowed me to be in a different place, in a state of great strength and lots of control in which I am the one to decide on the emotions in my fantasy*" (FG). MN portrays her absorbing fantasy capacity as an integral part of her identity. In fact, she could not remember herself without her fantasy worlds. HI was also clear about the intense pleasure associated with her imaginary relationships, yet her formulations also suggest potential discomfort around real-life childhood friends. FG's ability to daydream was also discovered early and inadvertently. Similar to many other participants, she also found the intense pleasure associated with shaping her inner reality. Her account provides a hint of a less bright aspect of daydreaming: its association with loneliness. Rather than offering the intimate experience of a mother reading a story to her child, FG's mother prefers her child to tell herself a story. It is difficult to determine if the mother's encouragement to self-soothe contributed to FG's later preference for fantasy-based comfort. What is demonstrated in FG's quote is how daydreaming became an early source of reliable strength for many respondents.

The data initially indicated a mixture of a rewarding fascination with an early discovery of what is probably an innate capacity for vivid imagery and a sense of isolation from social and support networks. Further evidence for the role social isolation played in the development of MD was noted in the description of many respondents.

"I Was Most Comfortable While Daydreaming Alone": Daydreaming and Social Isolation—A Two-Way Street

Childhood loneliness as a prelude to daydreaming. The failure of caregivers to regulate our respondents' feelings as manifested in the quote provided above may have generated continuous pressure to develop inner resources to express intense feelings and experience worthiness or soothing comfort. Here are some examples: "*Because of lack of attention and my invisibility I need all sorts of means to experience myself as a hero*" (CD). *"…when I was a child I was sick a lot and left to my own devices so I used to daydream that I have this kind of superpower or something*" (OP). "*I felt so lonely that I just got myself into this and it felt real… I remember myself riding in the family car as a little girl creating all sorts of wishful situations in my head*" (DF). "*I am an only child and I didn't really have any friends. This was my most desperate desire*" (NO).

Our respondents spoke of deliberate decisions they made as young children to structure a wishful existence as an alternative to their distressful aloneness. Many also reported that their reality testing was intact and that they were able to discriminate between fanciful fantasizing and real life. For example: "*…you are aware of reality, you know this [daydreaming] is not real*" (DF).

Daydreaming as a social isolator. Numerous accounts about the development of MD featured descriptions of childhood pain associated with friendlessness, abandonment, and rejection. Although a preference for daydreaming may have resulted in social isolation, our impression was that the interaction between the capacity for intense daydreaming and childhood social isolation was circular and spiraled into a vortex of intensity. Here is one eloquent account of this process: "*I do not have the right to exist. This is how I was made to feel all my life. As if I was in the way. My daydreaming too made me feel a sort of a ghost. As if I am sitting on a cloud looking down on everyone but not really experiencing life*" (GH).

Respondents like GH portrayed a spiral of increased social dysfunction and a disturbing sense of emptiness. One respondent stated: "*I consider myself as awkward… I do not consider myself as anti-social… Sometimes it's just like maybe I have a problem, [a] chronic thing with people or maybe that people sometimes judge me wrong, they get me wrong sometimes*" (OP). Another stated: "*I see myself as a person who just stares at reality while inside I just feel hollow*" (CD). These two respondents convey a sense of social awkwardness and otherness that is coupled with a yearning for meaningful (yet dreaded) interaction. "*I am not anti-social*," clarified respondent OP. Both she and CD look at their external realities as unattainable yet yearned-for destinations. Careful analysis of the accounts we heard yielded evidence that the dreaminess of the MDers may have

been difficult to conceal and could have turned into a source of further shunning and ostracizing by peers: "*Because I daydreamed a lot I was a very clumsy child. That created many social problems for me*" (GH). "*I wanted to die because I was bullied in elementary [school] because I imagined a different life but then I would come back to reality*" (LM). "*I was an unpopular child. I was very clingy when I was young and my friends quickly became annoyed with me so I was most comfortable daydreaming alone*" (HI).

