Cyberbullying and Internet Crimes: Aspects of Victims and Offenders with Mental Disorders

Submitted: 5 September 2024
Reviewed: 26 November 2024
Revised: 20 December 2024
Accepted: 1 January 2025

Liana Spytska*
https://orcid.org/0009-0008-1801-7907

Article submitted to peer blind review

DOI: https://doi.org/10.26512/lstr.v17i1.55429

Abstract

[Purpose] Cyber aggression is a phenomenon that has roots in most Internet and social media users. People with psychiatric disorders have impaired self-regulation and exacerbation of many character traits, which makes them a high-risk group for the negative effects of cyberbullying. However, the scientific literature does not pay enough attention to the psychological aspects of the impact of cyberbullying on people with mental disorders. The study aims to address the characteristics of victims and perpetrators of cyberbullying with psychiatric disorders.

[Methodology/approach/design] The study involved 60 patients with mild to moderate psychiatric diagnoses. Among them, there are 15 patients with diagnoses: of depressive disorder, anxiety disorder, bipolar disorder, and personality disorder. The analysis was carried out using self-report methods and studied indicators of involvement in cyberbullying and online aggression, personality traits and negative traits that make up the dark triad, as well as the level of life satisfaction.

[Findings] The study determined that the level of involvement in cyberbullying in the study sample was quite high, amounting to 34%, of which 40% were victims and 28% were aggressors. The correlation analysis showed a high positive correlation between cyber victimization and indicators of openness to new experiences and a negative correlation with the stability indicator. Cyber victimization was also negatively correlated with the dark triad traits: psychopathy, Machiavellianism and narcissism. Cyberaggression was positively correlated with extraversion and negatively correlated with friendliness and conscientiousness. The strongest positive statistical correlation was found with the Dark Triad indicators, most notably with psychopathy, and the weakest with narcissism and Machiavellianism. These results are consistent with the data described in the literature on non-clinical samples. Both components of cyber-aggressive behavior were negatively correlated with life satisfaction.

*PsyD, Professor at the Department of Psychology and Pedagogy, Kyiv International University, 03179, 49 Lvivska Str., Kyiv, Ukraine. E-mail: spytska_l@ukr.net.

[Practical implications] The results provide insight into the psychological characteristics of cyber criminals and their victims in a sample with mental disorders.

Keywords: Cyber aggression. Victimization. The Big Five. The Dark Triad. Psychopathy.

INTRODUCTION

Bullying is the phenomenon of harassment by a victim's persecutor, which is one of the ways of manifesting aggression and establishing dominance (Titova and Lavrinenko, 2022). With the total spread of the Internet and social media in society, bullying has moved into the virtual space, leading to the emergence of the phenomenon of cyberbullying. According to the latest data from the World Health Organization (2024), the level of cyberbullying among adolescents reaches 15%. As for the data for Ukraine, according to a study by the United Nations International Children's Emergency Fund (UNICEF), about 50% of adolescents report cases of aggression on the Internet (What are they like…, 2019). It should be noted that with the growing level of digitalization, increased involvement in social media, and the growing level of aggression in society, this figure is increasing.

Cyberbullying is characterized by anonymity, impunity, and a lack of immediate consequences for the perpetrator, which intensifies its psychological impact (Husiev, 2021; Vilks and Kipane, 2018). At the same time, its consequences for the victim's psyche are quite real, and with the current level of involvement in social networks, it is almost impossible for the victim to avoid the aggressor (Shcherban and Samoilov, 2024; Balalayeva, 2024). V.B. Bedan (2022) described the possible consequences of cyberbullying, which include physical damage to the psychophysiological state, and psychosocial damage to privacy and reputation; in extreme cases, the consequence may be suicide. According to E.S. Gidenko (2021), the main differences of cyberbullying are deep effect, rapid dissemination of information and wide audience coverage, targeted terrorism, loss of control over the situation by the victim, and the ability to remain anonymous. The forms of cyberbullying may include insults, information and identity theft, terrorism, and damage to reputation (Lubenets, 2016; Vilks, Kipane, Kudeikina, Palkova, & Grasis, 2022). Punishment for cyberbullying in Ukraine is regulated by the Law of Ukraine No. 2657-VIII "On Amendments to Certain Legislative Acts of Ukraine on Combating Bullying (Harassment)" (2018). Depending on the nature and extent of the damage caused, cyberbullying can be classified as an administrative or criminal offence.

