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Research Article

Psychopathological profiles and trends of Italian social network users (Facebook, Instagram, Twitter, and TikTok)

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Abstract

Background and aims: With the advent of the Internet and social networks, mass communication has become more interactive and geo-dislocated. The present research hypothesizes the existence of a link between the choice of the use of a specific social network by the subject user of the telematics service and his or her eventual psychopathological profile, hypothesizing that: the users of Facebook (FB) have a higher level of neurotic (cluster A) and psychotic (cluster C) dysfunctional traits, while users of Instagram (IG), Twitter (TW) and TikTok (TT) have a higher level of borderline dysfunctional traits (cluster B), according to the PICI model.

Materials and methods: Clinical interview, and administration of the battery of psychometric tests. SPSS, Anova test (with Bonferroni).

Results and discussion: The population sample was selected based on past clinical contacts and voluntary participation through social recruitment, totaling 5.581 participants, divided into four age groups (18-25, 26-37, 38-46, 47-60) and by four different social networks (Facebook, Instagram, Twitter, TikTok). The present research showed that, on average, the selected users in the studied population sample, divided into sixteen subgroups, present in 79.9% of cases a psychopathological personality profile with at least 5 dysfunctional traits among the first three social networks analyzed (Facebook and Twitter with a lower frequency than Instagram, while TikTok users present an average value of 95.5% of cases). Equally distributed are also the hypotheses of affective addiction among users of the four social networks, with an average of 41.7% of cases, although always with higher pathological peaks in the case of Instagram, and even more for TikTok, which varies with a much higher average of 69.2%. The pronounced dysfunctional tendency found is also confirmed by the tests related to the study of ego defense mechanisms, which in 100% of the psychopathological cases detected with the PICI (Perrotta Integrative Clinical Interviews) model turn out to be markedly dysfunctional, especially concerning the mechanisms of isolation, fixation, identification, denial, repression, regression, omnipotence, idealization and devaluation. The survey on dysfunctional sexual behaviors also found the marked presence of the clinical condition of users, with a mean value of 21.3% for Twitter, 55.9% for Facebook, 57.8% for Instagram, and 81.0% for TikTok; in particular, the presence of pedophilic paraphilia/pederasty is found in Instagram users with a mean value of 28.5% and for TikTok with a mean value of 43.0%.

Conclusion: There is a correlation between the preferred profile choice on a specific social network and one's psychopathological personality profile: Facebook users are found to be more oriented on the neurotic (anxious-phobic, somatic and obsessive) and border (borderline and depressive) area, Twitter users are oriented on the border (bipolar, borderline and narcissistic) area, Instagram and TikTok users on the border (bipolar, borderline, histrionic, antisocial, psychopathic and narcissistic) and psychotic (delusional, paranoid and dissociative) area.

Background and aim

With the advent of the Internet, digitization has increasingly taken the place of new mass communication. Thus, over the past two decades, rapid messaging services (chat) and social networks have become the most widely used means of meeting people and making friends, depending on their ability

to geo-displace human relationships. New generations, in particular, born with these new forms of communication, have increasingly conformed to typical trends and styles; However, more and more people of all age groups have entered the world of social networks, making their active participation uniform. Despite such fluidity of communication and the possibility of making new friendly acquaintances, such contacts would still

be conditioned by one's subjective perceptions arising from individual personality profiles, just as would happen in any other communication [1].

The most widely used social networks studied here for the present research are [2].

1) Facebook (FB) [2]: Is a U.S. social media and social network, created on February 4, 2004, initially as a free university service and later expanded for commercial purposes, based on a Web 2.0 platform written in various programming languages (initially PHP, then Hack). It is available in over 100 languages (in Italian since May 14, 2008). The site, founded at Harvard University in the United States by Mark Zuckerberg, Eduardo Saverin, Andrew McCollum, Dustin Moskovitz, and Chris Hughes, was originally designed exclusively for students at that university but was soon opened to students from other schools in the Boston area, the Ivy League, and Stanford University. It was later opened to high school students as well, and then to anyone claiming to be over 13 years of age, achieving tremendous worldwide success and profoundly changing many aspects related to socialization and interaction between individuals, both on a private level and a business and commercial level. It is possible to post content such as messages and videos, organize conventions and conferences, and watch content.

2) Instagram (IG): Is a U.S.-based social networking service that allows users to take photos, apply filters to them and share them via the Internet. The web application, developed by Kevin Systrom and Mike Krieger, was launched on October 6, 2010; initially available only on iOS, it later became compatible with iPhone, iPad, or iPod touch having iOS 3.1.2 or higher. As of April 3, 2012, it was also made available for devices supporting Android, from version 2.2 or higher. Instagram was originally distinguished for allowing only 1:1 images for iPhone display width. These restrictions were relaxed in 2015, with an increase to 1080 pixels. The service also added messaging features, the ability to include multiple images or videos in a single post, as well as "Stories", similar to its main competitor Snapchat, which allows users to post photos and videos on a sequential feed, with each post accessible by others for 24 hours.