"There Was Some Sort of Abuse in My Life Which I Cannot Share Right Away": The Role of Trauma in the Development of MD

Distancing from a painful reality. The interaction between social withdrawal and the lure of the compensatory inner reality was particularly prominent among respondents who reported significant childhood adversities. Family dysfunction was a major stressor for many participants. Here are some examples: "*There was some sort of trauma in my life, there is some sort of abuses in my life which I cannot share right away*" (AB). "*Immediately after we immigrated here we moved in with my mother's boyfriend. I did not get along with him. I was only 5 years old and it affected me badly. I was away from my loving (extended) family, my mom was sick a lot and there were a lot of fights and shouting… I felt very bad at home*" (DF). "*I grew up with some physically but mostly emotionally abusive people. I was always the scapegoat… there were fights between the parents and they would blame their problems on me… screaming at the top of their lungs at me for hours and hours every night*" (MN). "*When I was younger my mother who had many problems left me alone and rarely engaged with me. I was left in the care of baby-sitters who neglected and abused me*" (JK).

As children, these individuals were exposed to very difficult and inescapable circumstances, from which their fantasizing capacity may have provided much needed respite and soothing. Yet childhood adversity does not seem to be a necessary condition in MD.

The lure of an appealing inner-world. Nevertheless, other participants reported no childhood adversities and described a developing preference for their inner worlds over their external realities. Indeed, they preferred solitude, as can be seen in the following examples: "*It started at age 10 when I would lie awake in bed and fantasize before falling asleep*" (GH). "*I thought it was a normal thing. Everyone fantasized, right? But then it started getting in the way*" (PQ). "*Of course I could play with others and make friends, but it never felt as comfortable as having my own private time with myself and my thoughts*" (HI). "*I first started daydreaming on my way home from school, out of boredom… it was something natural I did to fill in empty time*" (FG).

Thus our data imply that pathways to MD require an innate capacity for vivid imagining, in some cases reinforced by aversive life circumstances that are difficult to cope with directly. Daydreaming became a source of joy that for some became a major if not their sole source of emotional sustenance.

"A Nice Daydream Is Like Going on Vacation": The Rewards of Daydreaming

Childhood emotional sustenance. Many of our respondents have been struggling with a long-standing problem whose roots began in childhood. Their accounts shed light on the benefits they derived from their inner fantasy worlds. The time line is clearly anchored in their childhoods: "*It has served its purpose in getting me through my childhood*," said participant JK. "*I hated every aspect of my life and needed to get as far away from that as possible. As a teenager, I started daydreaming about my life, I imagined myself having a different life…*" (NO). The vivid images had clearly provided precious sustenance during childhood. However, many years have gone by since our interviewees last had to face their childhood challenges. What mechanisms may have perpetuated their use of fantasy to the extent that it became a compromising, time-consuming habit? The MDers we interviewed were rather unanimous in their explanations.

Continuous redress. For many, the inner virtual reality mechanism offered continuous redress for mental distress, both recurring and novel. Here are some examples: "*I noticed that when I insert myself into the main character in the story, I can get all the attention and confidence that I cannot get in reality*" (DF). "*Every daydream fits my immediate needs. I imagine I am interacting with rock band stars… This helps me feel less alone and more satisfied with my social life… Nobody is mean to me in my fantasy world*" (JK). "*Daydreaming is something I do to compensate for what I am lacking, it is a lot of fun… not many people can enjoy that. It is also something I use in order not to think about other stuff*" (FG). "*It reduces my stress, reduces my anxiety right away*" (AB). "*It's a way to escape this world and do something different for an amount of time, just if I'm upset or something happened I can go somewhere else and have a real good time, a nice daydream is like going on vacation*" (BC).

A source of joy. A substantial portion of those in our sample described an entertaining mental process capable of providing enormous pleasure. Here is how one interviewee described MD: *"It's just enjoyable. The characters are familiar to me. They are like friends… it's entertaining, comforting and sometimes it is just an escape when I want to be in a different world other than the one I'm in… It's a comforting, enjoyable pastime. It would be upsetting for me I couldn't access it*" (IJ). Another interviewee described MD as follows: "*I prefer daydreaming because my life is boring. As soon as my husband leaves for work I turn my imagination on and sometimes I am in my own world for the entire morning… it sure beats cleaning and cooking*" (QR).

In other words, for some people who daydream excessively, the lure is towards the diverting pleasures of their inner worlds, in which they can orchestrate and direct gratifying scenarios.

A source of creativity. Other interviewees revealed more productive applications of their unique mental capacity. A few participants clearly saw how their fantasy is not only indicative of a mental gift but also helpful in fueling their artistic activities. For example: "*Sometimes, when I feel more generous with myself I can see that the daydreams certainly helped my imagination and writing, the ability to make up elaborate worlds*" (NO). "*My daydreaming helps me to imagine what questions will be asked in class… I also like to write in my spare time, so it helps me with creativity*" (OP). "*…when I feel blocked I just resort to daydreaming as a means to escape from the reality into creativity*" (PQ). However, this delight alone cannot adequately explain the evolvement of reverie into the maladaptive form of daydreaming that troubles our respondents. The critical factor seems to be a compromised ability to control the behavior.

