Maladaptive Daydreaming in Adulthood: Theoretical Conceptualizations, Comorbidities and the Role of Default Mode Network

Ayşe Ela EROL
elaerolll7@gmail.com

Istanbul Social Sciences High School, Lumiere Education
Istanbul, Turkiye, 2026

Abstract

This literature review examines how maladaptive daydreaming (MD) has been conceptualized in adult psychological and psychiatric research from 2000 to 2025. MD was initially described as excessive, immersive fantasy activity associated with distress and functional impairment (Somer, 2002), and subsequent work has debated whether it represents a distinct clinical syndrome or a maladaptive coping strategy that overlaps with established diagnostic categories. The review synthesizes major conceptual frameworks and classification debates, with a focus on “repeated clinical features and associated patterns reported in adult samples." In addition, it summarizes emerging neuroscientific accounts that link MD-related internally oriented cognition to large-scale brain systems involved in self-referential processing and mind-wandering, including the default mode network (DMN). Given the limited and heterogeneous neurobiological evidence, the review highlights key gaps in measurement, sampling, and causal inference and outlines directions for future research aimed at clarifying MD’s nosological status and mechanisms.

Keywords: mind-wandering, default mode network (DMN), comorbidity, psychiatric classification, dissociation, functional impairment, maladaptive coping

Glossary

- Maladaptive daydreaming (MD): An extensive fantasy activity that replaces human interaction and/or interferes with academic, interpersonal, or vocational functioning (Somer, 2002).

- Default Mode Network (DMN): A set of brain regions that shows relatively higher activity during internally oriented cognition (e.g., self-referential thought, autobiographical memory, spontaneous mind-wandering) and relatively lower activity during many externally focused tasks consisting of discrete, bilateral, and symmetrical cortical areas in the medial and lateral parietal, medial prefrontal, and medial and lateral temporal cortices of the human brain (Raichle, 2015).

- Dissociation: A disruption of and/or discontinuity in the normal, subjective integration of one or more aspects of psychological functioning, including, but not limited to, memory, identity, consciousness, perception, and motor control. (American Psychiatric Association, 2022)

- Psychiatric classification (nosology): The framework used to define and group mental disorders based on agreed criteria (e.g., symptom patterns, course, impairment), supporting diagnosis, research, and clinical communication (APA/ICD frameworks).

- Comorbidity: The co-occurrence of two or more disorders or clinically significant conditions in the same individual, either simultaneously or across time.

- Functional impairment: The limitations in daily functioning (e.g., social, academic, or occupational) attributable to symptoms, distress, or reduced capacity to carry out typical activities.

Introduction

Daydreaming is a ubiquitous and well-known human experience. Yet, for a specific subset of the population, particularly in adulthood, this internal activity transcends simple mental rest and evolves into a debilitating clinical phenomenon. Early work (Somer, 2002) and later summaries (Somer et al., 2024) describe maladaptive daydreaming (MD) as a pattern of excessive, immersive, and compulsive fantasy activity that results in clinically significant distress and functional impairment, distinguishing it from normative daydreaming. Mind-wandering, daydreaming, and imaginative activities are considered normal cognitive processes; however, research between 2000 and 2025 generally describes maladaptive daydreaming as distinct from normative daydreaming, mind-wandering, and fantasy proneness, despite partial phenomenological overlap (Mansuklal, 2025).

MD is distinguished by its intensity, loss of control, and functional consequences. Soffer-Dudek et al. (2025) specified in a recent article, “Whereas daydreaming is usually a ubiquitous mental activity, often used as a temporary relief, in maladaptive daydreaming it becomes a pathological, chronic, and dissociative activity involving persistent engagement in imagined realities, with a detrimental impact on actual life.” Somer et al. (2016) note that “individuals with MD spend hours completely absorbed in highly structured and very fanciful daydreams, often accompanied by stereotypical movements, hindering functioning and participation in everyday life.” Furthermore, “Across studies published since 2000, maladaptive daydreaming is consistently framed as qualitatively different from normal mind-wandering, due to its loss of control, emotional dependence, and interference with daily functioning” (Somer et al., 2024).

