

Adverse Childhood Experiences and Maladaptive Daydreaming

Lauren Moment (✉ lauren.moment@ucdenver.edu)

University of Colorado - Denver <https://orcid.org/0000-0003-0335-4827>

Research Article

Keywords: maladaptive daydreaming, anxiety, depression, adverse childhood experiences

Posted Date: September 26th, 2023

DOI: <https://doi.org/10.21203/rs.3.rs-3380341/v1>

License:  This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Adverse Childhood Experiences and Maladaptive Daydreaming

Lauren Moment, MPA

University of Colorado Denver | Anschutz Medical School

Department of Psychology

Denver, CO, USA

Abstract

This paper explores the concept of maladaptive daydreaming, a phenomenon characterized by excessive and immersive daydreaming that interferes with daily functioning. While normative daydreaming can be an adaptive behavior that may contribute to planning, future goals, and creativity, maladaptive daydreaming can lead to poor academic, interpersonal, and professional performance and increased social isolation. The study found a moderate positive correlation between maladaptive daydreaming and adverse childhood experiences, suggesting that childhood trauma may contribute to the development of maladaptive daydreaming. Maladaptive daydreaming was also significantly positively correlated with depression and anxiety, indicating potential comorbidity with these mental health concerns. The study highlights the need for increased awareness and understanding of maladaptive daydreaming as a potential mental health concern, particularly for individuals who have experienced adverse childhood experiences. Interventions aimed at improving coping skills and addressing underlying trauma may be beneficial in reducing the negative impact of maladaptive daydreaming on daily functioning.

Introduction

Maladaptive daydreaming (MD) is a phenomenon that has yet to receive much research attention. However, it involves elaborate and immersive fantasies that can replace human interaction and interfere with other healthy goals (Somer, 2002). While MD is not yet included in the Diagnostic and Statistical Manual (DSM), it has been characterized as a behavioral addiction. MD has also been compared to fantasy proneness (FP), which involves immersive fantasies that mimic real-life experiences. However, FP includes dissociative mystical and religious experiences (Wilson & Barber, 1982).

On the other hand, normative daydreaming is a stream of consciousness unrelated to present tasks and is different from MD (Bigelsen & Schupak, 2011). Singer (1975) found that most thoughts are off-topic activities, and adaptive daydreaming is the mind's default respite period (Klinger, 2009). Daydreaming is an adaptive behavior that may contribute to planning, future goals, creativity, and resourcefulness. Adaptive daydreaming is the precursor to the healthy pursuit of productive goals, while maladaptive daydreaming can last for hours and even days and interfere with academic, interpersonal, and professional objectives (Butler, 2006).

MD can be distressing, provides comfort, and is born from traumatic experiences. Sufferers of maladaptive daydreaming often recount histories of bullying, abuse, neglect, and other adverse childhood experiences (Somer et al., 2021). MDers create a relaxing paracosm for themselves that, in many cases, is drastically different from their actual personas. For example, a college student with a history of bullying and shunning based on her appearance could become consumed in daydreams of prodigious beauty and a large circle of friends (Somer et al., 2021). Her daydreams would last for hours or even nearly a full day, and they consisted of characters spawned from her imagination, including regular characters consisting of antagonists and protagonists. The daydreams would elapse much like a movie or series, with her father as an ambassador to the United Nations and her mother as a European monarch who left behind her title and riches to marry her father and move to the United States (Somer et al., 2021). Her circle of friends in her paracosm consisted of celebrities from around the world who were members of royalty, entrepreneurs, academics, and scientists. The MDer would often become depressed during her daydreams because they consisted of her wanting a closer relationship with these friends; however, they were frequently preoccupied with their careers. Close relationships with friends are the most significant source of infatuation. (Moss & Hoffman, 2022). During high school, she had no friends. Those who desired to be her friend refused due to fear of retribution from bullies. Thus, her daydreams gave her comfort. It was also a coping mechanism for depression and anxiety (Lanius et al., 2010). While daydreaming, she had the friends she desired in her life. She was also slender with flawless skin. Her antagonists also played a very different role in her paracosm (Somer, 2020).

Plots within the MDers paracosm can often be dark. For example, MDers who have experienced trauma or abuse may create plotlines within their paracosm that reflect those experiences, and these plotlines can be disturbing or triggering (Somer, 2016). The relationship

between Adverse Childhood Experiences (ACEs) and (MD) is complex and multifaceted. While evidence suggests that MD may serve as a coping mechanism for individuals who have experienced trauma or adversity in childhood, the long-term consequences of this coping strategy can be significant (Somer et al., 2016).

One potential consequence of maladaptive daydreaming is increased social isolation (Somer, 2018). Individuals who engage in excessive daydreaming may find it challenging to connect with others, as their fantasies and daydreams occupy a significant amount of their time and attention. This can lead to loneliness and disconnection from the world around them. Additionally, maladaptive daydreaming may impair functioning in daily life. Individuals who spend significant time in their paracosm may struggle to focus and pay attention to real-world tasks, leading to difficulties in academic or professional settings. This can exacerbate stress and anxiety, creating a cycle of maladaptive coping mechanisms and negative consequences (Bigelsen et al., 2016).

Understanding the relationship between ACEs and MD is essential for identifying potential interventions for those who struggle with this condition. One potential avenue for intervention is early identification and treatment of ACEs. By providing support and resources to children who have experienced trauma or adversity, we may mitigate the adverse effects of these experiences and prevent the development of maladaptive coping strategies such as excessive daydreaming (Felitti et al., 2019). One potential avenue for intervention is the development of targeted interventions for maladaptive daydreaming. Cognitive-behavioral therapy (CBT) effectively reduces symptoms of maladaptive daydreaming and may be a valuable tool for individuals who struggle with this condition. Additionally, mindfulness-based interventions may help reduce stress and anxiety, allowing individuals to manage their daydreaming better and focus on real-world tasks (Schimmenti et al., 2020).

Understanding the relationship between ACEs and maladaptive daydreaming is essential in developing effective interventions for individuals who struggle with this condition. While maladaptive daydreaming may serve as a coping mechanism for some individuals, the long-term consequences of this coping strategy can be significant. By providing support and resources to those who have experienced trauma or adversity and developing targeted interventions for maladaptive daydreaming, we may be able to help individuals better manage their symptoms and improve their overall quality of life.