"What Was Meant to Help Me Had Trapped Me and I Couldn't Stop": The Insatiable Yearning for Daydreaming

Addiction. Several participants shed light on the final transformation of a normal psychological phenomenon or an otherwise adaptive mode of coping into a time-consuming source of distress and maladaptation. Participant FG described how she often feels driven to leave home to satisfy a need she wanted to remain undisclosed: "*I look for excuses to leave home so I can be alone where I don't have to be with family. I often need to leave home to get my fix*" (FG). Family interactions were apparently an obstacle to inner absorption. This means that this person could have decided to stay at home to curb her craving for daydreaming, but she often preferred to leave her family using a variety of pretexts to satisfy her emotional need for reverie. Indeed she chose the term "fix," alluding to the addictive nature of her compulsion. A similarly powerful attraction to daydreaming is the following: "*It's*

seductive. And one day I realized that what was meant to help me had trapped me and I couldn't stop… I remember that I didn't want to go downstairs because it was so much more fun upstairs, lying in the dark, daydreaming" (NO). This participant offers another account of the movement from adaptation to maladaptation. She tells of how tempting and preferable it has become to engage in her inner world, undisturbed by family interaction.

To describe her difficulty to control her excessive daydreaming, participant DF stated plainly: "*It is physically difficult to stop. It is like an addiction*". In fact, many other interviewees explicitly described their yearning to daydream as an addiction. For example: "*My case is quite like that of an alcoholic who knows the consequence of getting seduced by alcohol, and still he does the same, again and again*" (AB). "*Feels like an addiction. I am in control of what drug I want, but not how much I consume it*" (JK). "*It has an addictive quality, I might be exhausted and want to sleep, my body is exhausted, my mind is exhausted, and I would like to relax and go to sleep, but the story just keeps spinning in my head*" (IJ). The last quote suggests some potential health consequences of the self-described addiction: engaging in it has become preferable to proper self-care, such as getting enough sleep. Further analysis of the sample accounts reveals the magnitude of the addiction. Our respondents preferred to stay in their unique state of consciousness for a major portion of their waking hours.

How much is too much? Participants varied in their reported diurnal time spent daydreaming. Some talked about 2 to 3 hours daily (CD, PQ), whereas others specified longer periods of time: "*A typical day consists of about 6 hours of daydreaming, more if it's a day when I don't have anything else to do… a lot of times I would go to my bedroom early and I would just sit there for hours daydreaming before I even attempt to go to sleep*" (BC). "*…when I'm not working and my husband is away at work I might spend 50% of the day daydreaming, eight hours, easy*" (IJ). A large portion of our sample indicated an unspecified but large amount of time devoted to fantasizing. Here are some typical examples: "*It can go on from morning to evening, particularly on days during which I am distressed. I can come back home tired from a Salsa dance club and start daydreaming until 5AM*" (CD). "*Currently I daydream from the moment I wake up and as long as I am alone…*" (JK). "*Daydreaming increased immensely to a point where it does not stop…*" (LM). "*I can never tell how many hours I daydream in a typical day… That is like to tell you how many times I've breathed in today*" (MN). Clearly, just by sheer quantity, this form of daydreaming is not only excessive but also uncontrollably compulsive and potentially incompatible with normal functioning. As the next section of our results section indicates, this group's distress is also characterized by a sense of social deviation, self-consciousness, and shame. The inevitable outcome of this is further social isolation and a typical perpetuation of the addiction cycle (*e.g.*, Whitaker et al., 2012).

"I Thought I Had Schizophrenia. It Is a Very Guarded Secret that I Have": Shame and Concealment

Fear of being discovered. Some MDers report talking aloud during their imagined interactions. Many are extremely embarrassed about this behavior, fearing it might represent a serious mental illness. Following are some illustrations: "*I cannot be caught daydreaming… one time my mom caught me in the act. She said: Whatever that you're doing, just stop it because I don't want people to think that you are crazy or something like that*" (OP). "*If I'm around a group of people and I happen to stop talking to them, I tend to get into myself, then I start getting nervous in case I do start talking to myself and look crazy*" (BC). In fact, the MD-related shame experienced by our respondents was so profound that some were reluctant to talk about it in therapy: "*I was too embarrassed to talk with my therapist about it. I kept it to myself although it is such a big part of my life. The idea that I have a separate reality, I always had a fear of it. I thought I had schizophrenia. It is a very guarded secret*" (JK). "*I have never shared my daydreams with anyone. I make vague references to my therapist but never more than that. Luckily, no one knows.*" (NO).