MD remains a topic of ongoing debate, largely because its diagnostic status and boundaries relative to other disorders remain unsettled, despite many contemporary studies reporting a relatively consistent clinical profile. Although MD is not formally recognized in the DSM or ICD, researchers increasingly conceptualize it as a stand-alone clinical condition, citing its unique symptom profile and consistent impairment patterns (Mansuklal et al., 2025). Proponents of formal recognition argue that "unlike normal daydreaming, MD is persistent, compulsive, and detrimental to one's life" (Somer et al., 2024). At the same time, Somer et al. (2024) note that "the consistent comorbidity patterns observed across studies suggest that maladaptive daydreaming behaves similarly to established DSM disorders, supporting its clinical relevance despite the absence of formal diagnostic recognition."

Recent research has begun to examine the potential biological underpinnings of MD and how they relate to its clinical features. This work aims to move beyond purely descriptive accounts. Emerging neuroimaging case evidence suggests that altered connectivity involving the default mode network (DMN), implicated in self-referential thought and mind-wandering, may be relevant to maladaptive daydreaming (Mamah et al., 2025). This review traces the evolution of MD research from 2000 to 2025, evaluates the main conceptual frameworks used to define the condition, summarizes classification debates surrounding its diagnostic status, and examines how DMN-based accounts have been used to frame potential neurobiological mechanisms. Given the limited number of MD-specific neurobiological studies, the review also highlights key gaps and directions for future research.

Methods

This paper presents a qualitative literature review focusing on conceptual and neurobiological frameworks of MD. To provide a comprehensive overview, a structured search of peer-reviewed studies across major academic databases and repositories was conducted.

- Search Strategy and Databases: Primary research and theoretical articles were identified through searches of PubMed, Google Scholar, ResearchGate, and Academia.edu. The search covered a 25-year window from 2000 to 2025, spanning from the initial coining of the term to the most recent neuroimaging case studies. The search utilized combinations of the following keywords: *"maladaptive daydreaming," "pathological fantasy," "default mode network," "DMN and mind-wandering," "dissociative absorption,"* and *"MD comorbidity."*

- Inclusion and Exclusion Criteria: The scope of this review was intentionally kept broad to capture the diverse clinical presentations of MD. Inclusion criteria focused on studies involving adult populations, peer-reviewed psychological, psychiatric, and neuroscientific research, and articles published in English. To maintain the focus on clinical impairment, studies focusing exclusively on normative child development or non-pathological creative writing were generally excluded.

- Screening and Data Synthesis: Although the initial data collection and analysis process yielded several hundred results screened based on title and abstract relevance, Approximately 20-30 papers were key sources used as full-text reviews. Findings were often grouped into categories such as conceptualization and neurobiology.

Historical Emergence and Core Features of Maladaptive Daydreaming (2000–2025)

MD was first described in the academic literature in Somer's (2002) study, drawing on six patients in a trauma practice [who] were identified as demonstrating MD " (Somer, 2002). In the early stage, the phenomenon was described as a coping response to distress and trauma-related experiences. By 2011, the research of MD had gained significant momentum and gained visibility in online communities. In a defining study, Bigelsen and Schupak (2011) collected detailed self-reports from 90 participants, documenting a wide range of experiences and symptoms.

This period in MD research also signified great indicators for future directions between MD and neurobiology when Bigelsen and Schupak (2011) observed that "results from a host of academic studies have documented that our minds apparently wander an inordinate proportion of the time." Most interestingly, mind wandering can now be identified neurologically through the discovery of its own dedicated brain network. The early acknowledgment of a dedicated, certain brain network served as an early bridge to later neurobiological accounts between the DMN and MD.

