

Pathological Personality Traits and Time Spent on Selected Online Activities in a Group of Adults

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Summary

Aim. The study aimed to examine the relationships between pathological personality traits, as defined by the alternative DSM-5 model for personality disorder (Negative Affectivity, Detachment, Disinhibition, Antagonism, and Psychoticism), and the time spent on various online activities (gaming, online communities, pornography, online humor, online shopping, e-books, video streaming, live video streaming, podcasts, and online music).

Material and methods. The study included 224 participants (55.36% women) aged 18 to 59 years ($M = 29.86$; $SD = 9.09$). The *Personality Inventory for DSM-5* (PID-5) was used, along with a self-constructed questionnaire regarding the time spent on selected online activities.

Results. The findings indicated that men and women differ in the time spent on specific online activities, such as gaming, pornography, online shopping, and online music. Additionally, several weak to moderate positive correlations were observed between pathological personality traits and time spent on gaming, pornography, and online communities among men. Among women, weak to moderate positive correlations were particularly noted between pathological personality traits and time spent on online humor.

Conclusions. Our study suggests that men and women may be driven by different pathological personality traits when engaging in specific online activities. It also appears that various online activities may serve a regulatory function for different affective states associated with the configuration of specific personality traits.

Key words: pathological personality traits, problematic internet use, gaming disorder

Introduction

The shift in personality disorder diagnosis, initiated in DSM-5 [1] and continued in ICD-11 [2], highlights the growing dominance of the dimensional approach in defining maladaptive personality functioning. Dimensional models are based on the premise that categorical diagnosis – despite its advantages – is insufficient for describing the complexity of personality disorder symptoms, as classifying them into a single diagnostic category is often challenging and ambiguous [3–5]. Instead, dimensional models propose that personality disorders should be diagnosed based on the pathological intensification of specific personality traits [5]. In DSM-5, personality disorder diagnosis can be conducted using a hybrid dimensional-categorical system [1]. The dimensional aspect includes Criterion A, which assesses impairments in personality functioning within two domains: self-functioning (identity and self-direction) and interpersonal functioning (empathy and intimacy) [1, 6]. Criterion B, based on the pathological personality traits model [6], evaluates the severity of five broad trait domains – Negative Affectivity, Detachment, Psychoticism, Antagonism, and Disinhibition – along with their 25 facet-level traits. The fully dimensional ICD-11 model presents similar guidelines for diagnosing personality disorders [2]. Importantly, in the context of this study, there is still limited research exploring the relationships between pathological personality traits and engagement in various online activities.

The rapid development of digital technology has made internet use an essential aspect of everyday activities such as communication, social interactions, education, entertainment, and information exchange, leading to an overall increase in time spent online [7]. Given this growing societal engagement, behavioral addictions – such as internet gaming disorder (IGD) and problematic Internet use (PIU) – have gained increasing attention. DSM-5 formally included IGD as a condition warranting further research [1], while ICD-11 classified gaming disorder (GD) as a distinct diagnosis [2]. Both frameworks conceptualize IGD/GD similarly to substance addiction, contributing to the perception of PIU as an addictive behavior [8]. The clinical presentation of PIU includes excessive internet use for stress relief and pleasure-seeking, unsuccessful attempts to control usage, and negative psychosocial consequences [8, 9]. Additionally, PIU may involve withdrawal symptoms and changes in tolerance [1]. PIU is a broad phenomenon encompassing various online activities, such as gaming, online shopping, gambling, and social media use [7]. The global prevalence of PIU is estimated at 14.22%, while the prevalence of smartphone addiction, social media addiction, cybersex addiction, and gaming addiction is reported at 26.99%, 17.42%, 8.23%, and 6.04%, respectively [10]. However, little research has examined engagement in other online activities, such as online humor or video streaming.

One of the recent meta-analyses [11], including adaptive and pathological personality traits and their associations with Internet use, identified Negative Affectivity and Impulsivity as the most empirically stable predictors of PIU. Moreover, research by Gervasi et al. [12] indicates that all five DSM-5 personality disorder domains are associated with internet addiction (IA), with Negative Affect, Disinhibition, and Psychoticism serving as key predictors of IA symptoms. Additionally, maladaptive internet

use has been linked to unusual thought patterns [13], increased hostility, aggression, and antagonistic behaviors [14, 15]. Researchers also emphasize that excessive internet use is positively associated with the development of personality disorders [16]. Laconi et al. [17] found that avoidant, narcissistic, histrionic, and antisocial personality traits predict PIU, while borderline personality traits positively correlate with PIU.