Guarded disclosure. In some cases, trusted partners were informed, albeit partially: "*My partner was the first to know something about my inner reality but I never elaborated because I have been uncomfortable*" (CD). "*I told my husband at a very late stage after many years of concealment, he is not the type to dwell too much on such issues*" (FG). "*I had posted some things on an MD website that he had read which was horrifying to me. But his reaction was: I'm really worried about you, this is upsetting*" (IJ).

Distressed by their mental addiction, ashamed and concerned about being discovered, and determined to conceal their secret from society, many respondents have sought professional help.

"Therapy Never Worked on Me"—Unsuccessful Treatment Attempts

Psychopharmacotherapy based on misdiagnosis. Many participants described attempts to seek professional help for their problem. Psychotropic medications have been of limited help to some individuals. For example: "*Anti-psychotic medication has decreased my anxiety but has not eliminated my MD*" (AB). "*An atypical anti-psychotic drug helped for a while but I had to get off it because it made me sick*" (KL). Others reported moderate improvement in associated depression or anxiety symptoms, but no MD response to various selective serotonin reuptake inhibitors (SSRIs) such as Paxil (BC, IJ) or Citalopram (JK). In psychotherapy, our respondents were given various diagnoses, among them depressive disorder (JK, MN, NO), anxiety disorder (JK, MN), obsessive-compulsive disorder (AB, IJ), posttraumatic stress disorder (IJ), borderline personality disorder (JK, NO), and dissociative disorder (AB), with some receiving multiple diagnoses and corresponding treatments.

Psychotherapy based on misdiagnosis. As indicated earlier, shame and fear of being misunderstood served as barriers to proper disclosure of MD in psychotherapy and to subsequent accuracy in diagnosis. "*I saw a therapist in the past but I was too shy to tell about my daydreaming*" (LM). "*I am exploring ways to talk to my new therapist about this, it feels uncomfortable talking about it, there is something very childish about it, it's embarrassing*" (FG). Indeed, several interviewees have had disappointing experiences with their therapeutic disclosures. For instance: "*I saw many psychologists for my problem, tried different methods of treatment but I feel I have not yet found the right path for me*" (CD). "*It was my own decision to stop my therapy because my psychologist didn't want to listen to the problem, it affected him in some way… they don't want to hear about the problem*" (AB). "*Two weeks ago I stopped eight months of therapy because I sensed he does not understand me*" (GH).

The current theme portrays the despair experienced among MDers who call upon the mental health system for help, but despite the best of intentions receive no effective treatment. The unfamiliarity of professionals with the presented problem steered them towards more familiar diagnoses and interventions. However, none of the interviewees who sought help for their MD were offered any effective treatment for it. Similar complaints can be read on numerous Facebook and Internet forums dedicated to peer support for MD (*e.g.*, Maladaptive Daydreaming Community, retrieved from https://www.facebook.com/pages/Maladaptive-Daydreaming/154172987955944?fref=ts, August 23, 2015).

DISCUSSION

Although daydreaming is a normal and extremely prevalent mental activity (Singer, 1966; Killingsworth and Gilbert, 2010) with

countless brief fantasizing episodes said to be activated daily (Klinger, 2009), little is known about the excessive, under-controlled, distressful, and dysfunctional form of fantasizing known as maladaptive daydreaming (Somer, 2002). A Google search of the precise term recently yielded over 92,000 results (retrieved January 22, 2016), including countless blogs, forums, Facebook communities, and video testimonials of many thousands of sufferers seeking peer support and advice. The data collected in this research study provided insights into the distinct nature and developmental pathways leading to an apparently abnormal and a relatively unknown form of daydreaming. The data also shed light on the consequences of MD as well as on factors that may contribute to maintenance of the condition (see Fig. 1).