3) Twitter (TW): Is a news and microblogging service provided by the San Francisco, Inc.-based company Twitter, Inc. with branches in San Antonio and Boston. Twitter, Inc. was created in California but came under the jurisdiction of the state of Delaware in 2007. The network allows users to post short text messages of up to 280 characters (originally 140), called tweets, which are displayed on the user's main page. Users can subscribe to other users' tweets, this is called "following", and subscribers are called followers, followers, and sometimes tweeps (Twitter + peeps, novice followers who have not yet made many tweets).

4) TikTok (TT): Is a Chinese social network launched in September 2016, initially under the name musical.ly. Through the app, users can create short music clips of varying lengths (from 15 to 600 seconds) and possibly change the playback speed, adding filters, special effects, and sounds to their videos.

The app is different in China than the one released in the West and is more developed, even integrating functions for Internet marketing. Users can also add songs, sounds, or voices for dubbing. Unlike its international version, however, the Chinese version Douyin has built its e-commerce ecosystem. Suffice it to say that in China the app has its network of virtual stores and offers users its own online payment system called Douyin Pay.

Social network use has been correlated with both a significant increase in wellness and exercise activities [3,4] and marked sedentariness and a moderate increase in anxiety and depressive symptoms [5-10], especially concerning the perception of one's body image [11,12], to eating [13] and sleep-wake disorders [14], fueling behavioral addictions [15] such as those to gaming [16], gambling [17], dysfunctional sexual behavior [18] and of social network use itself [19], but also the risk of self-harm [20] and suicide [21]. In particular, then, it has emerged that the content transmitted by "influencers," regardless of the gradation of the quality of the message, negatively impacts well-being and perceived subjective quality [22-24], as the standards proposed are often above average and do not stand up to popular reality, offering false myths, unattainable beliefs and ideologies from easy gains with minimal effort of commitment (as much economic as physical and aesthetic health), fueling self-satisfaction and activating a competitive and imitative spiral rarely accessible to third.

The present research hypothesizes the existence of a link between the choice of the use of a specific social network by the subject user of the telematics service and his or her eventual psychopathological profile; in particular, referring to the psychopathological classification underlying the PICI model [25-30] and based on observational experiential evaluations, it is hypothesized that: Facebook (FB) users have a higher level of neurotic and psychotic dysfunctional traits [31-35], while Instagram (IG), Twitter (TW) and TikTok (TT) users have a higher level of borderline dysfunctional traits [36-39].

Materials and methods

Starting from the classic definition of "psychopathological profile" and "social network", a population sample was selected for the administration of the following clinical instruments: 1) Clinical interview, based on narrative-anamnestic and documentary evidence and the basis of the Perrotta Human Emotions Model (PHEM) [40] concerning their emotional and perceptual-reactive experience; 2) Administration of the battery of psychometric tests published in international scientific journals by the author of this work: a) Perrotta Integrative Clinical Interviews (PICI-2), to investigate functional and dysfunctional personality traits; b) Perrotta Individual Sexual Matrix Questionnaire (PSM-Q) [41], to investigate individual sexual matrix (only section d); c) Perrotta Affective Dependence Questionnaire (PAD-Q) [42], to investigate affective and relational dependence profiles; d) Perrotta Human Defense Mechanisms Questionnaire (PDM-Q) [43], to investigate ego defense mechanisms. The results were then reprocessed using SPSS, the Anova test (with Bonferroni).

The phases of the research were divided as follows: 1) Selection of the population sample, according to the parameters indicated in the following paragraph. 2) Clinical interview, with each population group. 3) Administration of psychometric tests. 4) Data processing following administration. 5) Comparison of data obtained.

Setting and participants

The requirements decided for the selection of the sample population are 1) Age between 18 years and 60 years, divided into 4 age groups (18–25, 26–37, 38–46, 47–60) and by four different social networks (Facebook, Instagram, Twitter, TikTok). 2) Absence of psychopathological symptoms or confirmed diagnoses. 3) Italian nationality, with Italian ancestors in the last two generations. 4) Statement by the participating subject regarding his or her status as a “user” of Facebook (FB), Instagram (IG), Twitter (TW), or TikTok (TT), with a profile that has been active for at least 6 months and regularly updated daily through posting (quoting text, personal photos and videos, and technological manipulation interventions through dedicated apps) or chat activity or interaction with other users of the same platform. If the same user has multiple profiles on more than one social, he or she is asked to choose the profile that he or she uses the most or that he or she feels reflects him or her the most or that otherwise represents his or her prototypical type of use for the subjective ways and purposes pursued.