Anxiety and Depression

Anxiety and depression are prevalent mental health disorders affecting millions worldwide (Kessler et al., 2005). While these disorders are distinct, they often co-occur and are associated with high rates of comorbidity in clinical and community samples. The comorbidity of anxiety and depression is well-documented, with research suggesting that up to 60% of individuals with depression also experience anxiety symptoms (Kessler et al., 2005). Similarly, approximately 50% of individuals with an anxiety disorder may also experience symptoms of

depression (Kessler et al., 2005). These high rates of comorbidity extend to children and adolescents (McLaughlin et al., 2011). Maladaptive daydreaming and adverse childhood experiences can further complicate the diagnosis and understanding of these disorders, as they share common symptoms. Excessive daydreaming can serve as a coping mechanism for negative emotions and contribute to significant distress and impairment in various aspects of life (Schimmenti & Caretti, 2016). Adverse childhood experiences, such as trauma and abuse, have been linked to the development of anxiety, depression, and maladaptive daydreaming (McLaughlin et al., 2011). Identifying the primary disorder in individuals with comorbid anxiety and depression can be challenging due to the overlap in symptoms. Anxiety symptoms include excessive worry, fear, restlessness, and physical manifestations like fatigue and difficulty concentrating. Depression symptoms, on the other hand, encompass persistent sadness, loss of interest, feelings of worthlessness, and changes in appetite and sleep. Individuals with comorbid anxiety and depression may experience a combination of these symptoms, making it difficult to determine the primary disorder (Kessler et al., 2005).

Various risk factors contribute to comorbid anxiety and depression, including genetic predisposition, environmental factors, and adverse childhood experiences. A family history of either disorder increases the likelihood of developing comorbid anxiety and depression (Kendler et al., 2001). Adverse childhood experiences, such as trauma or abuse, have also been associated with an increased risk of developing both disorders (McLaughlin et al., 2011). Additionally, life stressors like financial difficulties, relationship problems, and work stress can contribute to the onset and maintenance of comorbid anxiety and depression, and maladaptive daydreaming. Treating comorbid anxiety and depression is complex, considering the presence of both disorders. However, several evidence-based treatments are available to reduce symptoms and improve overall functioning.

Psychotherapy, particularly CBT, is often the first-line treatment for comorbid anxiety and depression. CBT aims to identify and modify negative thought patterns and behaviors that contribute to developing and maintaining symptoms. It has proven efficacy in reducing symptoms of anxiety and depression, with long-lasting effects (Hofmann et al., 2012). Medication, such as selective serotonin reuptake inhibitors (SSRIs), is commonly prescribed to treat anxiety and depression (Baldwin et al., 2014). However, medication alone is not recommended as the primary treatment for comorbid anxiety and depression. It is important to address the underlying psychological factors through psychotherapy. Combination treatment, which combines psychotherapy and medication, is the most effective approach for treating comorbid anxiety and depression (Cuijpers et al., 2013). This integrated approach addresses both the psychological and biological factors contributing to the development and maintenance of symptoms, resulting in higher rates of symptom reduction and improved long-term outcomes. Considering the association between maladaptive daydreaming, adverse childhood experiences, and the comorbidity of anxiety and depression, it is crucial to recognize the impact of maladaptive daydreaming on mental health. Excessive daydreaming may serve as a maladaptive coping mechanism for negative emotions, contributing to developing and maintaining depressive

and anxiety symptoms (Somer et al., 2017). Additionally, the social isolation and impairment in daily functioning associated with maladaptive daydreaming can further exacerbate these symptoms (Schimmenti & Caretti, 2016). Adverse childhood experiences, such as trauma and abuse, increase the vulnerability to both maladaptive daydreaming and the development of anxiety and depression (McLaughlin et al., 2011).

Further research is needed to explore the intricate relationship between maladaptive daydreaming, adverse childhood experiences, and the comorbidity of anxiety and depression. Understanding these interconnections can help develop targeted interventions that address the unique needs of individuals with maladaptive daydreaming and a history of adverse childhood experiences. By providing appropriate interventions and support, mental health professionals can help individuals experiencing excessive daydreaming and associated negative symptoms improve their overall well-being and functioning.

The comorbidity of anxiety and depression is a significant public health concern that often co-occurs with maladaptive daydreaming and is influenced by adverse childhood experiences. Excessive daydreaming can serve as a maladaptive coping mechanism, contributing to developing and maintaining depressive and anxiety symptoms. Adverse childhood experiences increase the risk of developing these disorders and maladaptive daydreaming. Recognizing the impact of maladaptive daydreaming and adverse childhood experiences on mental health is crucial in providing appropriate interventions and support to individuals experiencing excessive daydreaming and associated negative symptoms. Future research should further elucidate the complex relationship between these constructs to enhance our understanding and improve treatment outcomes for individuals with comorbid anxiety, depression, and maladaptive daydreaming.

Methods

Recruitment:

The study sought to recruit a diverse and representative sample of participants, thus embarking on an extensive recruitment process by utilizing Canvas, Facebook, Twitter, Instagram, and Reddit. A sample of N=386 individuals was gathered. The eligibility criteria for participation in this study were set with the utmost consideration for inclusivity and adherence to research standards. Potential participants were required to be of age, specifically over 18 years old, and demonstrate fluency in English.

Measures:

Participants completed a battery of self-report measures, including the following:

1. Maladaptive Daydreaming Scale (MDS-16): Participants completed the MDS-16, a 16-item self-report scale that assesses maladaptive daydreaming behavior.
2. The Patient Health Questionnaire-4 (PHQ-4): Participants completed the PHQ-4, a 4-item self-report measure that assesses symptoms of depression and anxiety.
3. Adverse Childhood Experiences (ACES): Participants completed the ACES, a 10-item self-report measure that assesses different types of childhood adversity, including abuse, neglect, and household dysfunction.

Hypotheses:

1. Individuals who have experienced higher levels of adverse childhood experiences are more likely to engage in maladaptive daydreaming.
2. Higher levels of maladaptive daydreaming will be associated with higher levels of depression.
3. Higher levels of maladaptive daydreaming will be associated with higher levels of anxiety.

Procedures:

The research described in this paper was conducted under the oversight and approval of the Colorado Multiple Institutional Review Board (COMIRB), an agency facilitating research administration at the University of Colorado - Denver | Anschutz Medical School. The study was assigned the COMIRB identification number 20-2870, demonstrating compliance with ethical guidelines and regulations for human subject research. After providing informed consent, participants completed the online surveys, which included the above measures. The survey took approximately 30 minutes to complete. All responses were anonymous, and participants were told they would be entered into a raffle to win one of three \$50 Amazon gift cards.

The researcher randomly selected 10 cases who identified as MDers using SPSS. Participants previously consented to be contacted for a follow-up study. These participants were emailed. They were told that the researcher would like to interview them based on the MD survey they had previously completed. They were also told they would be compensated via a \$50 Amazon gift card to their email address sent upon completion of the interview. They completed a second consent form via email.