As the field developed, researchers began to move from anecdotal descriptions toward standardized assessment. In 2016, Somer and colleagues introduced the MDS-16, a 16-item self-report scale designed specifically to capture the sensory-affective qualities and functional impact of highly structured daydreaming (Somer et al., 2016). They argued that existing measures of mind-wandering and fantasizing did not adequately assess pathological or

compulsive daydreaming, motivating the development of an MD-specific instrument (Somer et al., 2016).

With the development of standardized tools such as the MDS-16 and the accumulation of clinical case evidence, researchers were able to describe MD's core features more consistently across studies. Somer et al. (2016) characterized MD as spending hours absorbed in highly structured and fanciful daydreams, sometimes accompanied by stereotypical movements, and associated with functional impairment. Along with this, "Adult-focused research further conceptualizes maladaptive daydreaming as being strongly associated with dissociative absorption, defined as a trait-like tendency to become deeply immersed in internal experiences" (Mansuklal et al., 2025).

In 2017, the development of the Structured Clinical Interview for MD (SCIMD) further supported the clinical assessment of MD and enabled larger-scale studies. Survey-based estimates suggest that a small but meaningful proportion of participants may meet criteria for MD, with reported rates in some samples ranging from approximately 2.5% to 4.39% (Soffer-Dudek, 2022). Taken together, these developments indicate that MD has progressed from an initial clinical observation to a more systematically measured phenomenon, setting the stage for ongoing debates about classification and mechanisms. approaches to MD.

Conceptualizations and Classification Debates

As research on MD has developed, the debate has shifted from describing symptoms to determining how MD should be conceptualized and where it fits within the broader psychiatric landscape. Between 2000 and 2025, researchers have framed MD through several competing conceptual lenses, including as a distinct disorder, a maladaptive coping mechanism, a behavioral addiction/compulsive behavior, or a subtype of existing conditions. The lack of consensus across these approaches remains central to ongoing diagnostic ambiguity.

One prominent framework conceptualizes MD in relation to dissociation, particularly dissociative absorption, which is deep immersion in internal experiences that can reduce awareness of time, self, or the external environment. Adult-focused research has described MD as strongly associated with dissociative absorption, defined as a trait-like tendency to become deeply immersed in internal experiences (Mansuklal et al., 2025). This association suggests that, for some individuals, MD may function as an escape-oriented or dissociative coping response to distress.

At the same time, high rates of comorbidity complicate classification. Studies have consistently shown that individuals meeting criteria for MD often present with complex psychiatric profiles spanning a range of DSM-5 disorders (Somer et al., 2017). Although MD overlaps with conditions such as OCD, ADHD, and anxiety disorders, some authors argue that comorbidity alone does not account for the distinctive phenomenology of MD (Soffer-Dudek et al., 2025). Even in Somer's (2002) early clinical descriptions, participants showed fantasy involvement that dominated daily life, suggesting a level of immersion and

impairment that may extend beyond the boundaries of comorbid conditions.

These features support the argument that MD may represent a stand-alone clinical entity rather than only a secondary symptom of other disorders. In a recent position paper, Soffer-Dudek et al. (2025) argue that MD meets criteria for conceptualization as a psychiatric syndrome, including discrimination from related disorders and interrater agreement. Related work has also emphasized recurring impairment patterns and clinical consistency across studies, supporting the clinical relevance of MD despite the absence of formal recognition in DSM or ICD systems.

Comorbidity and Clinical Complexity

The high prevalence of co-occurring conditions is a major challenge in the psychiatric conceptualization of MD, particularly because it can complicate assessment, differential diagnosis, and classification. Research on MD and comorbidity indicates that individuals meeting criteria for MD often present with complex psychiatric problems spanning multiple DSM-5 disorders (Somer et al., 2017), rather than simply showing MD as a byproduct of another condition. In this sense, comorbidity may reflect clinical complexity rather than undermine the possibility that MD represents a distinct syndrome.