Our study aimed to explore various online activities and their relationships with pathological personality traits. Based on the assumption that engagement in an online activity can be measured by the time spent on it, we identified ten internet-based activities and examined their associations with the pathological personality traits outlined in DSM-5 Criterion B (both broad trait domains and specific trait facets). To our knowledge, no previous study has investigated these relationships. Given the exploratory nature of our research, we refrained from formulating directional hypotheses regarding the associations between pathological personality traits and specific online activities.

Material

The study included 224 participants (55.36% women) aged 18 to 59 years ($M = 29.86$; $SD = 9.09$). Table 1 presents the characteristics of the participants, including gender, age, education, marital status, and place of residence.

Table 1. Characteristics of the studied group

	Women ($n = 124$)	Men ($n = 100$)	Total ($N = 224$)
Age $M(SD)$	27.75 (7.32)	29.76 (10.23)	29.86 (9.09)
Education n (%)			
Primary	2(0.89)	1(0.45)	3(1.34)
Vocational	3(1.34)	7(3.12)	10(4.46)
Secondary	55(24.55)	46(20.54)	101(45.09)
Higher	64(28.57)	46(20.54)	110(49.11)
Marital status n (%)			
Single	43(19.20)	54(24.11)	97(43.31)
Non-marital relationship	49(21.87)	29(12.95)	78(34.82)
Married	32(14.28)	17(7.59)	49(21.87)
Place of residence n (%)			
Village	30(13.39)	16(7.14)	46(20.53)
Small town (20,000-100,000)	22(9.82)	22(9.82)	44(19.64)
Medium town (100,000-250,000)	35(15.63)	20(8.93)	55(24.56)
Large town (>250,000)	37(16.52)	42(18.75)	79(35.27)

Methods

Personality Inventory for DSM-5

The Personality Inventory for DSM-5 (PID-5), developed by Krueger et al. [18] and adapted into Polish by Rowiński et al. [19], was designed to measure the pathological personality traits outlined in DSM-5. The tool assesses the severity of five trait domains (Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism) and their 25 facet traits. The instrument consists of 220 statements, to which respondents provide answers on a four-point Likert scale, where 0 indicates “Definitely false or very often false,” and 3 indicates “Definitely true or very often true.”

In our study, Cronbach’s alpha coefficients for the PID-5 subscales ranged from 0.86 for Disinhibition to 0.95 for Negative Affectivity.

Questionnaire on internet activities

The Internet Activity Questionnaire was developed specifically for this study to assess the amount of time participants spent on various online activities per week. Based on classifications of online activities found in the literature, a list of 10 commonly categorized online activities was created: (1) gaming, (2) social networks, (3) pornography, (4) online humor, (5) online shopping, (6) e-books, (7) video streaming, (8) live video streaming, (9) podcasts, (10) online music. Each activity was clearly defined for participants. Respondents estimated the time spent on each activity by providing the number of minutes separately for weekdays and weekends. For statistical analysis, weekly totals were calculated. Participants were also informed about the option to check their digital activity time using apps designed for digital well-being monitoring.

Results

Due to the non-normal distribution of all online activity variables, nonparametric tests were used for statistical computations. Table 2 presents the total time spent on various online activities, differentiated by gender and highlighting significant differences between men and women. The Mann-Whitney *U* test results indicated that women spent significantly less time than men on gaming, pornography, and online music, but significantly more time on online shopping. Furthermore, to examine the potential impact of sociodemographic variables (gender, age, education, marital status, and place of residence) on the variance of the dependent variable, hierarchical regression analyses were conducted for each type of online activity. The results indicated that gender, in particular, is a significant sociodemographic variable that should be considered alongside personality traits.

Given the substantial differences in the time spent on various online activities, as well as the unique characteristics of each activity, and considering the results of multiple hierarchical regression analyses, further correlation analyses were conducted separately for men and women.

