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RESEARCH LETTER

Childhood adversity, ICD-11 trauma symptom domains, and maladaptive daydreaming: A cross-sectional pilot study

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1. Introduction

Maladaptive daydreaming (MD) is extensive, difficult-to-control fantasy accompanied by distress or interference with daily functioning.[1] MD is not an established diagnostic category, but it is consistently associated with psychological distress, negative affect, loneliness, emotion-regulation difficulties, and dissociation.[2] Trauma-based accounts of MD are prominent, yet childhood adversity is neither necessary nor sufficient for MD; current affective, self-evaluative, and relational difficulties may be more proximal to MD than cumulative adversity itself.[3]

The International Classification of Diseases, 11th Revision (ICD-11) distinguishes core post-traumatic stress disorder (PTSD) symptoms (re-experiencing, avoidance, persistent threat) from disturbances in self-organization (DSO; affective dysregulation, negative self-concept, relationship disturbances); together they define complex PTSD.[4] Adverse childhood experiences (ACEs) denote past exposure, whereas core PTSD symptoms and DSO are current symptom domains that may follow it; MD studies have typically examined them separately. DSO may be particularly relevant to MD because immersive fantasy can provide temporary relief or idealized identities, whereas its compulsive features may reinforce withdrawal. Mutually adjusted associations can show whether the MD–trauma link reflects exposure or specific, modifiable symptom domains, informing health-psychological assessment and intervention. This exploratory pilot study, not a test of a confirmatory model, examined the bivariate and mutually adjusted associations of ACEs, core PTSD symptoms, and DSO with MD, and explored indirect associations via DSO.

2. Methods

A cross-sectional online survey was conducted from August 2025 to February 2026 via snowball recruitment in Polish- and English-language social-media communities focused on daydreaming or trauma. The analytic sample comprised 101 adults aged 18–75 years (M = 28.43, SD = 12.15; 63.4% women, 30.7% men, 5.9% non-binary or transgender; 57.4% with higher education), residing mainly in Europe (55.4%) and North America (19.8%). The study was approved by the University Research Ethics Committee of the University of Opole (Approval No. 105/2025; Date: July 11, 2025); all participants provided electronic informed consent. Reporting follows the STROBE guideline for cross-sectional studies (Supplementary File 2).

Maladaptive daydreaming severity was assessed with the 16-item Maladaptive Daydreaming Scale (MDS-16; mean score 0–100).[1] Cumulative childhood adversity was assessed with the 10-item Adverse Childhood Experiences Questionnaire (ACE-

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10).[5] Trauma-related symptoms were measured with the 18-item International Trauma Questionnaire (ITQ),[4] yielding separate core PTSD and DSO severity scores (each 0–24); validated Polish translations were used for Polish-speaking respondents. All instruments are freely available for non-commercial research use. Analyses (JASP 0.97.1) comprised descriptive statistics, Pearson correlations, and a simultaneous multiple regression predicting MD from ACEs, core PTSD, and DSO, with collinearity diagnostics (variance inflation factor [VIF], tolerance). A sensitivity model added age, gender (women vs. others), and education (higher vs. lower) as potential confounders; exploratory age-adjusted mediation models tested indirect associations of ACEs and core PTSD with MD via DSO. Bias-corrected and accelerated 95% confidence intervals (Bca CIs) were used with 5,000 bootstrap samples; tests were two-sided ($\alpha = 0.05$).

3. Results

All 101 participants provided complete data. Overall, 55% of participants ($n = 56$) scored at or above the suggested MDS-16 cut-off (≥ 50), indicating probable MD for screening purposes rather than a diagnosis.[1] Four or more ACEs were reported by 43% ($n = 43$). All pairwise correlations among MD and trauma-related variables were positive (Table 1): MD correlated weakly with ACEs ($r = 0.23$, $p = 0.023$), moderately with core PTSD ($r = 0.34$, $p < 0.001$), and most strongly with DSO ($r = 0.53$, $p < 0.001$). Younger age was associated with higher MD and DSO; gender and education were unrelated to MD.

The simultaneous regression was significant, $F(3, 97) = 12.62$, $p < 0.001$, $R^2 = 0.28$, adjusted $R^2 = 0.26$; collinearity was low (VIF = 1.24–1.59; tolerance ≥ 0.63). DSO was the only variable with a significant unique association with MD ($B = 1.62$, $SE = 0.35$, $\beta = 0.48$, $p < 0.001$, 95% BCa CI [0.98, 2.20]; $sr^2 = 0.16$). Neither ACEs ($\beta = 0.04$, $p = 0.676$) nor core PTSD ($\beta = 0.06$, $p = 0.588$) retained a unique association with MD.