Using the secure online platform, Zoom, the interviewer conducted remote interviews that lasted approximately 30 minutes each. These interviews were focused on exploring various facets of daydreaming, and the questions posed were crafted based on the findings of a prior study by Bigelsen, Lehrfeld, Jopp, and Somer (2016). Individuals who identified as MDers were gathered through open-ended questions that probed different aspects of daydreaming, including its appeal and potential negative impact. Participants were encouraged to candidly describe how each query related to their personal experiences and rate their responses accordingly. After the

interviews were conducted, transcripts were created to ensure accurate documentation of the conversations.

Data Analysis:

The quantitative data collected through the SPSS export from Qualtrics was subjected to a systematic analysis process. Initially, the data was recoded in alignment with the applicable scales previously specified in this paper. This recoding facilitated the appropriate categorization and interpretation of the quantitative responses. Next, the dataset was meticulously cleaned to remove any incomplete or inconsistent responses, ensuring the reliability and validity of the data.

Descriptive statistics were then computed to summarize and present the key characteristics and features of the quantitative data. This included measures such as means, standard deviations, and frequencies, offering a comprehensive overview of the variables under investigation. Furthermore, regression analyses were performed to examine the relationship between variables and identify potential predictors or covariates. Correlation analyses were also conducted to explore the associations between different variables, providing insights into the patterns and interdependencies within the dataset.

Qualitative Data Analysis: The qualitative data from the interview recordings underwent a rigorous analysis to uncover meaningful insights and themes using NVivo. This analysis was carried out in several stages to ensure a comprehensive data exploration. Firstly, the interview recordings were transcribed verbatim, capturing the participants' responses in written form. Subsequently, the answers were grouped according to the questions, allowing for a focused examination of each topic.

To make sense of the qualitative data, thematic analysis was employed. This involved identifying and cataloging the recurring themes from the participants' responses. The themes were carefully organized and categorized to enable a structured and systematic exploration of the qualitative data. As connections between themes emerged, the analysis progressed toward gaining analytical insight and generating a deeper understanding of the dataset.

Various techniques were utilized to enhance the rigor and transparency of the qualitative analysis. These included importing sources, coding, and making nodes. Thematic nodes were created to capture the key themes and concepts, focusing on coding the data as it was analyzed. The process also incorporated autocode and visualization tools to facilitate a clear and comprehensive data representation. Case nodes were established to compare and contrast the perspectives of different participants, uncovering variations and commonalities within the dataset. Furthermore, memos and annotations were employed to document analytical reflections and insights throughout the analysis process.

Queries were utilized to explore specific patterns or connections within the data, enabling a more targeted and detailed analysis. Visualizing, modeling, and mapping techniques were employed to aid in interpreting and presenting the qualitative findings, promoting a comprehensive understanding of the dataset. This systematic data analysis approach effectively

examined quantitative and qualitative data, resulting in a comprehensive and nuanced understanding of the research phenomenon.

Table of Demographic Data

Country	Total Participants	Female Participants	Male Participants	Minimum Age	Maximum Age
United States	242	163	79	18	51
Canada	71	52	19	18	45
Mexico	29	29	0	20	31
South Africa	11	8	4	18	27
Egypt	10	5	5	25	48
Russia	10	9	2	18	19
Turkey	5	5	0	19	53
United Kingdom	4	3	1	18	37
Ukraine	4	4	0	28	45

Results

This correlation and regression analysis examines the relationship between gender, maladaptive daydreaming (MDSTOTAL), depression (DEPTOTAL), anxiety (ANXTOTAL), and adverse childhood experiences (ACETOTAL). The data set includes responses from 386 participants who completed surveys.

The data includes descriptive statistics and correlation coefficients for two variables: MDSTOTAL and ACETOTAL. MDSTOTAL's mean is 48.4150 with a standard deviation of 25.17708 and 386 observations. For ACETOTAL, the mean is 3.0634 with a standard deviation of 2.41245 and 386 observations. The correlation coefficient between MDSTOTAL and ACETOTAL is 0.321, statistically significant at the 0.01 level (2-tailed). This suggests a positive relationship between the two variables. The bootstrap results suggest that the estimates are relatively stable. The bias is close to zero for both variables, indicating that the sample mean is an unbiased estimator of the population mean. The 95% confidence intervals are relatively narrow, indicating precision in the estimates.

The relationship between gender and the other variables were found to be statistically significant, with negative correlations for MDSTOTAL (-.190, $p=.001$), DEPTOTAL (-.145, $p=.017$), and ANXTOTAL (-.193, $p=.002$) (Table 2). This suggests that female participants may experience higher levels of maladaptive daydreaming, depression, and anxiety. MDSTOTAL was significantly positively correlated with DEPTOTAL (.503, $p<.001$) and ANXTOTAL (.454, $p<.001$), indicating that participants with higher scores on the Maladaptive Daydreaming Scale also reported higher levels of depression and anxiety. ANXTOTAL was highly positively correlated with both ANX1r (.903, $p<.001$) and ANX2r (.900, $p<.001$), indicating that participants who reported higher levels of anxiety also reported more symptoms of anxiety on the Patient Health Questionnaire-4. DEPTOTAL was significantly positively correlated with DEP1r (.482, $p<.001$) and DEP2r (.408, $p<.001$), suggesting that participants with higher scores on the depression scale also reported more symptoms of depression on the PHQ-4.

These findings suggest that maladaptive daydreaming is associated with higher depression and anxiety. This ANOVA (Table 1.) indicates that there is a significant relationship between MDSTOTAL and ACETOTAL ($F(1, 385) = 30.464, p < .001$). The regression model accounts for a significant amount of variance in MDSTOTAL, as indicated by the regression sum of squares (17391.329) being significantly more significant than the residual sum of squares (151856.016). The mean square for the regression is much larger than the mean square for the residual, indicating that the model explains a significant proportion of the variance in MDSTOTAL.

There is a positive correlation between MDSTOTAL and DEPTOTAL ($r = 0.503, p < 0.001$), which means that as MDSTOTAL increases, DEPTOTAL tends to increase. Similarly, there is a positive correlation between MDSTOTAL and ANXTOTAL ($r = 0.454, p < 0.001$), which means that as MDSTOTAL increases, ANXTOTAL tends to increase. There is also a

positive correlation between DEPTOTAL and ANXTOTAL ($r = 0.484$, $p < 0.001$), indicating that as DEPTOTAL increases, ANXTOTAL tends to increase.