Table 2. Average weekly time in hours spent on Internet activities by women and men, and results of the analysis of differences between women and men

Variable	Average weekly time in hours			Analysis of differences between women and men	
	Women <i>n</i> = 124	Men <i>n</i> = 100	Total <i>N</i> = 224	<i>U</i>	<i>Z</i>
Gaming	4:53	10:35	7:26	3353.50***	5.90***
Social networks	9:01	7:38	8:24	5331.50	-1.80
Pornography	0:20	1:26	0:49	3556.00***	5.48***
Online humor	7:12	7:27	7:19	5680.50	1.08
Online shopping	3:10	1:40	2:29	4465.50**	-3.60**
E-books	1:49	1:56	1:52	6030.50	0.35
Video streaming	8:48	9:43	9:02	5728.50	0.98
Live video streaming	4:05	2:59	3:06	5725.00	-0.98
Podcasts	2:34	1:46	2:13	6002.00	-0.41
Online music	12:37	19:05	4:53	4896.50**	2.70**

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Tables 3–7 display the results of correlation analyses between pathological personality traits (both domain- and facet-level) and time spent on online activities. Due to space limitations, we report the findings related to personality domains, with only brief mentions of facet-level correlations.

As indicated in Table 3, in men, Negative Affectivity and its trait-aspect components are positively correlated with the time spent on three internet activities: gaming (Negative Affectivity: $R = 0.27$; $p > 0.001$ and trait-aspects: Anxiousness, Perseveration, Depressivity, Suspiciousness, Restricted Affectivity), social networks (Negative Affectivity: $R = 0.25$; $p > 0.05$ and trait-aspects: Anxiousness, Perseveration, Emotional Lability), and pornography (Negative Affectivity: $R = 0.26$; $p > 0.01$ and trait-aspects: Anxiousness, Depressivity, Suspiciousness, Emotional Lability).

Interestingly, in the case of women, Negative Affectivity ($R = 0.32$; $p > 0.001$) and most of its aspectual traits (e.g., Anxiousness, Separation Insecurity, Submissiveness, Perseveration, Depressivity, Restricted Affectivity) positively correlated with time spent on online humor. For men, only one aspectual trait – Suspiciousness – positively correlated with time spent on online humor. Other correlations in the women's group involved individual aspectual traits of Negative Affectivity and time spent on gaming, pornography, and e-books.

Regarding the domain trait of Detachment (Table 4) and its aspectual traits, men showed positive associations with time spent on gaming (Detachment: $R = 0.28$;

$p > 0.01$, and aspects: Depressivity, Withdrawal, Suspiciousness, Anhedonia) and pornography (Detachment: $R = 0.27$; $p > 0.01$, and aspects: Depressivity, Suspiciousness, Emotional Lability). For women, the domain trait of Detachment ($R = 0.21$; $p > 0.05$) and one of its aspectual traits, Depressivity, positively correlated with time spent on gaming. Although there was no correlation with the domain trait of Detachment, associations between its aspectual traits and time spent on social networks were observed: in men, Emotional Lability showed a positive correlation, whereas in women, Withdrawal showed a negative correlation.

Table 3. Mean and standard deviations for the domain trait Negative Affectivity and its aspect traits and correlations between the domain trait Negative Affectivity and its aspect traits and online activities in women and men

Variable	Gender	Negative Affectivity	Anxiousness	Separation insecurity	Submissiveness	Perseveration	Depressivity	Suspiciousness	Emotional lability	Restricted affectivity	Hostility
		M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)
		R	R	R	R	R	R	R	R	R	R
	Women	1.33(0.51)	1.73(0.87)	1.29(0.75)	1.25(0.78)	1.15(0.58)	1.14(0.74)	1.06(0.64)	1.64(0.76)	1.87(0.64)	1.34(0.58)
	Men	1.11(0.55)	1.23(0.87)	0.87(0.76)	1.07(0.81)	1.18(0.65)	1.10(0.86)	1.01(0.67)	1.14(0.85)	1.24(0.62)	1.27(0.55)
Gaming	Women	0.17	0.19*	0.06	0.10	0.04	0.19*	0.14	0.22*	0.05	0.15
	Men	0.27**	0.22*	0.06	0.16	0.31**	0.34***	0.24*	0.12	0.20*	0.12
Social networks	Women	-0.07	-0.01	-0.01	-0.10	-0.09	-0.09	0.08	-0.15	-0.07	-0.15
	Men	0.25*	0.23*	0.14	0.08	0.25*	0.18	0.06	0.37***	-0.18	0.11
Pornography	Women	0.12	0.02	0.09	0.20*	0.15	0.09	0.03	0.04	0.05	0.07
	Men	0.26**	0.25*	0.02	0.12	0.12	0.28**	0.22*	0.23*	0.02	0.27**
Online humor	Women	0.32***	0.28**	0.30***	0.30***	0.23*	0.18*	0.17	0.03	0.21*	0.12
	Men	0.11	0.10	0.04	-0.05	0.06	0.05	0.24*	0.19	-0.16	0.14
Online shopping	Women	-0.04	0.02	0.03	-0.04	-0.05	-0.04	-0.04	0.02	-0.02	-0.04
	Men	0.06	0.09	0.04	-0.11	0.01	-0.01	0.23*	0.12	0.03	0.04
E-books	Women	-0.15	-0.09	-0.18	0.01	0.03	-0.09	-0.19*	0.03	-0.19*	-0.16
	Men	-0.11	-0.08	0.01	-0.18	-0.06	-0.08	-0.05	-0.15	0.09	-0.01