A foundational comorbidity study highlighted the extent of this complexity, reporting high rates of co-occurring disorders: 74.4% of participants met criteria for more than three additional disorders, and 41.1% met criteria for more than four (Somer et al., 2017). The most frequently reported comorbidities included ADHD (76.9%), anxiety disorder (71.8%), depressive disorder (66.7%), and obsessive-compulsive or related disorders (53.9%) (Somer

et al., 2017). These findings support the view that MD is associated with substantial distress and impairment and should be taken seriously in clinical contexts, including given the reported rate of suicide attempts in the sample (28.2%) (Somer et al., 2017).

Case-based evidence also illustrates how MD may be misinterpreted as another disorder, particularly ADHD. In a neuroimaging case study, Mamah et al. (2025) reported that neuropsychological testing showed strong performance across most domains, with the patient regularly excelling in school, suggesting that the apparent attention problems may have been secondary to immersive daydreaming rather than a primary cognitive deficit. This distinction is clinically relevant because it suggests that, in some cases, observable inattention may reflect absorption in fantasy rather than a generalized attentional impairment.

Recent clinical descriptions also point to potentially distinctive phenomenological features, including sensory triggers. Mamah et al. (2025) noted that immersion in daydreaming was enhanced by evocative music, a feature frequently reported in MD. Although their patient also had psychiatric comorbidities (including major depression), the authors discussed a possible neurochemical contribution to the daydreaming symptoms. While such observations are useful for hypothesis generation and differential assessment, broader evidence is needed before drawing firm conclusions about mechanism or clinical subtypes.

Maladaptive Daydreaming and the Default Mode Network

Research has increasingly turned to the DMN, a large-scale brain system associated with internally oriented cognition, to better understand the neural basis of immersive fantasy and mind-wandering. The DMN includes regions such as the medial prefrontal cortex and posterior cingulate cortex and has been strongly linked to self-referential thought, autobiographical processing, and future-oriented simulation. Because these processes overlap with key features of MD, the DMN has become a relevant framework for thinking about its possible neurobiological basis.

The association between the DMN and internally generated thought is well-established in the broader neuroscientific literature. For example, work on mind-wandering has shown that functional connectivity within the DMN is related to individual differences in daydreaming frequency (Kuchi & Davis, 2014). These findings suggest that spontaneous, stimulus-independent thought engages intrinsic brain networks, including the DMN, and provide an important background for considering MD.

Building on this literature, some researchers have proposed that MD may represent an exaggerated, prolonged, or dysregulated engagement of systems involved in internally oriented cognition. If typical daydreaming and mind-wandering are associated with DMN-related processes, then MD—characterized by a more intense, immersive, and prolonged fantasy activity—may involve similar systems to a greater degree or in altered patterns (Kucyi et al., 2016; Mamah et al., 2025). From this perspective, MD can be seen not necessarily as a wholly separate neural phenomenon but as a potentially maladaptive expression of mechanisms that also support ordinary daydreaming.

Emerging MD-specific evidence remains limited but relevant. A recent neuroimaging case report suggests that dysconnectivity involving the DMN may be associated with maladaptive daydreaming (Mamah et al., 2025). Framing the DMN as a theoretical lens may help explain why MD is experienced as highly immersive and difficult to disengage from, including reported experiences of absorption and detachment from the external environment. At the same time, current evidence is sparse and largely indirect, and The DMN should therefore be treated as a promising explanatory framework rather than a confirmed causal mechanism in MD.

Understanding Maladaptive Daydreaming as a Standalone Condition

When integrated, psychological, psychiatric, and DMN-related perspectives support the view that MD may represent a distinct clinical condition. In particular, DMN-related interpretations may offer a useful framework for clinical differentiation. For example, such interpretations may help distinguish MD from psychotic disorders: whereas psychosis typically involves impaired reality testing, MD involves intense engagement with an internally generated reality that individuals usually recognize as imaginary, despite a compulsive need to engage with it.

The path toward formal recognition, however, faces important methodological challenges. Many studies to date have relied on community samples or self-identified "MDer" samples, with relatively limited work in broader clinical populations. While community-based studies are useful for estimating prevalence, findings from these samples may not fully capture the severity, functional impairment, or clinical complexity of MD compared with established

psychiatric disorders (Jopp et al., 2019). As a result, the generalizability of some conclusions remains limited.