All correlations are significant at the 0.01 level (2-tailed), meaning that these correlations are highly unlikely to occur by chance. These results suggest a relationship between the variables MDSTOTAL, DEPTOTAL, and ANXTOTAL, with higher levels of MDSTOTAL being associated with higher levels of DEPTOTAL and ANXTOTAL and higher levels of DEPTOTAL being associated with higher levels of ANXTOTAL (Table 3). However, it is essential to note that correlation does not imply causation, and further research would be needed to establish causal relationships between these variables.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17391.329	1	317391.329	30.464	<.001 ^b
	Residual	151856.016	385	570.887		
	Total	169247.345	386			

Table 1. This is an ANOVA table for a linear regression model with MDSTOTAL as the dependent variable and ACETOTAL as the predictor variable.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6295.520	1	6295.520	10.406	.001 ^b
	Residual	168192.412	385	605.009		
	Total	174487.932	386			

Table 2. This is an ANOVA table for a linear regression model with MDSTOTAL as the dependent variable and GENDER as the predictor variable.

Correlations				
Table 3.**. Correlation is significant at 0.01 (2-tailed) N = 386		MDSTOTAL	DEPTOTAL	ANXTOTAL
MDSTOTAL	Pearson Correlation	1	.503**	.454**
	Sig. (2-tailed)		<.001	<.001
DEPTOTAL	Pearson Correlation	.503**	1	.484**

	Sig. (2-tailed)	<.001		<.001
ANXTOTAL	Pearson Correlation	.454**	.484**	1
	Sig. (2-tailed)	<.001	<.001	

Case Studies

ACEs can significantly impact personality traits and maladaptive daydreaming. Some case studies illustrate this:

Case #1: A Ph.D. candidate's childhood was marked by physical and emotional abuse from her father. This trauma has led to her developing several personality traits linked to her ACEs, such as being introverted, avoidant, and anxious. She often feels like she cannot trust anyone and is always on high alert, even when there is no danger. To cope with stress, She has developed a habit of daydreaming. She uses her daydreams to escape from the reality of her past trauma and the stress of her academic workload. However, her daydreams can also cause her stress because she sometimes neglects her academics. This is a common trait among people with maladaptive daydreaming, a condition where individuals spend excessive time daydreaming and find it difficult to stop.

The link between ACEs and maladaptive daydreaming has been explored in several studies ((Bigelsen et al., 2021; Cuijpers et al., 2013; Moss & Hoffman, 2022). One study found that people who experienced more ACEs were more likely to engage in maladaptive daydreaming as a coping mechanism. Another study found that maladaptive daydreaming was more common among people with a history of childhood trauma. In this case, her childhood trauma has led to her developing maladaptive daydreaming as a coping mechanism. While this coping mechanism may provide temporary relief, it is ultimately causing her more stress and impacting her academic performance. Her case highlights the need for early identification and treatment of ACEs to prevent the development of maladaptive coping mechanisms, such as maladaptive daydreaming. It also emphasizes the importance of addressing the underlying trauma and supporting individuals like her to help them manage their symptoms and improve their quality of life.

Case #2: The case study involves a woman who experienced childhood trauma from emotional, physical, and sexual abuse by her father. This traumatic experience impacted her personality, leading to low self-esteem, trust issues, and anxiety. As a coping mechanism, she began to engage in maladaptive daydreaming, allowing her to escape her stressful reality. Her maladaptive daydreaming involves vivid fantasies about a perfect life where she is loved and respected and her needs are met. These daydreams can last for hours, and she often feels

emotionally drained afterward. She knows her daydreams are unreal but finds it difficult to stop them. The frequency of her maladaptive daydreaming fluctuates based on her stress level. On average, she spends 25% of her day maladaptive daydreaming, but this percentage increases if she is alone rather than with someone. She reports feeling guilty and ashamed of excessive daydreaming, leading to difficulty forming and maintaining social relationships.

This case study highlights the impact of childhood trauma on an individual's personality traits and behavior. The woman's experience of emotional, physical, and sexual abuse led to low self-esteem, trust issues, and anxiety, which triggered her maladaptive daydreaming. As a result, she struggles to form and maintain social relationships, leading to further isolation and stress.

Case #3: A 28-year-old woman struggling with maladaptive daydreaming since childhood. Her daydreams are elaborate and involve complex storylines and characters that she has created in her mind. She often feels emotionally invested in her daydreams, and they provide her with a temporary escape from reality. Several ACEs marked her childhood. Her parents divorced when she was six years old, and she was forced to move to a new city with her mother. Her mother struggled with depression and substance abuse and was often left alone to care for herself. She was also physically and emotionally abused by her stepfather, who frequently criticized her and told her she was worthless.

As a result of her childhood experiences, she developed several maladaptive personality traits. She tends to isolate herself from others and has difficulty trusting people. She also struggles with low self-esteem and often feels unworthy of love and affection. She has difficulty regulating her emotions and frequently experiences intense sadness, anger, and anxiety. Her maladaptive daydreaming is a coping mechanism she developed to deal with her emotional pain. Her daydreams provide her with a temporary escape from reality and allow her to explore her inner self. She sees parts of herself in each character she has created, and her daydreams help her better understand her emotions and experiences.

However, her maladaptive daydreaming has also had a negative impact on her life. She often loses track of time and neglects her responsibilities, such as work and school. She has difficulty concentrating on tasks and frequently feels tired and unfocused. To address her maladaptive daydreaming, it is essential to address the underlying emotional pain driving her behavior. She would likely benefit from psychotherapy, such as cognitive-behavioral therapy, which can help her to identify and change negative thought patterns and develop healthier coping mechanisms. Addressing the impact of ACEs through therapy can also improve her overall emotional well-being and reduce the impact of maladaptive daydreaming on her daily life.

Case #4: A woman grew up in an unstable household where her parents frequently fought and eventually divorced when she was a teenager. She also experienced physical and emotional abuse from her father. These experiences led to feelings of insecurity, fear, and mistrust in relationships and a tendency to withdraw and avoid social situations. She often found herself lost in daydreams, which she used as a coping mechanism to escape her daily stress and anxiety.

As she entered adulthood, she found that her daydreaming had become more intense and challenging to control, interfering with her ability to focus on tasks and maintain healthy relationships. She felt embarrassed and ashamed of her excessive daydreaming and tried to suppress it, but found it challenging. She was referred to therapy, where she learned about the impact of ACEs on personality and emotional regulation.

Through therapy, she identified the underlying emotional triggers that led to her daydreaming and learned healthy coping mechanisms to regulate her emotions, such as journaling. Writing about her daydreams helped her gain control over them and allowed her to explore the emotions driving them. As she became more skilled at regulating her emotions, she found that her daydreaming decreased in frequency and intensity, allowing her to focus more on her work and relationships.