Video streaming	Women	-0.01	0.03	0.05	-0.03	0.08	-0.12	-0.09	0.16	0.01	0.10
	Men	0.27	0.07	-0.05	0.17	0.16	0.16	0.23*	0.07	0.07	-0.03
Live video streaming	Women	-0.08	-0.07	-0.05	-0.08	-0.08	-0.10	-0.02	0.12	-0.07	0.02
	Men	0.10	0.08	0.18	0.02	0.04	0.02	0.21*	-0.01	-0.04	0.10
Podcasts	Women	-0.07	-0.04	-0.18*	0.03	0.02	-0.07	-0.17	-0.03	0.01	-0.13
	Men	0.06	-0.00	0.04	0.21*	0.02	0.07	0.05	-0.05	-0.08	-0.03
Online music	Women	0.04	0.01	-0.07	0.17	0.11	0.12	-0.08	0.03	-0.01	-0.15
	Men	0.02	-0.08	0.11	-0.08	0.06	-0.02	0.04	0.10	0.02	-0.06

*** p < 0.001; ** p < 0.01; * p < 0.05

Table 4. Mean and standard deviations for the domain trait Detachment and its aspect traits and correlations between the domain trait Detachment and its aspect traits and online activities in women and men

Variable	Gender	Detachment	Depressivity	Withdrawal	Suspiciousness	Intimacy avoidance	Anhedonia	Emotional lability
		<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>
	Women	1.01(0.53)	1.15(0.74)	1.21(0.82)	1.06(0.64)	0.77(0.75)	1.00(0.66)	1.64(0.76)
	Men	1.07(0.50)	1.10(0.86)	1.25(0.74)	1.01(0.67)	0.74(0.79)	1.11(0.62)	1.14(0.85)
		<i>R</i>	<i>R</i>	<i>R</i>	<i>R</i>	<i>R</i>	<i>R</i>	<i>R</i>
Gaming	Women	0.21*	0.19*	0.14	0.14	0.07	0.16	0.05
	Men	0.28**	0.34*	0.22*	0.24*	-0.02	0.20*	0.12
Social networks	Women	-0.12	-0.09	-0.30***	0.08	-0.04	-0.16	-0.07
	Men	0.08	0.18	-0.01	0.06	0.04	0.09	0.37***
Pornography	Women	-0.01	0.09	0.03	0.03	-0.11	0.04	0.05
	Men	0.27**	0.28**	0.19	0.22*	0.12	0.17	0.23*
Online humor	Women	0.08	0.18**	0.09	0.17	0.03	-0.04	0.21*
	Men	0.06	0.05	-0.07	0.24*	-0.05	0.13	0.19
Online shopping	Women	0.02	-0.04	0.03	-0.04	0.07	-0.08	-0.02
	Men	0.04	-0.01	0.07	0.23*	0.04	-0.08	0.12
E-books	Women	-0.08	-0.09	0.01	-0.19*	0.02	-0.05	-0.19*
	Men	-0.03	-0.08	0.03	-0.05	-0.09	0.03	-0.15
Video streaming	Women	-0.03	-0.12	-0.01	-0.09	-0.01	-0.04	0.01
	Men	0.17	0.16	0.05	0.23*	0.15	0.12	0.07
Live video streaming	Women	0.03	-0.10	-0.02	-0.02	0.09	0.01	-0.07
	Men	0.03	0.02	-0.07	0.21*	-0.04	0.09	-0.01
Podcasts	Women	-0.09	-0.07	-0.06	-0.17	0.04	-0.08	-0.01
	Men	0.07	0.07	0.03	0.05	-0.03	0.18	-0.05
Online music	Women	0.01	0.12	0.01	-0.08	0.02	0.01	-0.01
	Men	0.02	-0.02	-0.01	0.04	0.06	-0.01	0.10