The selected setting, taking into account the protracted pandemic period (already in progress since the beginning of the present research), is the online platform via Skype and Videocall Whatsapp, both for the clinical interview and for the administration, during the two clinical interviews per patient (one for history and one for test administration), then entering the data into an excel database. The present research work was carried out from March 2020 to September 2022. All participants were guaranteed anonymity and the ethical requirements of the Declaration of Helsinki are met. Since the research is not financed by anyone, it is free of conflicts of interest. The selected population clinical sample, which meets the requirements, is 5,581 participants, divided into four groups Tables 1,2.

Results and discussion

Introduction

For the sake of ease of exposition, the examination of the results and discussions will be approached by dividing the data for the respective four selected social networks, and within each section, the data will be further divided into sixteen different subgroups (by age group: FB-1, FB-2, FB-3, FB-4, IG-1, IG-2, IG-3, IG-4, TW-1, TW-2, TW-3, TW-4, TT-1, TT-2, TT-3, TT-4) for the following test administrations: 1) PICI-2 (test of dysfunctional personality traits). 2) PAD-Q (test of affective dependence). 3) PDM-Q (test of ego defense mechanism functioning). 4) PSM-Q (test of individual sexual matrix identification, section d). Discussion of the results obtained will then follow for each subsection.

Facebook (FB)

FB-1: The subgroup consists of 188/759 (24.8%) participants (82 m / 106 f) of the total sample referring to Facebook (FB) Social Network Table 3.

FB-2: The subgroup consists of 226/759 (29.8%) participants (104 m / 122 f) of the total sample referring to Facebook (FB) Social Network Table 4.

FB-3: The subgroup consists of 231/759 (30.4%) participants (133 m / 98 f) of the total sample referring to Facebook (FB) Social Network Table 5.

FB-4: The subgroup consists of 114/759 (15.0%) participants (61 m / 53 f) of the total sample referring to Facebook (FB) Social Network Table 6.

Instagram (IG)

IG-1: The subgroup consists of 480/1,684 (28.5%) participants (212 m / 268 f) of the total sample referring to Instagram (IG) Social Network Table 7.

IG-2: The subgroup consists of 520/1,684 (30.9%) participants (232 m / 288 f) of the total sample referring to Instagram (IG) Social Network Table 8.

IG-3: The subgroup consists of 390/1,684 (23.1%) participants (168 m / 222 f) of the total sample referring to Instagram (IG) Social Network Table 9.

IG-4: The subgroup consists of 294/1,684 (17.5%) participants (126 m / 168 f) of the total sample referring to Instagram (IG) Social Network Table 10.

Twitter (TW)

TW-1: The subgroup consists of 282/1,006 (28.1%) participants (134 m / 148 f) of the total sample referring to Twitter (TW) Social Network Table 11.

TW-2: The subgroup consists of 326/1,006 (32.4%) participants (154 m / 172 f) of the total sample referring to Twitter (TW) Social Network Table 12.

TW-3: The subgroup consists of 262/1,006 (26.0%) participants (132 m / 130 f) of the total sample referring to Twitter (TW) Social Network Table 13.

TW-4: The subgroup consists of 136/1,006 (13.5%) participants (64 m / 72 f) of the total sample referring to Twitter (TW) Social Network Table 14.

TikTok (TT)

TT-1: The subgroup consists of 670/2,132 (31.4%) participants (244 m / 426 f) of the total sample referring to TikTok (TT) Social Network Table 15.

TT-2: The subgroup consists of 626/2,132 (29.4%) participants (258 m / 368 f) of the total sample referring to TikTok (TT) Social Network Table 16.



Table 1: Population sample (numerousness).

Social Network Type (SNT)	M/F	R.Age 18-25 y	R.Age 26-37 y	R.Age 38-46 y	R.Age 47-60 y
	M	82 (43.6%)	104 (46.0%)	133 (57.6%)	61 (53.5%)
	F	106 (56.4%)	122 (54.0%)	98 (42.4%)	53 (46.5%)
Facebook (FB)	Tot. (m/f)	188	226	231	114
	Tot. (FB)	759 / 5,581 (13.6%)			
	M	212 (44.2%)	232 (44.6%)	168 (43.0%)	126 (42.8%)
	F	268 (55.8%)	288 (55.4%)	222 (57.0%)	168 (57.2%)
Instagram (IG)	Tot. (m/f)	480	520	390	294
	Tot. (IG)	1,684 / 5,581 (30.2%)			
	M	134 (47.5%)	154 (47.2%)	132 (50.4%)	64 (47.0%)
	F	148 (52.5%)	172 (52.8%)	130 (49.6%)	72 (53.0%)
Twitter (TW)	Tot. (m/f)	282	326	262	136
	Tot. (TW)	1,006 / 5,581 (18.0%)			
	M	244 (36.4%)	258 (41.2%)	218 (41.3%)	124 (40.3%)
	F	426 (63.6%)	368 (58.8%)	310 (58.7%)	184 (59.7%)
TikTok (TT)	Tot. (m/f)	670	626	528	308
	Tot. (TT)	2,132 / 5,581 (38.2%)			
Total (related)	M	672	748	651	375
	F	948	950	760	477
Total (absolute)	M	2,446 / 2,446 (100%)			
	F	3,135 / 3,135 (100%)			
Total (overall)	M/F	5,581 / 5,581 (100%)			

Table 2: SPSS, Anova test.