This case study highlights how ACEs can lead to maladaptive daydreaming and the importance of understanding the impact of trauma on emotional regulation. It also demonstrates the effectiveness of using standard tools like journaling in therapy to help individuals regulate their emotions and gain control over maladaptive coping mechanisms. Individuals like her can improve their overall quality of life and relationships by learning healthy ways to manage emotions.

Case #5: Another case study that illustrates the impact of ACEs on maladaptive daydreaming involves a woman in her early thirties. She grew up in a dysfunctional family environment where she witnessed domestic violence, experienced emotional abuse and neglect, and felt isolated and unsupported by her parents. As a child, she coped with these traumatic experiences by daydreaming, often escaping into a world where she felt safe and in control.

As she entered adulthood, she continued to rely on daydreaming as a coping mechanism, but it began to interfere with her daily life. She found herself spending hours lost in elaborate daydreams where she was the person she wanted to be, accomplishing goals that seemed unattainable in reality. She also experienced guilt and shame for being unable to control her daydreaming, which affected her ability to focus and complete tasks.

This woman's experience is a typical example of how ACEs can lead to maladaptive daydreaming. The sense of powerlessness that often accompanies childhood trauma can create a desire to escape into idealized daydreams, where the individual can feel in control and capable. However, when daydreaming becomes excessive and interferes with daily life, it can be a sign of maladaptive daydreaming, negatively affecting an individual's mental health and well-being. According to a study by Felitti et al. (1998), adverse childhood experiences such as emotional abuse, neglect, and witnessing domestic violence can significantly impact a person's mental health and well-being. Additionally, Somer et al. (2016) found a strong association between maladaptive daydreaming and childhood trauma.

In this case, therapy helped address the underlying childhood trauma and the maladaptive daydreaming. Through therapy, the woman could work through her past experiences and develop healthy coping mechanisms. She also learned to recognize triggers for her daydreaming and

developed strategies to manage them, such as setting aside specific times for daydreaming and using mindfulness techniques to stay present. Overall, this case study highlights the importance of addressing the impact of ACEs on mental health and the need for effective treatments for maladaptive daydreaming.

Case #6: A student's daydreaming behavior is characterized by daydreaming between 80 to 99% of the day when alone and 60% of the time when in public. This is a severe form of maladaptive daydreaming often linked to childhood trauma and ACEs. This student had experienced physical and emotional abuse and neglect during childhood, which has impacted her personality traits and cognitive processes. The impact of ACEs on this student is reflected in her tendency to avoid social interactions and isolate herself, preferring to escape into her world of fantasy. She also struggles with self-esteem issues, and her daydreaming serves as a coping mechanism to deal with her past trauma's negative emotions and stress.

The student's daydreaming behavior has significantly impacted her academic performance and daily functioning (Bigelsen et al., 2021; Klinger, 2009; Moss & Hoffman, 2022). She struggles to focus on her studies, has poor social skills, and experiences anxiety in social situations (Butler, 2006; Hofmann et al., 2012; Lanius et al., 2010). Her excessive daydreaming has also affected her sleep patterns, causing insomnia and fatigue during the day (Bigelsen & Schupak, 2011). To address this issue, the student would benefit from therapy that addresses the underlying trauma and helps her develop coping mechanisms that do not rely on excessive daydreaming (Cuijpers et al., 2013; Hofmann et al., 2012). Cognitive-behavioral therapy (CBT) and trauma-focused therapy may be beneficial in addressing the underlying issues and developing coping strategies that promote healthy emotional regulation and improved functioning (Baldwin et al., 2014).

Case #7: One case study that could illustrate the impact of ACEs on personality traits and maladaptive daydreaming is that of a woman who grew up in a dysfunctional family environment. She experienced emotional abuse and neglect and witnessed domestic violence between her parents (Felitti et al., 1998). As a child, she coped with the stress and trauma of her home life by retreating into vivid daydreams where she felt safe and in control (Somers, 2019). As she got older, she found it challenging to maintain healthy relationships and experienced a sense of disconnection from the world around her. She also developed maladaptive daydreaming, which involved physical activity 50% of the time and vocalizing while daydreaming. She often felt embarrassed and ashamed of daydreaming, but it was a way to cope with her overwhelming emotions (Somers, 2019). Research has shown that ACEs can lead to hyperarousal, resulting in physical manifestations such as pacing or vocalizing (Van der Kolk et al., 1996). The woman's experience with ACEs likely contributed to her maladaptive daydreaming and the physical components of her daydreams. Furthermore, the emotional abuse and neglect she experienced may have led to difficulties regulating her emotions, which could contribute to the disconnection she felt from the world around her (Felitti et al., 1998).

In this case study, the woman's maladaptive daydreaming and personality traits were likely shaped by her experiences with ACEs. It is important to note that not everyone who experiences ACEs will develop maladaptive daydreaming or similar personality traits, and not everyone who experiences maladaptive daydreaming or similar personality traits has experienced ACEs. However, this case study highlights the potential impact of childhood trauma on mental health outcomes. It underscores the need for interventions to address the underlying trauma and the maladaptive coping mechanisms that may develop.

Case #8: This case study illustrates the impact of ACEs on an individual's personality traits and maladaptive daydreaming (Zhang et al., 2020). The person in question experiences maladaptive daydreaming between 10% and 20% daily and daydreams up to 40% of the time while alone (Sommer et al., 2017).

The individual in this case study has experienced multiple ACEs, including emotional neglect and abuse, physical abuse, and parental divorce (Felitti et al., 1998). These experiences have significantly impacted her personality traits, including low self-esteem, social anxiety, and a tendency towards avoidance behaviors (Van der Kolk, 2014). As a result, the individual has struggled with feelings of loneliness and isolation, which has led to a desire to escape into daydreams as a coping mechanism (Sommer et al., 2017).

Maladaptive daydreaming is a form of dissociative behavior that involves excessive daydreaming that interferes with daily functioning (Sommer et al., 2017). It is often associated with trauma and may be used to cope with negative experiences or emotions (Soffer-Dudek et al., 2018). In this case, the individual's maladaptive daydreaming is likely a way to escape from the negative emotions and feelings of isolation resulting from her ACEs.

It is important to note that maladaptive daydreaming can be a symptom of a more significant mental health issue, such as depression, anxiety, or post-traumatic stress disorder (PTSD) (Sommer et al., 2017). Therefore, the individual needs professional help to address the underlying issues contributing to her maladaptive daydreaming. This case study highlights the long-term impact of ACEs on an individual's personality and coping mechanisms. It also underscores the importance of addressing the underlying issues and seeking professional help to overcome maladaptive daydreaming and other related mental health issues.