A related challenge is variability in diagnostic procedures across. In many cases, there is limited detail on how clinical status was established or controlled, and methods range from informal self-report to more formal clinically administered assessments (Somer, 2002). Despite these limitations, the "phenomenological pattern" of MD has remained relatively consistent across the literature. Moving the field toward a more accurate and standardized understanding will require clearer diagnostic procedures, stronger sampling designs, and more research in clinical populations, which may also reduce misinterpretation and improve care for affected individuals.

Limitations and Future Directions

Even though research on MD has grown a lot between 2000 and 2025, there are still some important limitations in the field. First, much of the research relies on self-report measures. These are useful for identifying patterns and experiences, but they can also be subjective and affected by recall bias, interpretation, and reporting differences. This makes it harder to draw firm conclusions about prevalence, symptom boundaries, and comorbidity.

Second, there is still very little longitudinal research showing how MD develops over time. Most studies focus on adults, so we know much less about how MD may begin earlier in life, how stable it is across development, and which factors may increase or reduce risk over time.

Another major gap is the limited integration across fields. Psychological/phenomenological

descriptions of MD, psychiatric research on comorbidity and treatment, and neuroscientific work (including DMN-related accounts) are often studied separately rather than in direct connection. Because of this, neurobiological explanations of MD are still promising but mostly theoretical, with limited direct evidence in clinically well-characterized MD samples.

Future research should focus more on interdisciplinary designs that combine standardized clinical assessment (including structured interviews), behavioral measures, and neuroimaging in the same participants. It will also be important to study more diverse clinical populations and to use clearer diagnostic procedures. These steps will help test competing explanations of MD, improve diagnostic clarity, and better determine whether MD should be formally recognized as a psychiatric condition.

Conclusion

Over the past 25 years, MD has evolved from a niche clinical observation into an increasingly studied topic in psychological and psychiatric research. This review showed that MD is consistently described as a pattern of immersive and often compulsive fantasy activity associated with distress and significant functional impairment, which differentiates it from normative mind-wandering. At the same time, important questions remain about how MD should be classified and what mechanisms best explain it. Integrating clinical accounts with emerging neurobiological perspectives—particularly work on internally oriented cognition and the DMN—offers a useful framework for generating testable hypotheses about why MD can feel so absorbing and hard to disengage from. However, current evidence linking MD to DMN-related processes is still limited, and stronger studies with standardized clinical assessment and broader clinical samples are needed. Overall, improving diagnostic clarity and research integration across clinical and neuroscientific approaches will be essential for determining whether MD should be recognized as a stand-alone condition and for guiding better assessment and support for individuals who experience it.

Acknowledgements

I would like to express my deepest gratitude to my mentor, Dr. Olgerta Asko, for her invaluable guidance and life-changing insights throughout this research process. Her expertise in the field was essential in helping me navigate the complexities of the neurobiological landscape, and her dedication to the quality of this work provided the rigorous academic framework necessary for such a challenging topic.

I am also profoundly grateful to the Lumiere Research Scholar Program for providing the scholarship that made this work possible. My sincere thanks go to the admissions team for seeing my potential from our very first conversation and to my writing coaches for their dedicated support in refining the structural flow and transitions of this paper.

Finally, my most heartfelt thanks go to my grandparents. I am deeply grateful to them for opening their home to me during the writing of this paper; their warm, silent, and absolutely perfect space provided the sanctuary I needed for deep focus. This research would not have reached its final form without the peace and support they offered me during my stay and every day.