SN	Test	N	%	M ± DS	P
					PICI_FB-IG 0.3433
FACEBOOK (FB)	PICI	582/759	76.68%	145.20 ± 57.34	PICI_FB-TW 0.292
FACEBOOK (FB)	PAD	128/759	16.86%	59.97 ± 37.11	PICI_FB-TT 0.0001
FACEBOOK (FB)	PDM	759/759	100%	95.60 ± 14.15	PICI_IG-TW 0.8543
FACEBOOK (FB)	PSM	424/759	55.86%	25.64 ± 13.27	PICI_IG-TT 0.0001
					PICI_TW-TT 0.0001
					PAD_FB-IG 0.0001
INSTAGRAM (IG)	PICI	1,243/1,684	73.81%	142.71 ± 61.29	PAD_FB-TW 0.0001
INSTAGRAM (IG)	PAD	542/1,684	32.18%	77.65 ± 36.45	PAD_FB-TT 0.0001
INSTAGRAM (IG)	PDM	1,684/1,684	100%	97.10 ± 14.25	PAD_IG-TW 0.0001
INSTAGRAM (IG)	PSM	974/1,684	57.84%	24.43 ± 13.42	PAD_IG-TT 0.0001
					PAD_TW-TT 0.0001
					PDM_FB-IG 0.0159
TWITTER (TW)	PICI	740/1,006	73.56%	142.27 ± 58.17	PDM_FB-TW 0.8831
TWITTER (TW)	PAD	466/1,006	46.32%	83.52 ± 42.38	PDM_FB-TT 0.6636
TWITTER (TW)	PDM	1,006/1,006	100%	95.70 ± 14.13	PDM_IG-TW 0.013
TWITTER (TW)	PSM	214/1,006	21.27%	43.78 ± 15.88	PDM_IG-TT 0.0072
					PDM_TW-TT 0.7673
					PSM_FB-IG 0.0386
TIKTOK (TT)	PICI	2,043/2,132	95.82%	168.98 ± 39.31	PSM_FB-TW 0.0001
TIKTOK (TT)	PAD	1,483/2,132	69.56%	100.71 ± 43.62	PSM_FB-TT 0.0001
TIKTOK (TT)	PDM	2,132/2,132	100%	95.86 ± 14.14	PSM_IG-TW 0.0001
TIKTOK (TT)	PSM	1,729/2,132	81.10%	31.58 ± 11.24	PSM_IG-TT 0.0001
					PSM_TW-TT 0.0001

Table 3: FB-1 (R.age: 18-25 y) results.

FB-1	
PICI-2	141/188 (75.0%) participants (59 m / 82 f) had at least 5 primary dysfunctional traits in the neurotic area (anxious, phobic, avoidant, obsessive, and somatic types) and at least 4 secondary dysfunctional traits in the border area (manic, depressive, bipolar, and borderline types). The primary scale of highest frequency was found to be the anxious scale (34.9%), while the secondary scale was the depressive scale (26.1%).
PAD-Q	26/188 (13.8%) participants (5 m / 21 f) have the highest score with at least 20/25 points on the neurotic-affective and masochistic scales.
PDM-Q	188/188 (100%) have strong dysfunctional tendencies, with scores equal to or greater than 3/5 on the following mechanisms: isolation, denial, regression, and devaluation.
PSM-Q	122/188 (64.9%) present a dysfunctional profile of their sexual behaviors, with a minimum score of 25/50, with a particular orientation toward sadomasochistic-type paraphilias and exhibitionism.

**Table 4:** FB-2 (R.age: 26-37 y) results.

FB-2	
PICI-2	181/226 (80.0%) participants (78 m / 103 f) had at least 5 primary dysfunctional traits in the neurotic area (anxious, phobic, avoidant, obsessive, and somatic types) and at least 4 secondary dysfunctional traits in the border area (manic, depressive, bipolar, and borderline types) and the psychotic area (paranoid, delusional, and dissociative types). The primary scale of highest frequency was phobic (31.2%), while the secondary scale was borderline (36.7%).
PAD-Q	34/226 (15.0%) participants (12 m / 22 f) have the highest score with at least 21/25 points on the neurotic-affective and borderline scales.
PDM-Q	226/226 (100%) have strong dysfunctional tendencies, with scores equal to or greater than 3/5 on the following mechanisms: isolation, fixation, repression, denial, regression, idealization, and devaluation.
PSM-Q	119/226 (65.7%) have a dysfunctional profile of their sexual behaviors, with a minimum score of 25/50, with a particular orientation toward sadomasochistic-type paraphilias and exhibitionism.