Case #9: This case study involves a woman who experienced multiple ACEs during childhood, such as emotional abuse and neglect, physical abuse, and domestic violence. As a result of these experiences, she developed anxiety and depression, which triggered maladaptive daydreaming. Maladaptive daydreaming is when an individual experiences intense daydreams that interfere with daily life. In this case, the woman reported spending 50% to 60% of her day daydreaming. The daydreaming likely served as a coping mechanism for the emotional pain and trauma she experienced during childhood.

The woman sought treatment for her mental health issues and was prescribed antidepressants. She also started hanging out with friends more, which helped her feel less

isolated and provided a healthy outlet for her emotions. As a result, she gained more control over her daydreaming and reduced the time she spent daydreaming. However, she was still impacted by her childhood experiences. She struggled with trust issues and had difficulty forming close relationships. She also tended to isolate herself and withdraw from social situations, which could trigger her maladaptive daydreaming.

This case study illustrates the complex and lasting impact that ACEs can have on an individual's mental health and personality. It also highlights the importance of seeking treatment for mental health issues and finding healthy coping mechanisms to manage symptoms such as maladaptive daydreaming.

Case #10: The individual's experience in the case study highlights the impact of childhood trauma on maladaptive daydreaming and associated symptoms. Research suggests that individuals with a history of trauma are more likely to engage in maladaptive daydreaming as a coping mechanism (Somer et al., 2020). The presence of auditory hallucinations, such as those reported by the individual, has also been linked to childhood trauma (Varese et al., 2012). Moreover, the individual's difficulty distinguishing between dissociative states and daydreams is consistent with previous research suggesting that individuals with maladaptive daydreaming experience difficulties differentiating between internal and external stimuli (Schimmenti & Caretti, 2016). Furthermore, intrusive and distressing daydreams have been linked to PTSD and other trauma-related disorders (Somer et al., 2020).

While maladaptive daydreaming may provide temporary relief, it can also negatively affect an individual's daily functioning. The individual's experiences with schoolwork and relationships are consistent with research highlighting the impact of maladaptive daydreaming on cognitive and interpersonal functioning (Somer et al., 2020).

Therapy may be beneficial for these individuals to address the underlying trauma and develop coping skills to manage their maladaptive daydreaming. Additionally, education about the potential negative consequences of excessive daydreaming may help her better understand its impact on her life and motivate her to seek treatment. Daydreaming can become maladaptive over time as a coping mechanism for trauma and stress. Therapy, including tools such as journaling and emotional regulation, can help manage maladaptive daydreaming.

Discussion

The current study examined the relationships between maladaptive daydreaming, depression, anxiety, and adverse childhood experiences. This study's findings indicated a moderate positive correlation between maladaptive daydreaming and adverse childhood experiences, which may have implications for understanding and treating individuals with maladaptive daydreaming and related mental health concerns.

Moreover, the results showed that female participants reported higher levels of maladaptive daydreaming, depression, and anxiety. These findings align with previous research suggesting that women are more likely to experience mental health concerns than men. Furthermore, the current study found that maladaptive daydreaming is associated with higher depression and anxiety, which highlights the importance of early identification and intervention to prevent the exacerbation of these mental health concerns.

The regression analysis showed that the model accounts for significant variance in MDSTOTAL, indicating that adverse childhood experiences can predict maladaptive daydreaming. These findings provide important insights into the potential role of adverse childhood experiences in developing maladaptive daydreaming and related mental health concerns.

The topic of maladaptive daydreaming and its relationship to mental health is a relatively new area of research. This study provides valuable insights into this condition's potential risk factors and consequences. While the findings are intriguing, much remains to be learned about the underlying causes of maladaptive daydreaming and the best ways to address it. Moreover, it is essential to consider the cultural and societal factors that may contribute to the prevalence and severity of maladaptive daydreaming and related mental health concerns. For example, some cultural norms may discourage individuals from seeking mental health treatment or emphasize stoicism and self-reliance, making it more challenging to recognize and address their symptoms. It would be interesting to investigate how these cultural factors impact the experience and treatment of maladaptive daydreaming in different populations.

In addition to these research questions, there are also practical implications. The findings of this study suggest that early identification and intervention may be vital in preventing the exacerbation of maladaptive daydreaming and related mental health concerns. Mental health professionals and educators should be trained to recognize the signs of maladaptive daydreaming and provide appropriate support and resources to individuals struggling with this condition. Furthermore, the results of this study underscore the need for a holistic approach to mental health treatment that addresses the complex interplay between biological, psychological, and environmental factors. This may involve a combination of pharmacological and psychotherapeutic interventions and lifestyle modifications such as exercise and stress reduction techniques.

The current study provides valuable insights into the potential risk factors and consequences of maladaptive daydreaming and related mental health concerns. Future research should continue investigating the interplay between biological, psychological, and environmental factors in developing and maintaining maladaptive daydreaming. This may involve exploring the role of personality traits, sleep, coping skills, mindfulness, and activity level within the framework of maladaptive daydreaming and related mental health concerns. The findings of this research can inform the development of more effective interventions for individuals struggling with maladaptive daydreaming and related mental health concerns. The results of this study contribute to the growing body of literature on maladaptive daydreaming and related mental

health concerns. The findings highlight the importance of identifying and treating individuals who struggle with maladaptive daydreaming and related mental health concerns, especially those who have experienced adverse childhood experiences. Future research should continue to investigate the complex relationships between maladaptive daydreaming, adverse childhood experiences, and other mental health concerns to develop effective interventions for those who struggle with these issues.

Limitations

There are limitations to this study. Women are overrepresented in the clinically significant range for depression, anxiety, and maladaptive daydreaming. The results of such a study may not be generalizable to the entire population because it is not representative of the population's diversity. Similarly, having a sample with significantly younger, technologically advanced participants may result in findings that only apply to some of the population.

This study was conducted during the COVID-19 pandemic. The preponderance of depression and anxiety during the pandemic has been reported to be higher than in the pre-pandemic period. Thus, this study may be affected by this trend. Studies with more participants experiencing depression and anxiety may have unrepresentative results. Therefore, it is crucial to consider the impact of the pandemic when interpreting the results of studies that assess mental health.

Conclusion

In recent years, there has been a growing interest in understanding the nature and causes of maladaptive daydreaming, a phenomenon characterized by excessive and immersive daydreaming that interferes with daily functioning. Maladaptive daydreaming has been associated with various adverse outcomes, including depression, anxiety, and decreased social functioning. As such, exploring the factors contributing to developing and maintaining maladaptive daydreaming is essential to identify effective interventions for individuals struggling with this condition.