References

American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.). https://doi.org/10.1176/appi.books.9780890425787

American Psychological Association. (n.d.). Comorbidity. In *the APA dictionary of psychology*. Retrieved February 8, 2026, from https://dictionary.apa.org/comorbidity

American Psychological Association. (n.d.). Functional impairment. In *the APA dictionary of psychology*. Retrieved February 8, 2026, from https://dictionary.apa.org/functional-impairment

American Psychological Association. (n.d.). Psychological classification. In *the APA dictionary of psychology*. Retrieved February 8, 2026, from https://dictionary.apa.org/psychological-classification

Bigelsen, J., & Schupak, C. (2011). Compulsive fantasy: Proposed evidence of an under-reported syndrome through a systematic study of 90 self-identified non-normative fantasizers. *Consciousness and Cognition*, *20*(4), 1634–1648. https://doi.org/10.1016/j.neuroimage.2014.06.044

Buckner, R. L., Andrews-Hanna, J. R., & Schacter, D. L. (2008). The brain's default network: Anatomy, function, and relevance to disease. *Annals of the New York Academy of Sciences*, *1124*(1), 1–38. https://doi.org/10.1146/annurev-neuro-071013-014030

Jopp, D. S., Dupuis, M., Somer, E., Hagani, N., & Herscu, O. (2019). Validation of the Hebrew version of the Maladaptive Daydreaming Scale (MDS-H): Evidence for a generalizable measure of pathological daydreaming. *Psychology of Consciousness: Theory, Research, and Practice*, *6*(3), 242–261. https://doi.org/10.1037/cns0000162

Kucyi, A., & Davis, K. D. (2014). Dynamic functional connectivity of the default mode network tracks states of mind-wandering. *NeuroImage*, *100*, 471–480. https://doi.org/10.1016/j.neuroimage.2014.06.044

Kucyi, A., Esterman, M., Riley, C. S., & Valera, E. M. (2016). Spontaneous default network activity coupled with altered attention network connectivity is associated with psychotic-like experiences. *Proceedings of the National Academy of Sciences*, *113*(42), E6495–E6504. https://doi.org/10.1073/pnas.1611743113

Mamah, D., Mutiso, V., & Musau, A. (2025). A pharmacotherapeutic and neuroimaging case study of maladaptive daydreaming. *Psychiatry Research Case Reports*, *4*(1), 100203. https://www.sciencedirect.com/science/article/pii/S2773021225000069?via%3Dihub

Mansuklal, A., Somer, E., & Soffer-Dudek, N. (2025). Conceptualizing maladaptive daydreaming: A review of clinical frameworks and default mode network integration. *International Journal of Psychology*. https://doi.org/10.1002/ijop.70027

Raichle, M. E. (2015). *The brain's default mode network*. *Annual Review of Neuroscience, 38*, 433–447. https://doi.org/10.1146/annurev-neuro-071013-014030

Soffer-Dudek, N. (2022). Maladaptive daydreaming: Toward a standardized diagnosis and training for clinicians. *Frontiers in Psychiatry*, *13*, 871041. https://doi.org/10.3389/fpsyt.2022.871041

Soffer-Dudek, N., Somer, E., & Mansuklal, A. (2025). Maladaptive daydreaming should be included as a dissociative disorder in psychiatric manuals: Position paper. *The British Journal of Psychiatry*. https://doi.org/10.1192/bjp.2024.1

Somer, E. (2002). Maladaptive daydreaming: A qualitative inquiry. *Journal of Contemporary*

Psychotherapy, *32*(2), 197–212. https://doi.org/10.1023/A:1020597026919

Somer, E., Abu-Rayya, H. M., & Brenner, R. (2024). Maladaptive daydreaming: A review of the literature (2000–2024). *Clinical Psychology & Psychotherapy*. https://doi.org/10.1002/cpp.70104

Somer, E., Lehrfeld, J., Bigelsen, J., & Jopp, D. S. (2016). Development and validation of the Maladaptive Daydreaming Scale (MDS-16). *Consciousness and Cognition*, *39*, 77–91. https://doi.org/10.1016/j.concog.2015.12.001

Somer, E., Soffer-Dudek, N., Ross, C. A., & Halpern, N. (2017). The comorbidity of daydreaming disorder (maladaptive daydreaming). *The Journal of Nervous and Mental Disease*, *205*(7), 525–530. https://doi.org/10.1097/NMD.0000000000000685