Table 5: FB-3 (R.age: 38-46 y) results.

FB-3	
PICI-2	173/231 (74.9%) participants (99 m / 74 f) had at least 5 primary dysfunctional traits in the border area (manic, depressive, bipolar, borderline, and narcissistic types) and in the psychotic area (delusional and paranoid types) and at least 4 secondary dysfunctional traits also in the border and psychotic areas, alternately recombined. The primary scale of highest frequency was borderline (41.3%), while the secondary scale was delusional (49.6%).
PAD-Q	44/231 (19.0%) participants (12 m / 32 f) have the highest score with at least 19/25 points on the neurotic-affective, borderline and masochistic scales.
PDM-Q	231/231 (100%) have a strong dysfunctional tendency, with scores equal to or greater than 3/5 on the following mechanisms: isolation, regression, withdrawal, denial, idealization, and devaluation.
PSM-Q	132/231 (57.1%) have a dysfunctional profile of their sexual behaviors, with a minimum score of 25/50, with a particular orientation toward sadomasochistic-type paraphilias and exhibitionism.

Table 6: FB-4 (R.age: 47-60 y) results.

FB-4	
PICI-2	87/114 (76.3%) participants (41 m / 46 f) had at least 5 primary dysfunctional traits in the border area (manic, depressive, bipolar, borderline, and narcissistic types) and psychotic area (delusional and paranoid types) and at least 4 secondary dysfunctional traits in the neurotic area (anxious, obsessive, and somatic types). The primary scale of highest frequency was the depressive scale (33.8%), while the secondary scale was the paranoid scale (36.1%).
PAD-Q	24/114 (21.0%) participants (8 m / 16 f) have the highest score with at least 18/25 points on the neurotic-affective, borderline and masochistic scales.
PDM-Q	114/114 (100%) have strong dysfunctional tendencies, with scores equal to or greater than 3/5 on the following mechanisms: isolation, denial, regression, identification, and devaluation.
PSM-Q	51/114 (44.7%) have a dysfunctional profile of their sexual behaviors, with a minimum score of 25/50, with a particular orientation toward sadomasochistic-type paraphilias and exhibitionism.

Table 7: IG1 (R.age: 18-25 y) results.

IG-1	
PICI-2	379/480 (78.9%) participants (158 m / 221 f) had at least 5 primary dysfunctional traits in the border area (depressive, bipolar, borderline, histrionic, antisocial, and narcissistic types) and the psychotic area (delusional and paranoid types) and at least 4 secondary dysfunctional traits also in the border and psychotic areas, alternately recombined. The primary scale of highest frequency was the narcissistic covert type (58.2%), while the secondary scale was borderline (46.1%).
PAD-Q	127/480 (26.4%) participants (42 m / 85 f) have the highest score of at least 21/25 points on the borderline, masochistic, and narcissistic scales.
PDM-Q	480/480 (100%) exhibit marked or strong dysfunctional tendencies, with scores equal to or greater than 3/5 on the following mechanisms: isolation, removal, repression, regression, denial, omnipotence, idealization, and devaluation.
PSM-Q	288/480 (60.0%) present a dysfunctional profile of their sexual behaviors, with a minimum score of 30/50, with a particular orientation toward sadomasochistic paraphilias, exhibitionism, and partner sharing.

Table 8: IG-2 (R.age: 26-37 y) results.

IG-2	
PICI-2	428/520 (82.3%) participants (188 m / 240 f) had at least 5 primary dysfunctional traits in the border area (depressive, bipolar, borderline, histrionic, antisocial, psychopathic, and narcissistic types) and the psychotic area (delusional and paranoid types) and at least 4 secondary dysfunctional traits also in the border and psychotic areas, alternately recombined. The primary scale of highest frequency was the narcissistic covert type (38.2%) and overt type (21.4), while the secondary scales were borderline (46.1%) and delusional (20.1%).
PAD-Q	177/520 (34.0%) participants (62 m / 115 f) have the highest score with at least 21/25 points on the borderline, masochistic, and narcissistic scales.
PDM-Q	520/520 (100%) have a marked or strong dysfunctional tendencies, with scores equal to or greater than 3/5 on the following mechanisms: isolation, removal, repression, regression, denial, omnipotence, idealization and devaluation.
PSM-Q	378/520 (72.7%) present a dysfunctional profile of their sexual behaviours, with a minimum score of 30/50, with a particular orientation toward sadomasochistic paraphilias, exhibitionism, partner sharing, and marked pedophilic and pederastic tendencies (in particular, for the latter case, marking is found in 202/520 users, 38.8%).