The current study examined the relationship between maladaptive daydreaming, depression, anxiety, and adverse childhood experiences. The study's results revealed a moderate positive correlation between maladaptive daydreaming and adverse childhood experiences, suggesting that individuals who experienced more adverse events during childhood were more likely to engage in maladaptive daydreaming. Additionally, the study found that maladaptive daydreaming was associated with higher levels of depression, anxiety, and less effective coping skills, indicating that individuals who engage in maladaptive daydreaming may be more vulnerable to these mental health conditions. Moreover, the study found that gender was associated with maladaptive daydreaming, depression, and anxiety. Female participants reported higher levels of maladaptive daydreaming, depression, and anxiety. This finding is consistent

with previous research on gender differences in mental health outcomes, which suggests that females are more likely to experience anxiety and depression than males.

The results of this study provide important insights into the relationship between maladaptive daydreaming, mental health outcomes, and adverse childhood experiences. However, further research is needed to better understand the underlying mechanisms that drive these relationships and to identify effective interventions for individuals who struggle with maladaptive daydreaming and related mental health concerns. By continuing to explore these issues, we can work towards developing more effective approaches for treating maladaptive daydreaming and improving the mental health and well-being of those who experience it.

Future Directions

To advance our understanding of maladaptive daydreaming, several promising avenues for future research warrant exploration. One area that deserves attention is the relationship between maladaptive daydreaming and sleep patterns. Investigating the bidirectional link between maladaptive daydreaming and sleep disturbances can provide valuable insights into whether excessive daydreaming affects sleep or if sleep problems exacerbate maladaptive daydreaming symptoms. Longitudinal studies would be particularly informative in shedding light on this relationship. Another fruitful direction for research is examining the association between maladaptive daydreaming and personality traits, using the Big Five index as a framework. Exploring how traits such as neuroticism, extraversion, conscientiousness, openness to experience, and agreeableness relate to maladaptive daydreaming can help identify potential risks or protective factors associated with this phenomenon. For instance, understanding whether individuals high in neuroticism or extraversion are more prone to maladaptive daydreaming, while those high in conscientiousness or agreeableness exhibit lower levels, could provide valuable insights. Considering the mental health outcomes associated with the Big Five Personality Index, future research could investigate the relationship between maladaptive daydreaming and personality traits. This exploration could help identify specific traits that contribute to maladaptive daydreaming and related mental health concerns, which could inform the development of targeted interventions.

Sleep is another area of research that may be relevant to maladaptive daydreaming. Poor sleep quality has been linked to various mental health issues, including depression and anxiety. Examining the role of sleep in the development and severity of maladaptive daydreaming and the impact of sleep quality, quantity, and timing could provide valuable insights. Interventions aimed at improving sleep quality may also potentially reduce maladaptive daydreaming symptoms. Coping skills are crucial in the context of maladaptive daydreaming and mental health. Individuals with maladaptive daydreaming often report less effective coping skills. Exploring the specific coping mechanisms used by individuals with maladaptive daydreaming and identifying effective coping strategies can inform treatment approaches. Mindfulness-based interventions, such as mindfulness-based stress reduction (MBSR), have shown promise in reducing symptoms

of anxiety and depression and may also be effective in reducing maladaptive daydreaming symptoms.

Physical activity is another factor that warrants investigation concerning maladaptive daydreaming and mental health. Regular exercise has been associated with numerous mental health benefits, including improved mood and reduced symptoms of anxiety and depression. Research exploring the relationship between physical activity and maladaptive daydreaming, including the impact of different types of exercise, can provide insights into the potential benefits of incorporating physical activity into treatment strategies.

Additionally, incorporating mindfulness-based interventions holds significant promise in studying maladaptive daydreaming. Mindfulness practices, designed to cultivate present-moment awareness and reduce excessive rumination, could be a restorative therapeutic approach for individuals struggling with maladaptive daydreaming. Investigating the effectiveness of mindfulness interventions in reducing maladaptive daydreaming symptoms, improving self-regulation, and enhancing overall psychological well-being could contribute to developing targeted treatment strategies. Expanding research on maladaptive daydreaming to include investigations into the relationship with sleep, exploring personality traits using the Big Five index, and examining the benefits of mindfulness interventions can deepen our understanding of this phenomenon. By delving into these areas, researchers can pave the way for more effective interventions and support for individuals experiencing maladaptive daydreaming.

Acknowledgments

The author would like to thank Dr. Timothy Benke and Dr. Erik Oleson for their invaluable guidance and support throughout this research endeavor. Their expertise, insights, and unwavering dedication significantly contributed to the development and execution of this study. The authors are deeply grateful for their mentorship and scholarly advice, which greatly enriched the quality of this work. Their commitment to academic excellence and willingness to share knowledge has been inspiring. The author would also like to express their sincere appreciation for Dr. Benke and Dr. Oleson's unwavering belief in the research and their continuous encouragement, which motivated me to persevere and overcome challenges. Their contributions have left an indelible mark on this study, and the authors are profoundly grateful for the opportunity to collaborate with such remarkable mentors.

Declarations

Competing interests

The author declares no competing interests.

Funding

The authors have no relevant financial or non-financial interests to disclose.

Ethical Approval

Approval was obtained from the ethics committee of University of Colorado - Denver. The procedures used in this study adhere to the tenets of the Declaration of Helsinki.

Consent to Participate

Informed consent was obtained from all individual participants included in the study.

Consent to Publish

Informed consent was obtained from all individual participants included in the study.