Based on our respondents' testimonials about their early, seemingly innate, abilities to fantasize vividly, we suggest that the capacity for intense engrossment in fantasy with a graphic sense of presence is a predisposing trait that is necessary for developing MD. Nevertheless, this capacity is neither a sufficient predisposition for the development of MD nor a necessary and sufficient condition for MD. This predisposing trait could be related to the construct of fantasy proneness (FP; Lynn and Rhue, 1988; Wilson and Barber, 1983). Although the fantasy-prone personality was described as a trait in which a person experiences a lifelong extensive and deep involvement in fantasy (Lynn and Rhue, 1988), FP differs from MD in several important aspects. First, FP does not imply maladaptation and distress. Second, other alleged characteristics of FP include having difficulty differentiating between fantasy and reality and liability to experience from hallucinations, as well as self-suggested psychosomatic symptoms (Wilson and Barber, 1983), all features that were neither reported by our respondents nor were they mentioned in previous studies on MD (Bigelsen and Schupak, 2011; Somer, 2002). This implies that the constructs may be related due to some underlying aspects such as having the capacity for vivid fantasy, but they are clearly not synonymous as FP seems to be a predisposing trait whereas MD may present a disorder. Nevertheless, comparable prerequisites for the development of psychopathology have been suggested in the literature (*e.g.*, posttraumatic stress disorder, Paris, 2000; depression, Rauschenberger and Lynn, 1995). Future research should systematically examine the relationship between MD and FP, as well as other constructs.

The innate talent for vivid fantasy in itself can lead to extensive but non-pathological daydreaming. For instance, when a philosopher, a spiritual person, or an artist spends many hours in fantasy, this is likely to be an inspirational mental activity that can ultimately become instrumental as well. Indeed, some 12% of an MD sample studied previously reported no distress or impairment associated with their excessive fantasizing (Bigelsen and Schupak, 2011). However, the very same capacity can become a predisposition for pathological daydreaming when the yearning for the rewarding inner experience becomes an irresistible, time-consuming dependency. We recommend that future studies attempt to differentiate between excessive but adaptive daydreaming and MD.

Our respondents have taught us that when their predisposition for fantasy interacts with childhood adversities and loneliness, the lure of imagined social worlds can become ever more intense. As described by our participants, fantasy worlds can be scripted and directed by individuals to create more soothing alternate realities that may compensate for dull or painful external circumstances. However, as illustrated in

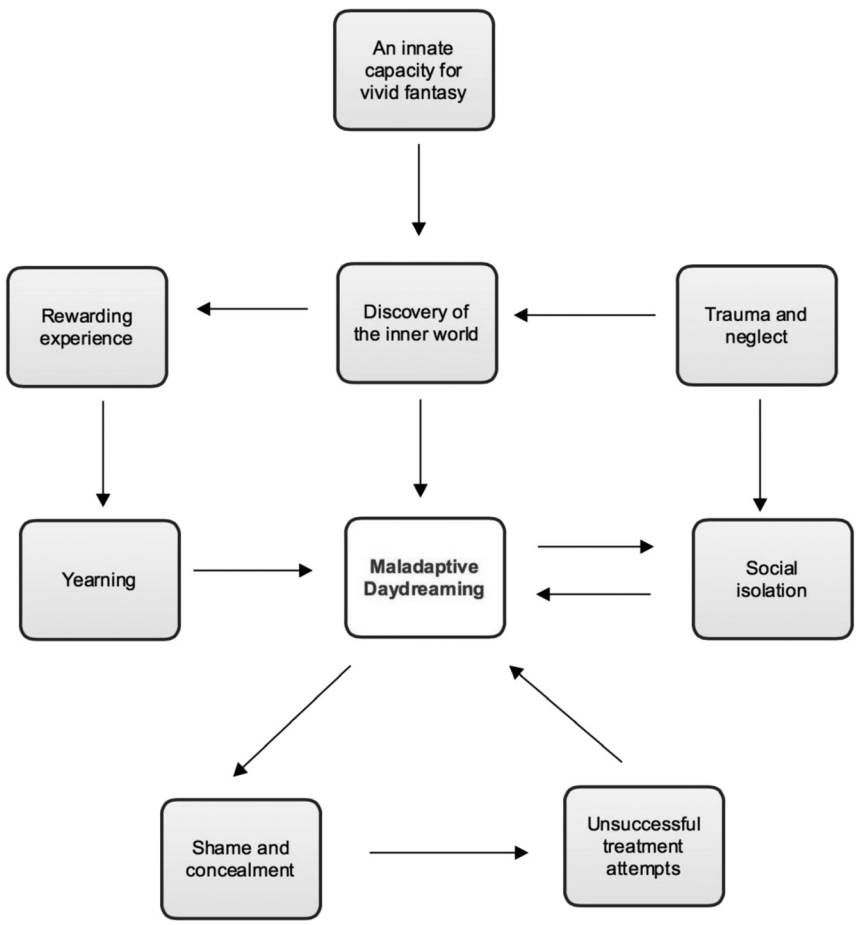

FIGURE 1. A maladaptive daydreaming model: antecedents, features, maintaining factors, and consequences.