Table 9: IG-3 (R.age: 38-46 y) results.

IG-3	
PICI-2	247/390 (63.3%) participants (87 m / 160 f) had at least 5 primary dysfunctional traits in the border area (depressive, bipolar, antisocial, psychopathic, borderline, and narcissistic types) and psychotic area (delusional and paranoid types) and at least 4 secondary dysfunctional traits in the neurotic area (anxious, obsessive, and somatic types). The primary scale of highest frequency was the narcissistic covert type (28.2%) and overt type (27.1), while the secondary scale was the obsessive type (29.8%).
PAD-Q	119/390 (30.5%) participants (32 m / 87 f) have the highest score with at least 20/25 points on the borderline, masochistic, and narcissistic scales.
PDM-Q	390/390 (100%) has marked or strong dysfunctional tendencies, with scores equal to or greater than 2/5 on the following mechanisms: isolation, removal, repression, regression, denial, omnipotence, idealization and devaluation.
PSM-Q	169/390 (43.3%) present a dysfunctional profile of their sexual behaviours, with a minimum score of 30/50, with a particular orientation toward sadomasochistic paraphilias, exhibitionism, partner sharing, and marked pedophilic and pederastic tendencies (in particular, for the latter case, marking is found in 78/390 users, 20.0%).

**Table 10:** IG-4 (R.age: 47-60 y) results.

IG-4	
PICI-2	189/294 (64.3%) participants (67 m / 122 f) had at least 5 primary dysfunctional traits in the borderline area (depressive, bipolar, borderline, antisocial, and narcissistic types) and the psychotic area (delusional and paranoid types) and at least 4 secondary dysfunctional traits in the neurotic area (anxious, obsessive, and somatic types). The primary scale of highest frequency was borderline (48.2%), while the secondary scale was somatic (36.5%).
PAD-Q	119/294 (40.5%) participants (42 m / 77 f) have the highest score with at least 20/25 points on the borderline, masochistic, and narcissistic scales.
PDM-Q	294/294 (100%) have marked or strong dysfunctional tendencies, with scores equal to or greater than 2/5 on the following mechanisms: isolation, removal, repression, regression, denial, omnipotence, idealization, and devaluation.
PSM-Q	139/294 (47.3%) present a dysfunctional profile of their sexual behaviours, with a minimum score of 30/50, with a particular orientation toward sadomasochistic paraphilias, exhibitionism, partner sharing, and marked pedophilic and pederastic tendencies (in particular, for the latter case, marking is found in 63/294 users, 21.4%).

Table 11: TW1 (R.age: 18-25 y) results.

TW-1	
PICI-2	167/282 (63.3%) participants (89 m / 78 f) had at least 5 primary dysfunctional traits in the border area (depressive, bipolar, borderline and narcissistic types) and at least 4 secondary dysfunctional traits in the neurotic area (anxious, obsessive and somatic types). The primary scale of highest frequency was the narcissistic overt type (58.2%), while the secondary scale was the anxiety-obsessive type (39.1% and 38.8%, respectively).
PAD-Q	99/282 (35.1%) participants (42 m / 57 f) have the highest score with at least 20/25 points on the borderline, dependent, and narcissistic scales.
PDM-Q	282/282 (100%) have marked or strong dysfunctional tendencies, with scores equal to or greater than 2/5 on the following mechanisms: isolation, repression, regression, denial, omnipotence, idealization and devaluation.
PSM-Q	75/282 (26.6%) have a dysfunctional profile of their sexual behaviours, with a minimum score of 25/50, with a particular orientation toward sadomasochistic-type paraphilias and exhibitionism.

Table 12: TW-2 (R.age: 26-37 y) results.

TW-2	
PICI-2	234/326 (71.8%) participants (121 m / 113 f) had at least 5 primary dysfunctional traits in the border area (depressive, bipolar, borderline, and narcissistic types) and at least 4 secondary dysfunctional traits in the neurotic area (anxious, obsessive, and somatic types). The primary scale of highest frequency was the narcissistic overt type (48.6%), while the secondary scale was obsessive (39.6%).
PAD-Q	163/326 (50.0%) participants (52 m / 111 f) have the highest score with at least 20/25 points on the borderline, dependent, and narcissistic scales.
PDM-Q	326/326 (100%) exhibit strong dysfunctional tendencies, with scores equal to or greater than 3/5 on the following mechanisms: isolation, denial, repression, regression, denial, omnipotence, idealization and devaluation.
PSM-Q	65/326 (19.9%) have a dysfunctional profile of their sexual behaviours, with a minimum score of 25/50, with a particular orientation toward sadomasochistic-type paraphilias and exhibitionism.