After adjustment for age, gender, and education (Table S1), DSO remained uniquely associated with MD ($B = 1.20$, $\beta = 0.36$, $p = 0.002$, 95% BCa CI [0.54, 1.89]), as did younger age ($\beta = -0.32$, $p = 0.001$); ACEs and core PTSD remained non-significant. Exploratory indirect associations via DSO were significant for ACEs (indirect effect [ab] = 1.12, 95% BCa CI [0.41, 2.13]) and core PTSD ($ab = 0.63$, 95% BCa CI [0.27, 1.14]); with mutual adjustment, only the latter remained (Table S2).

4. Discussion

All three variables correlated positively with MD, but only DSO retained a unique association once their overlap was controlled, including after adjustment for sociodemographic covariates. This indicates a statistically unique association, not etiological or clinical primacy: in this sample, MD covaried more closely with current affective, self-concept, and relational disturbances than with cumulative adversity or core fear- and threat-related PTSD symptoms.

The negligible ACE and core PTSD coefficients do not indicate that adversity or fear-based symptoms are etiologically unimportant. DSO may lie on a pathway from adversity or post-traumatic responses to MD, attenuating their direct associations, as the indirect associations suggest; however, cross-sectional data cannot establish temporal ordering or mediation. The DSO–MD association may also reflect unassessed shared burden (e.g., depression, anxiety, dissociation, loneliness, emotion-regulation difficulties).[2] Nonetheless, fantasy may serve compensatory or avoidant functions after adversity.[3]

Findings support separating adversity exposure, core PTSD, and DSO rather than using a single trauma score, and tentatively suggest that impairing daydreaming may warrant assessment of affect regulation, self-concept, and relationship functioning rather than being taken as evidence of trauma exposure per se. Limitations include the cross-sectional, self-report design, which precludes

Table 1. Descriptive statistics, reliability, and Pearson correlations ($N = 101$)

Variable	*M*	*SD*	Cronbach's α	1	2	3	4
1. Maladaptive daydreaming	51.91	22.19	0.936	–			
2. Adverse childhood experiences	3.16	2.26	0.694	0.23*	–		
3. Core PTSD symptoms	10.71	6.11	0.854	0.34***	0.43***	–	
4. Disturbances in self-organization	13.67	6.58	0.883	0.53***	0.34***	0.56***	–
5. Age	28.43	12.15	–	−0.46***	−0.07	−0.26**	−0.43***

Note: *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$. MDS-16 mean scores range 0–100; ITQ core PTSD and DSO scores range 0–24.
Abbreviations: DSO: Disturbances in self-organization; ITQ: International Trauma Questionnaire; M: Mean; MDS: Maladaptive Daydreaming Scale; PTSD: Post-traumatic stress disorder; SD: Standard deviation.

causal inference; self-selection from online MD and trauma-focused communities, limiting generalizability to community and clinical populations; a small, predominantly young female, international sample with a wide age range and untested measurement equivalence across languages; a screening-based MD cut-off; and the absence of diagnostic interviews and psychological covariates. The findings require replication in larger, clinically assessed, and longitudinal samples to establish direction, mechanism, specificity, and to test whether the three DSO clusters relate differently to MD.

5. Conclusion

In this exploratory pilot sample, maladaptive daydreaming was most closely associated with disturbances in self-organization, which remained uniquely associated with it after accounting for adverse childhood experiences, core PTSD symptoms, and sociodemographic covariates. Assessing adversity exposure, core PTSD, and DSO separately may therefore be more informative than relying on a single trauma score; however, these cross-sectional findings require replication in larger, clinically assessed, and longitudinal samples.

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Conflict of interest

Aleksandra Maria Rogowska is an Editorial Board Member of this journal, but was not in any way involved in the editorial and peer-review process conducted for this paper, directly or indirectly. The authors declare that they have no competing interests.

Author contributions

Conceptualization: All authors
Data curation: All authors
Formal analysis: Aleksandra M. Rogowska
Investigation: Róża Wrońska
Methodology: All authors
Writing–original draft: All authors
Writing–review & editing: All authors

Ethics approval and consent to participate

The study was approved by the University Research Ethics Committee of the University of Opole (Approval No. 105/2025; Date: July 11, 2025) and conducted in accordance with the Declaration of Helsinki. All participants provided electronic informed consent before participation; participation was anonymous and voluntary.

Consent for publication

Not applicable. The study did not include any individual participant's personal details, images, or identifiable data.

Availability of data

Due to the sensitive nature of the data (containing information on both adverse childhood experiences and complex post-traumatic stress disorder) and the potential for participant identification, the dataset is made available by the corresponding author upon a justified request.

Further disclosure

The data presented in this article are derived from an unpublished Master's thesis by Róża Wrońska, completed under the supervision of the second author.

AI tools statement

During preparation of the manuscript, the authors used Claude (Anthropic; model Claude Opus 5.5) for language editing. Its use was limited to phrasing and grammatical suggestions under the authors' direction. The AI tool was not involved in study design, data analysis, data interpretation, or drawing conclusions; all statistical analyses were conducted and verified by the authors in JASP, and all AI-assisted text was manually checked by the authors for accuracy and originality.

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