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

The next domain trait, Disinhibition, and/or its aspectual traits (Table 5) positively correlated, in men, with time spent on gaming (Disinhibition: $R = 0.24$; $p > 0.05$, and aspects: Impulsivity, Distractibility, Irresponsibility), pornography (Disinhibition:

$R = 0.31$; $p > 0.01$, and aspects: Distractibility, Irresponsibility), and social networks (Impulsivity). For women, however, the domain trait of Disinhibition and its aspects negatively correlated with time spent on social networks (Disinhibition: $R = -0.18$; $p > 0.05$, and aspect: Distractibility), positively with time spent on pornography (Disinhibition: $R = 0.18$; $p > 0.05$, and aspect: Impulsivity), positively with time spent on online humor and gaming (Disinhibition: $R = 0.26$; $p > 0.01$, and aspects: Impulsivity, Distractibility, Rigid Perfectionism, Irresponsibility), and positively with time spent on podcasts (Disinhibition: $R = 0.22$; $p > 0.05$, and aspect: Irresponsibility).

Regarding the domain trait of Antagonism and its aspectual traits (Table 6), in men, associations were mainly observed with time spent on pornography (Antagonism: $R = 0.32$; $p > 0.01$, and aspects: Grandiosity, Attention Seeking, Callousness, Hostility, Deceitfulness). Additionally, two aspectual traits of Antagonism positively correlated with time spent on gaming: Callousness and Deceitfulness. For women, only a positive correlation was observed between Antagonism ($R = 0.25$; $p > 0.05$) and its two aspectual traits, Manipulativeness and Deceitfulness, and time spent on online humor.

Table 5. Mean and standard deviations for the domain trait Disinhibition and its aspect traits and correlations between the domain trait Disinhibition and its aspect traits and online activities in women and men

Variable	Gender	Disinhibition	Impulsivity	Distractibility	Risk taking	Rigid perfectionism	Irresponsibility
		<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>
	Women	0.95(0.46)	1.00(0.69)	1.27(0.67)	0.83(0.67)	1.38(0.64)	0.71(0.46)
	Men	0.97(0.47)	0.94(0.66)	1.09(0.72)	1.12(0.62)	1.25(0.71)	0.73(0.58)
		<i>R</i>	<i>R</i>	<i>R</i>	<i>R</i>	<i>R</i>	<i>R</i>
Gaming	Women	0.08	0.10	0.01	0.09	0.01	0.05
	Men	0.24*	0.22*	0.23*	-0.05	0.10	0.27*
Social networks	Women	-0.18*	-0.14	-0.21*	0.03	>0.01	-0.08
	Men	0.19	0.30**	0.14	0.04	0.14	0.06
Pornography	Women	0.18*	0.19*	0.10	0.12	0.09	>-0.01
	Men	0.31**	0.15	0.33***	0.12	-0.18	0.36***
Online humor	Women	0.26**	0.23**	0.20*	0.07	0.18*	0.23**
	Men	0.19	0.19	0.19	0.08	0.15	0.17
Online shopping	Women	0.02	-0.01	-0.06	0.13	-0.06	0.07
	Men	0.11	0.07	0.10	0.18	0.21*	-0.06
E-books	Women	0.12	0.08	0.10	0.09	-0.18	0.02
	Men	0.01	>0.01	>0.01	0.06	-0.08	-0.06