Table 13: TW-3 (R.age: 38-46 y) results.

TW-3	
PICI-2	218/262 (83.2%) participants (93 m / 125 f) had at least 5 primary dysfunctional traits in the borderline area (depressive, bipolar, borderline and narcissistic types) and at least 4 secondary dysfunctional traits in the psychotic area (paranoid and delusional types). The primary scale of highest frequency was borderline (41.3%), while the secondary scale was paranoid (27.8%).
PAD-Q	127/262 (48.5%) participants (41 m / 86 f) have the highest score with at least 19/25 points on the borderline, dependent, and narcissistic scales.
PDM-Q	262/262 (100%) exhibit strong dysfunctional tendencies, with scores equal to or greater than 3/5 on the following mechanisms: isolation, denial, repression, regression, omnipotence, idealization, and devaluation.
PSM-Q	41/262 (15.6%) present a dysfunctional profile of their sexual behaviours, with a minimum score of 25/50, with a particular orientation toward sadomasochistic-type paraphilias and exhibitionism.

Table 14: TW-4 (R.age: 47-60 y) results.

TW-4	
PICI-2	121/136 (83.2%) participants (58 m / 63 f) had at least 5 primary dysfunctional traits in the borderline area (depressive, bipolar, borderline and narcissistic types) and at least 4 secondary dysfunctional traits in the psychotic area (paranoid and delusional types). The primary scale of highest frequency was borderline (41.3%), while the secondary scale was paranoid (27.8%).
PAD-Q	77/136 (56.6%) participants (31 m / 46 f) have the highest score with at least 19/25 points on the borderline, dependent, and narcissistic scales.
PDM-Q	136/136 (100%) have a marked or strong dysfunctional tendency, with scores equal to or greater than 2/5 on the following mechanisms: isolation, denial, repression, regression, omnipotence, idealization, and devaluation.
PSM-Q	33/136 (24.3%) present a dysfunctional profile of their sexual behaviours, with a minimum score of 25/50, with a particular orientation toward sadomasochistic-type paraphilias and exhibitionism.

Table 15: TT-1 (R.age: 18-25 y) results.

TT-1	
PICI-2	634/670 (94.6%) participants (221 m / 413 f) had at least 5 primary dysfunctional traits in the borderline area (depressive, bipolar, borderline, antisocial, psychopathic, histrionic, and narcissistic types) and at least 4 secondary dysfunctional traits in the neurotic area (anxious, phobic, obsessive, and somatic types) and the psychotic area (paranoid and delusional types). The primary scale of highest frequency was narcissistic type overt (45.9%) and borderline (39.3%), while the secondary scale was paranoid (26.9%).
PAD-Q	441/670 (65.8%) participants (102 m / 339 f) score highest with at least 22/25 points on the borderline, masochistic, histrionic, and narcissistic scales.
PDM-Q	670/670 (100%) have strong dysfunctional tendencies, with scores equal to or greater than 3/5 on the following mechanisms: isolation, fixation, identification, denial, repression, regression, omnipotence, idealization and devaluation.
PSM-Q	466/670 (69.5%) present a dysfunctional profile of their sexual behaviours, with a minimum score of 30/50, with a particular orientation toward sadomasochistic-type paraphilias, exhibitionism, polygamy, production of photo-video material, and use of unusual objects.

**Table 16:** TT-2 (R.age: 26-37 y) results.

TT-2	
PICI-2	618/626 (98.7%) participants (250 m / 368 f) had at least 5 primary dysfunctional traits in the borderline area (depressive, bipolar, borderline, antisocial, psychopathic, histrionic, and narcissistic types) and at least 4 secondary dysfunctional traits in the neurotic area (anxious, phobic, obsessive, and somatic types) and the psychotic area (paranoid and delusional types). The primary scale of highest frequency was narcissistic type covert (46.6%) and borderline (41.9%), while the secondary scale was paranoid (36.2%).
PAD-Q	443/626 (70.8%) participants (113 m / 330 f) score highest with at least 20/25 points on the borderline, masochistic, histrionic, and narcissistic scales.
PDM-Q	626/626 (100%) have strong dysfunctional tendencies, with scores equal to or greater than 3/5 on the following mechanisms: isolation, fixation, identification, denial, repression, regression, omnipotence, idealization and devaluation.
PSM-Q	518/626 (82.7%) present a dysfunctional profile of their sexual behaviours, with a minimum score of 30/50, with a particular orientation toward sadomasochistic-type paraphilias, exhibitionism, polygamy, production of photo-video material, use of unusual objects, and marked pedophilic and pederastic tendencies (in particular, for the latter two cases, marking is found in 233/626 users, 37.2%).

Table 17: TT-3 (R.age: 37-46 y) results.