Figure 1, excessive daydreaming, social isolation, and the ensuing distress are related and can influence each other, with circular negative feedback dynamics involved. In other words, the more severe the emotional distress and the social isolation, the more intense the compensatory daydreaming employed, which in turn exacerbates social isolation, maladaptation, and distress, requiring a more compulsive form of daydreaming. Similar circular feedback loops have been identified in obsessive-compulsive spectrum disorders and substance and behavior addictions (*e.g.*, Black et al., 2010; Fontenelle et al., 2011). Our findings are also in line with data presented by Biegelsen and Schupak (2011) who showed that 27% of 90 MD respondents had experienced childhood abuse and that about a quarter of them reported social avoidance or social phobia. The aforementioned authors also preferred to label the phenomenon "compulsive fantasy," illustrating the irresistible characteristic of the syndrome. We suggest future investigations of the roles of childhood adversities, social anxiety, and obsessive-compulsive symptoms in the etiology of MD.

Conspicuous in our respondents' accounts was the powerfully rewarding impact of their daydreaming. Their described experiences seemed to hold many sensory and emotional qualities of real-life occurrences. However, because the fantasies were wholly scripted by them, respondents seemed to have created a source of pleasure that was not only bountiful but also sustainable, thus leading to the obsessive yearning for and the addictive nature of this mental activity. The similarity of MD habit formation relative to other behavioral addictions such as gambling or sex should be explored in future research.

Finally, two additional factors exacerbated our respondents' condition. All participants expressed self-consciousness about their condition, fearing discovery and ridicule. The resulting social withdrawal has had two additional unfavorable consequences. First, it compromised their support networks, depriving MDers of a major coping resource—social support (*e.g.*, DeLongis and Holtzman, 2005)—and adding substantial stress associated with the shame-related efforts to conceal their secret. The other untoward obstacle that challenged participants in this study was associated with the response of the professional community. In their quest for mental health aid, many MDers had to conquer their embarrassment and reveal their secret. After a lifetime of concealment and silent suffering, these patients encountered two main categories of professional response: (a) treatment for comorbid issues that had no impact on MD, or treatment that was based on misdiagnoses; (b) fundamental empathic failures manifested in therapists' misunderstanding and dismissal. Obviously, none of the treating psychiatrists and psychotherapists was familiar with MD. The professionals had probably attempted to classify the presenting problem as a more familiar construct, one that in their minds best fit the presented symptoms: schizophrenia, obsessive-compulsive disorder, anxiety, or depressive disorders. Although it is reasonable to assume that these patients received the best practice treatment for the diagnosed problems, none of the interventions successfully addressed MD symptoms.

A major limitation of this study must be acknowledged. Although the sample size was adequate for a qualitative research study, the knowledge it generated may not be generalizable to other MDers who did not participate in this inquiry. Nevertheless, it is our impression that the themes presented here echo not only those identified in Bigelsen and Schupak's study (2011) but also the main discussion topics on the numerous MD venues on the World Wide Web.

CONCLUSION AND FUTURE DIRECTIONS

This study makes an additional contribution to the tiny body of research on MD. We have identified unique characteristics of MD and potential etiological pathways to the development of MD and its maintenance. A main conclusion of our study is that there is an urgent need for early identification of MD and its correct diagnosis in adulthood. The authors of this study and their colleagues have invested parallel research efforts in examining the relationships between MD and other psychological disorders and the applicability of this construct in diverse cultures. The relationship between nocturnal dreaming and MD is another topic requiring further attention. Unlike the scripted fantasy activity manifested in daydreaming, sleep-related dreaming is an involuntary and rather subconscious activity. Nevertheless, the relationship between these two fanciful mental activities should be empirically explored. Currently, data have been collected to examine the relationship between self-reported MD symptoms, sleep, and characteristics of nocturnal dreams. Future research should also employ functional neuroimaging to identify to what extent specific brain regions are involved in MD that are similar to those activated during nocturnal dreaming.

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DISCLOSURE

The authors declare no conflict of interest.

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