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Video streaming	Women	0.04	0.01	0.15	-0.10	0.13	0.15
	Men	0.02	0.15	0.02	-0.05	0.18	-0.12
Live video streaming	Women	-0.10	-0.02	-0.17	-0.05	0.05	-0.01
	Men	0.01	0.15	0.01	-0.09	0.05	-0.01
Podcasts	Women	0.22*	0.17	0.14	0.12	-0.15	0.21*
	Men	-0.01	-0.12	0.12	-0.06	-0.23*	-0.01
Online music	Women	0.14	0.17	0.08	0.10	-0.02	0.11
	Men	0.12	0.22*	-0.01	0.16	0.03	-0.02

*** p <0.001; ** p <0.01; * p <0.05

Table 6. Mean and standard deviations for the domain trait Antagonism and its aspect traits and correlations between the domain trait Antagonism and its aspect traits and online activities in women and men

Variable	Gender	Antagonism	Grandiosity	Attention seeking	Callousness	Hostility	Manipulativeness	Deceitfulness
		M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)
		R	R	R	R	R	R	R
Gaming	Women	0.82(0.42)	0.67(0.57)	0.89(0.73)	0.35(0.40)	1.34(0.58)	0.88(0.74)	0.81(0.62)
	Men	0.96(0.46)	0.92(0.73)	0.93(0.69)	0.68(0.52)	1.27(0.55)	0.97(0.72)	0.99(0.68)
Social networks	Women	-0.02	0.04	0.14	-0.12	-0.15	-0.02	-0.06
	Men	0.14	-0.16	-0.03	-0.05	0.11	-0.09	0.05
Pornography	Women	0.14	0.03	-0.02	0.08	0.07	0.18*	0.17
	Men	0.32**	0.20*	0.25*	0.21*	0.27**	0.14	0.29**
Online humor	Women	0.25*	0.05	0.16	0.01	0.12	0.30***	0.42***
	Men	0.09	0.10	0.16	0.02	0.14	0.09	0.11
Online shopping	Women	0.12	0.12	0.12	0.04	-0.04	0.15	0.10
	Men	0.03	0.07	-0.01	-0.10	0.04	0.01	-0.01
E-books	Women	-0.08	-0.03	-0.02	-0.03	-0.16	-0.04	-0.01
	Men	-0.14	0.07	-0.06	-0.05	-0.01	0.04	-0.10

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Video streaming	Women	0.15	0.07	0.09	0.10	0.10	0.18*	0.17
	Men	0.12	>0.01	>0.01	-0.07	-0.03	-0.09	0.08
Live video streaming	Women	0.09	0.12	0.04	0.07	0.02	0.13	>0.01
	Men	0.07	0.04	0.07	0.07	0.10	0.03	0.01
Podcasts	Women	0.07	0.13	0.14	>0.01	-0.13	0.10	0.09
	Men	0.07	0.07	0.03	0.05	-0.03	0.18	-0.05
Online music	Women	0.08	0.08	0.12	0.01	-0.15	0.11	0.18*
	Men	-0.05	0.02	-0.04	-0.09	-0.06	0.01	>0.01

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

For Psychoticism and its aspectual traits (Table 7), in men, associations were found with time spent on gaming (Psychoticism: $R = 0.34$; $p > 0.001$, and aspects: Eccentricity, Unusual Beliefs and Experiences, Cognitive and Perceptual Dysregulation), pornography (Psychoticism: $R = 0.35$; $p > 0.001$, and aspects: Eccentricity, Unusual Beliefs and Experiences, Cognitive and Perceptual Dysregulation), online humor (Psychoticism: $R = 0.20$; $p > 0.05$, and aspects: Unusual Beliefs and Experiences, Cognitive and Perceptual Dysregulation), online shopping (Psychoticism: $R = 0.26$; $p > 0.01$), and e-books (Psychoticism: $R = -0.21$; $p > 0.05$). In women, only significant positive associations of Psychoticism ($R = 0.24$; $p > 0.01$) and Eccentricity with time spent on gaming, as well as negative associations of Psychoticism ($R = -0.19$; $p > 0.05$) and Eccentricity with time spent on social networks, were found.

Discussion of results

The exploratory nature of this study aimed to address the question of whether – and if so, how – pathological personality traits are associated with the amount of time spent on various online activities. Our findings revealed numerous weak to moderate correlations, which, importantly, differed between men and women.