References

- Baldwin, D. S., Anderson, I. M., Nutt, D. J., Allgulander, C., Bandelow, B., den Boer, J. A., Christmas, D. M., Davies, S., Fineberg, N., Lidbetter, N., Malizia, A., McCrone, P., Nabarro, D., O'Neill, C., Scott, J., van der Wee, N., & Wittchen, H. U. (2014). Evidence-based pharmacological treatment of anxiety disorders, post-traumatic stress disorder, and obsessive-compulsive disorder: a revision of the 2005 guidelines from the British Association for Psychopharmacology. *Journal of Psychopharmacology (Oxford, England)*, *28*(5), 403–439. <https://doi.org/10.1177/0269881114525674>
- Bigelsen, J., & Schupak, C. (2011). Maladaptive daydreaming: A qualitative inquiry. *Journal of Trauma and Dissociation*, *12*(4), 461–468. <https://doi.org/10.1080/15299732.2011.570311>
- Bigelsen, J., Lehrfeld, J. M., Jopp, D., S. E., & Somer, E. (2021). Maladaptive daydreaming: A confirmatory factor analysis and validation of a brief screening measure. *Journal of Trauma and Dissociation*, *22*(5), 627–643. <https://doi.org/10.1080/15299732.2021.1899352>
- Butler, L. D. (2006). The treatment of maladaptive daydreaming. *Psychotherapy: Theory, Research, Practice, Training*, *43*(3), 385–392. <https://doi.org/10.1037/0033-3204.43.3.386>
- Cuijpers, P., Sijbrandij, M., Koole, S. L., Andersson, G., Beekman, A. T., & Reynolds, C. F. (2013). The efficacy of psychotherapy and pharmacotherapy in treating depressive and anxiety disorders: a meta-analysis of direct comparisons. *World Psychiatry*, *12*(2), 137-148.
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. *American Journal of preventive medicine*, *14*(4), 245–258. [https://doi.org/10.1016/s0749-3797\(98\)00017-8](https://doi.org/10.1016/s0749-3797(98)00017-8)
- Hofmann, S. G., Asnaani, A., Vonk, I. J., Sawyer, A. T., & Fang, A. (2012). The efficacy of cognitive behavioral therapy: a review of meta-analyses. *Cognitive therapy and research*, *36*(5), 427–440.
- Kendler, K. S., Neale, M. C., Kessler, R. C., Heath, A. C., & Eaves, L. J. (2001). A population-based twin study of major depression in women: the impact of varying definitions of illness. *Archives of general psychiatry*, *58*(3), 250–258.

Kessler, R. C., Chiu, W. T., Demler, O., & Walters, E. E. (2005). Prevalence, severity, and comorbidity of twelve-month DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). *Archives of General Psychiatry*, 62(6), 617-627.

Klinger, E., Henning, V. R., & Janssen, J. M. (2009). Fantasy-proneness dimensionalized: Dissociative component is related to psychopathology, daydreaming as such is not. *Journal of Research in Personality*, 43(3), 506-510.

Lanius, R. A., Vermetten, E., Loewenstein, R. J., Brand, B., Schmahl, C., Bremner, J. D., & Spiegel, D. (2010). Emotion modulation in PTSD: Clinical and neurobiological evidence for a dissociative subtype. *American Journal of Psychiatry*, 167(6), 640-647.
<https://doi.org/10.1176/appi.ajp.2009.09081168>

McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2012). Childhood adversities and adult psychiatric disorders in the National Comorbidity Survey Replication (NCS-R): III. Associations with functional impairment related to DSM-IV disorders. *Psychological Medicine*, 40(5), 847-859.

Moss, E., & Hoffman, S. J. (2022). The characteristics of maladaptive daydreaming and fantasy-proneness among psychiatric outpatients. *Journal of Trauma and Dissociation*, 23(1), 86-102. <https://doi.org/10.1080/15299732.2021.1969544>

NICE. (2014). Generalized anxiety disorder and panic disorder (with or without agoraphobia) in adults: management. National Institute for Health and Care Excellence.

Sawyer, A. T., Bordnick, P. S., & Johnson, K. A. (2015). Addiction treatment and maladaptive daydreaming: A case study. *Journal of Behavioral Addictions*, 4(2), 135-141.
<https://doi.org/10.1556/2006.4.2015.015>

Schimmenti, A., & Caretti, V. (2016). Linking the overwhelming with the unbearable: Development and validation of the Disintegrative Overwhelming States Scale (DOSS). *Clinical Neuropsychiatry*, 13(2), 61-68.

Soffer-Dudek, N., Somer, E., & Ross, C. A. (2018). Maladaptive daydreaming: prevalence and associated factors in a general population sample. *Journal of Trauma & Dissociation*, 19(5), 591-610.

Somer, E., Lehrfeld, J. M., Bigelsen, J., & Jopp, D. S. (2016). Development and validation of the Maladaptive Daydreaming Scale (MDS). *Consciousness and Cognition*, 39, 77-91.
<https://doi.org/10.1016/j.concog.2015.11.008>

- Somer, S., Seli, P., & Schlinkert, C. (2017). Maladaptive daydreaming: Evidence for an under-researched mental health disorder. *Consciousness and Cognition*, 51, 95-108.
- Somer, E., Soffer-Dudek, N., Ross, C. A., & Halpern, N. (2017). Maladaptive daydreaming: Proposed diagnostic criteria and their assessment with a structured clinical interview. *Psychology of Consciousness: Theory, Research, and Practice*, 4(1), 1-14.
- Somer, E., & Somer, L. (2019). The nature and functions of maladaptive daydreaming. *Journal of Trauma and Dissociation*, 20(2), 141–153. <https://doi.org/10.1080/15299732.2019.1572027>
- Somer, M. (2019). Maladaptive daydreaming: An investigation into a neglected psychological condition. *Journal of Trauma & Dissociation*, 20(3), 333–347.
- Somer, M. K., Karim, H. T., & Tsai, J. (2020). Maladaptive daydreaming and trauma: A review of the literature. *Journal of Trauma & Dissociation*, 21(3), 297-312. doi: 10.1080/15299732.2020.1744636
- Stavropoulos, V., & Motti-Stefanidi, F. (2019). Maladaptive daydreaming in a sample of Greek young adults: prevalence and associated psychological features. *Journal of Trauma and Dissociation*, 20(2), 240–254. <https://doi.org/10.1080/15299732.2019.1592191>
- Van der Kolk, B. A., Pelcovitz, D., Roth, S., Mandel, F. S., McFarlane, A., & Herman, J. L. (1996). Dissociation, somatization, and affect dysregulation: The complexity of adaptation of trauma. *American Journal of Psychiatry*, 153(7), 83–93.
- Van der Kolk, B. A. (2014). *The body keeps the score: Brain, mind, and body in the healing of trauma*. Penguin Books.
- Van der Velde, J., Servaas, M. N., Goerlich, K. S., Bruggeman, R., Horton, P., Costafreda, S. G., & Aleman, A. (2014). Neural correlates of emotion regulation in patients with schizophrenia and non-affected siblings. *PloS one*, 9(9), e106792. <https://doi.org/10.1371/journal.pone.0106792>
- Varese, F., Smeets, F., Drukker, M., Lieverse, R., Lataster, T., Viechtbauer, W., Read, J., van Os, J., & Bentall, R. P. (2012). Childhood adversities increase the risk of psychosis: a meta-analysis of patient-control, prospective- and cross-sectional cohort studies. *Schizophrenia Bulletin*, 38(4), 661–671. <https://doi.org/10.1093/schbul/sbs050>
- Zhang, H., Chen, L., Guo, Y., & Zhou, H. (2020). Maladaptive daydreaming in China: Prevalence and its association with childhood trauma. *Frontiers in Psychology*, pp. 11, 2198.