TT-3	
PICI-2	503/528 (95.3%) participants (201 m / 302 f) had at least 5 primary dysfunctional traits in the borderline area (depressive, bipolar, borderline, antisocial, histrionic, psychopathic, and narcissistic types) and at least 4 secondary dysfunctional traits in the neurotic area (anxious, phobic, obsessive, and somatic types) and the psychotic area (paranoid and delusional types). The primary scale of highest frequency was narcissistic type covert (39.6%) and borderline (36.9%), while the secondary scale was delusional (41.2%).
PAD-Q	401/528 (75.9%) participants (116 m / 285 f) have the highest score with at least 19/25 points on the borderline, masochistic, narcissistic, and psychotic scales.
PDM-Q	528/528 (100%) have strong dysfunctional tendencies, with scores equal to or greater than 3/5 on the following mechanisms: isolation, fixation, identification, denial, repression, regression, omnipotence, idealization and devaluation.
PSM-Q	478/528 (90.5%) present a dysfunctional profile of their sexual behaviours, with a minimum score of 35/50, with a particular orientation toward sadomasochistic-type paraphilias, exhibitionism, polygamy, production of photo-video material, use of unusual objects, and marked pedophilic and pederastic tendencies (in particular, for the latter case, marking is found in 218/528 users, 41.3%).

Table 18: TT-4 (R.age: 47-60 y) results.

TT-4	
PICI-2	288/308 (93.5%) participants (114 m / 174 f) had at least 5 primary dysfunctional traits in the borderline area (depressive, bipolar, borderline, antisocial, and narcissistic types) and at least 4 secondary dysfunctional traits in the neurotic area (phobic, obsessive, and somatic types) and the psychotic area (paranoid and delusional types). The primary scale of highest frequency was borderline (56.6%), while the secondary scale was paranoid (31.2%).
PAD-Q	198/308 (64.3%) participants (78 m / 120 f) have the highest score with at least 18/25 points on the borderline, narcissistic, and psychotic scales.
PDM-Q	308/308 (100%) has marked or strong dysfunctional tendencies, with scores equal to or greater than 2/5 on the following mechanisms: isolation, fixation, identification, denial, repression, regression, omnipotence, idealization and devaluation.
PSM-Q	267/308 (86.7%) present a dysfunctional profile of their sexual behaviours, with a minimum score of 35/50, with a particular orientation toward sadomasochistic-type paraphilias, exhibitionism, polygamy, production of photo-video material, use of unusual objects, and marked pedophilic and pederastic tendencies (in particular, for the latter case, marking is noted in 178/308 users, 57.8%).

TT-3: The subgroup consists of 528/2,132 (24.8%) participants (218 m / 310 f) of the total sample referring to TiTok (TT) Social Network Table 17.

TT-4: The subgroup consists of 308/2,132 (14.4%) participants (124 m / 184 f) of the total sample referring to TiTok (TT) Social Network Table 18.

Conclusion

The present research showed that, on average, the selected users in the studied population sample, divided into sixteen subgroups, present in 79.9% of cases a psychopathological personality profile with at least 5 dysfunctional traits among the first three social networks analyzed (Facebook and Twitter with a lower frequency than Instagram, while TikTok users present an average value of 95.5% of cases).

Equally distributed are also the hypotheses of affective addiction among users of the four social networks, with an average of 41.7 per cent of cases, although always with higher pathological peaks in the case of Instagram, and even more for Tiktok, which varies with a much higher average of 69.2%.

The pronounced dysfunctional tendency found is also confirmed by the tests related to the study of ego defence mechanisms, which in 100 per cent of the psychopathological

cases detected with the PICI (Perrotta Integrative Clinical Interviews) model turn out to be markedly dysfunctional, especially concerning the mechanisms of isolation, fixation, identification, denial, repression, regression, omnipotence, idealization and devaluation.

The survey on dysfunctional sexual behaviours also found the marked presence of the clinical condition of users, with a mean value of 21.3% for Twitter, 55.9% for Facebook, 57.8% for Instagram, and 81% for TikTok; in particular, the presence of pedophilic paraphilia/pederasty is found in Instagram users with a mean value of 28.5% and for TikTok with a mean value of 43%.

The only comparisons that do not appear to be statistically significant are the PICI comparisons between FB-IG, FB-TW, and IG-TW and the PDM comparisons between FB-TW, FB-TT, and TW-TT; all other comparisons appear to be highly significant.

Therefore, it is concluded that there is a correlation between the choice of preferred profile on a specific social network and the psychopathological personality profile: Facebook users are more oriented toward the neurotic (anxious-phobic, somatic and obsessive) and borderline (borderline and depressive) area, Twitter users toward the borderline (bipolar, borderline



and narcissistic) area, and Instagram and TikTok users toward the borderline (bipolar, borderline, histrionic, antisocial, psychopathic and narcissistic) and psychotic (delusional, paranoid and dissociative) area.

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