Among men, pathological personality traits were most frequently associated with three online activities: gaming, online communities, and pornography. Higher levels of Negative Affectivity (including Depressivity, Anxiousness, Perseveration, Suspiciousness, and Restricted Affectivity) and Detachment (including Depressivity, Withdrawal, Anhedonia, and Suspiciousness) were linked to increased time spent on gaming. Given these traits, it appears that gaming may serve as a mechanism for emotional regulation. This aligns with previous research emphasizing that Emotional Dysregulation plays a significant role in problematic gaming, particularly in individuals who struggle with controlling emotions and rely on suppression mechanisms [20]. Some researchers suggest [21] that lower emotional regulation may specifically predict Internet gaming disorder (IGD) in men. Additionally, studies indicate [22] that young adults with IGD not only exhibit poor emotional regulation but also higher levels of depressive

symptoms and hostility. The link between depressive and anxiety disorders and IGD has been well-documented in the literature [23–28].

Table 7. Mean and standard deviations for the domain trait Psychoticism and its aspect traits and correlations between the domain trait Psychoticism and its aspect traits and online activities in women and men

Variable	Gender	Psychoticism	Eccentricity	Unusual beliefs and experiences	Cognitive and perceptual dysregulation
		<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>
	Women	0.89(0.54)	1.19(0.78)	0.79(0.61)	0.69(0.55)
	Men	0.98(0.54)	1.47(0.75)	0.84(0.62)	0.62(0.57)
		<i>R</i>	<i>R</i>	<i>R</i>	<i>R</i>
Gaming	Women	0.24**	0.27**	0.11	0.17
	Men	0.34***	0.30**	0.31**	0.24*
Social networks	Women	-0.19*	-0.25**	-0.07	-0.11
	Men	0.14	0.15	-0.03	0.17
Pornography	Women	0.14	0.10	0.07	0.23*
	Men	0.35***	0.33***	0.23*	0.26**
Online humor	Women	0.19*	0.06	0.16	0.29**
	Men	0.20*	0.10	0.25**	0.21*
Online shopping	Women	0.03	>-0.01	0.03	0.05
	Men	0.18	0.03	0.26**	0.18
E-books	Women	>0.01	0.02	-0.05	0.04
	Men	-0.07	0.03	-0.06	-0.21*
Video streaming	Women	0.06	0.07	-0.01	0.04
	Men	0.08	0.01	0.01	0.11
Live video streaming	Women	0.04	>-0.01	0.10	-0.01
	Men	-0.01	-0.09	0.05	0.05
Podcasts	Women	0.09	0.08	0.08	0.06
	Men	-0.08	-0.06	-0.12	-0.03
Online music	Women	0.06	-0.03	0.04	0.14
	Men	0.10	0.09	0.09	0.09

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Among men, higher levels of Negative Affectivity (Emotional Lability, Anxiousness, Perseveration) and Detachment (Emotional Lability) were correlated with increased time spent on social networks. Interestingly, this pattern was not observed

in women. In fact, for women, if any correlations appeared, they were negative (e.g., between Detachment and time spent on online communities). This suggests that while women tend to spend more time on social networks (though no significant gender differences were found in total time spent; see Table 2), they appear to use them for positive purposes (e.g., maintaining social connections). In contrast, men seem to engage with online communities primarily as an outlet for negative emotions. The literature highlights that the relationship between psychological factors (such as well-being, self-esteem, and depressive symptoms) and social media use remains complex and inconsistent [29, 30], even in experimental studies [31]. However, individuals exhibiting problematic social media use tend to score higher in neuroticism, making them more emotionally unstable and prone to irritability [32].

Pornography was the third online activity in men to show strong associations with all pathological personality domains and most of their corresponding facets. On one hand, the numerous correlations with Negative Affectivity and Detachment suggest a pattern of using pornography as a means of regulating distressing emotional states, such as emotional lability, depression, and anxiety. However, it is also likely that online pornography use itself exacerbates these negative emotional states. On the other hand, considering the strong associations between Antagonism and Psychoticism with pornography use, a different psychological profile emerges – one characterized by grandiosity, hostility, lack of empathy, and a tendency toward deceitfulness. This suggests that some men may use the Internet to explore unconventional, inappropriate, or even unattainable sexual fantasies – possibly including aggressive themes. Research indicates [33] that male gender and psychopathic traits predict a higher frequency of aggressive sexual fantasies. Furthermore, narcissism and inflated beliefs about one's own sexual prowess are significant predictors of increased pornography consumption in men [34].

Notably, fewer correlations were observed between pathological personality traits and the time spent on various online activities in women compared to men. One particularly striking finding is the strong associations between Negative Affectivity, Detachment, Disinhibition, and Antagonism (including their facet-level traits) and time spent on online humor. This is especially interesting given that no significant gender differences were found in the overall time dedicated to this activity. Women engaging in online humor exhibit traits such as Anxiousness, Depressivity, Separation Insecurity, Submissiveness, and Emotional Lability, alongside Impulsivity, Irresponsibility, Manipulativeness, and Deceitfulness. Researchers consistently emphasize that the Internet has become an unlimited space for expressing humor (including so-called dark humor), while the motivations of individuals engaging in such humor remain unclear and not fully understood, partly due to the limited number of studies on the topic [35]. At the same time – considering the associations found in this study between Disinhibition and Antagonism with Online Humor – there are a few reports [35, 36] linking higher levels of Machiavellianism, narcissism, psychopathy, and sadism (the Dark Tetrad) to engagement in dark humor online. Furthermore, research suggests that an aggressive humor style, particularly among women, may be associated with lower social support, which – perhaps – could explain the observed links in this study between Detachment

and Negative Affectivity and greater involvement in online humor [37]. The issue of the relationships between numerous pathological personality traits and the time spent engaging in online humor among women undoubtedly requires further investigation. It is worth considering to what extent the associations observed in this study can be explained in reference to the social perception of women in today's world as burdened with expectations of perfection in various life roles and subordination. This, in turn, generates tension and strict internal demands, potentially leading to coping strategies that involve engaging in dark, sarcastic humor.

The studies presented in this article are not without limitations. It should be noted that the data regarding the amount of time spent on various online activities were self-reported by the participants. Although the study instructions encouraged the use of more objective time-tracking methods, such as dedicated applications, this was not controlled in the study. Additionally, problematic internet use was not assessed, which is also considered a limitation of this research. Given the correlational nature of the study, it is not possible to establish causal relationships between pathological personality traits and the time spent on online activities. Furthermore, despite distinguishing as many as ten different online activities, there is a lack of detailed information on many of them (e.g., the specific types of games, erotic content, humor, or social media platforms preferred by participants). It should also be noted that a limitation of the study is the sample size and the significant overrepresentation of individuals with secondary and higher education compared to those with primary and vocational education.

Despite these limitations, the present study seems to offer certain practical implications. In social and psychological debates, discussions regarding internet use, its causes, and its consequences primarily focus on children and adolescents, as reflected in regularly published reports on the subject (e.g., NASK Nastolatki 3.0) [38]. However, reports on the online behavior of adults are less frequently available. The findings of this study suggest that different online activities may be associated with distinct pathological personality traits. Perhaps considering adults' online activities as a source of information about a patient/client or as an additional diagnostic area could provide unique insights into their personality functioning, as expressed through specific online behaviors. Moreover, our findings highlight the potential role of emotional regulation difficulties among individuals who engage regularly or excessively in certain online activities. It is also noteworthy that all internet activities, including gaming, pornography, and online humor, are widely accessible and commonly used means of emotion regulation, affect discharge, and fulfillment of desires and fantasies – including immature or destructive ones. Understanding these desires, fantasies, and personality-related content as dissociated or fragmented within a patient/client and working on their integration could be an important aspect of therapeutic work. Additionally, to date, there is a lack of studies exploring detailed connections between pathological personality traits and the time spent on various online activities.

Conclusions

In summary, this study reveals that men and women may be motivated by different pathological personality traits when engaging in various online activities. It is likely that, for many participants, specific internet activities serve as a means of alleviating unpleasant emotional states. However, excessive involvement in these activities – such as gaming, pornography, online humor, or online shopping – as maladaptive coping mechanisms may, in turn, exacerbate these emotional states. The numerous correlations between pathological personality traits and engagement in online activities invite reflection on the possibility of understanding these relationships through the lens of the self-medication hypothesis [39], which has been theoretically and empirically validated in the field of psychoactive substance use. According to this perspective, substance use or compulsive behaviors serve as a way to cope with underlying personality deficits. From a therapeutic standpoint, it would be essential to focus on replacing these dysfunctional coping mechanisms with more mature and constructive strategies.

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