Personal psychological traits play a special role in the tendency to cyber aggression or victimization. M.M. Kononova (2022) analyzed cyberbullying risk

factors and highlighted neuroticism as a leading psychological risk factor. The problem of cyberbullying is especially acute among people with various types of mental disorders, as the aggravation of personality traits that occurs when the balance of the psyche is disturbed often leads to increased levels of both aggressiveness and vulnerability. An assumption that requires detailed research is that bullying in the online environment may be a factor that does not fall into the field of specialists' attention but can lead to a significant deterioration in the condition of psychiatric patients. This area of research is not well developed globally, although cyberbullying can cause depression, anxiety disorders, suicidal thoughts, and post-traumatic stress disorder (Bansal, Garg, Singh, & Van Der Walt, 2024). It has been shown that victims of cyberbullying have a 2.07 times higher risk of depressive disorder and a 2.5 times higher tendency to have suicidal thoughts (Maurya, Muhammad, Dhillon, & Maurya, 2022; Khadzhiradieva, Bezverkhniuk, Nazarenko, Bazyka, & Dotsenko, 2024). There is also a significant increase in the likelihood of psychotic episodes in victims of cyberbullying (Fekih-Romdhane, Malaeb, Farah, Stambouli, Cheour, Obeid, & Hallit, 2024). There is a close feedback loop between mental decompensation and cyberbullying, and they support each other, resulting in a vicious circle that has a destructive impact on the individual (Lewinski, 2016; Ivanova, Kit, & Storozhyk, 2024).

Thus, despite the extensive research on cyberbullying in Ukraine, there is a lack of research on the group of people with mental disorders and their psychological characteristics that make them prone to cyberaggression or victimization. The study aims to address the psychological characteristics of individuals with mental disorders associated with the risk of cyberbullying.

MATERIALS AND METHODS

The study was conducted with the participation of patients who had visited the psychoneurological dispensary during the year with various types of mild and moderate mental disorders. At the preparatory stage of the study, the respondents were selected together with the doctors who treated the patients according to the selection criteria: the presence of a mild or moderate mental disorder, age under 30, and the absence of serious concomitant somatic diseases. Written consent to participate in the study was obtained from all patients. For the next stage, the survey, 60 patients who met the selection criteria and agreed to participate in the study were selected. The average age of the participants was 24±3.5 years. The sample included patients with the following diagnoses: anxiety disorders – 15 people, depressive disorders – 15 people, bipolar affective disorder – 15 people, and personality disorders – 15 people. The study was conducted using a self-report

method with validated methods. The sample was tested in two stages to prevent fatigue and automatic responses.

The translated Cyberbullying and Online Aggression Survey was used to study the experience of cyberbullying. The questionnaire consisted of 38 questions aimed at identifying recent (within 30 days) experiences of cyberbullying in different roles. To study the respondents' personality traits, an adapted Ukrainian-language version of the Five Factor Personality Questionnaire 5PFQ (Online Test Pad, 2024) was used. The methodology included 75 questions, which were alternative statements to identify one of the parameters under study. These include extraversion, agreeableness, conscientiousness, emotional stability, and openness to new experiences. The maximum score for each scale was 15, and the total score for the test was 75. This technique is the most widely recognized modern method of personality profiling, and the validity of the five-factor model for diagnosing individuals with personality disorders has also been demonstrated (Widiger and Costa, 2012).

Mental imbalance is often associated with an aggravation of aggressive, protesting antisocial traits. Therefore, to study the degree of malicious, socially undesirable traits, the characteristics of the short questionnaire of the dark triad SD3 (Jones and Paulhus, 2014) were studied. The questionnaire consisted of 27 statements to be rated on a 5-point scale. The results were presented in the form of 3 scales corresponding to Machiavellianism, psychopathy, and narcissism, with a maximum score of 5 on each scale.

Many of the subjects included in the sample had mood disorders that distorted their perception of the world. To determine the role of negative assessments of life in engaging in cyberbullying, the level of subjective life satisfaction was determined using the Satisfaction with Life Scale (SWLS) (Diener, Emmons, Larsen, & Griffin, 1985) questionnaire. The questionnaire includes 5 questions about life satisfaction in different wording, each of which has 7 answer options. The maximum score on the test was 35.

For convenience, the number of points scored for each method was converted into percentages. For the statistical analysis, descriptive statistics methods were used – calculation of the arithmetic mean and standard deviation. The t-test was used to determine statistical significance. Correlation analysis using Pearson's coefficient was used to find the relationship between the studied indicators.

This study aligned with the ethical principles of research, including anonymity, confidentiality, and beneficence. Ethical approval of the study was obtained from the Health Research Ethics Commission of the Kyiv International University with No. SA-024.

RESULTS

At the initial stage, the study examined the overall level of positive reports of cyberbullying among the studied sample of youth through self-reporting. The results of screening the sample for involvement in cyberaggression revealed that more than half of the respondents had experienced aggressive attacks on the Internet or had committed them in the past 30 days. The average level of cyber victimization was 52.98±18.75%, and cyber aggression was 51.53±17.24% (Table 1).

Statistical indicator	Indicator according to the survey	
	Victimisation	Cyber aggression
Arithmetic mean	52.98	51.53
Standard deviation	18.75	17.24
Median	56	48
Mode	69	33

Table 1 – Descriptive statistics of indicators of involvement in cyberbullying, %

To obtain a comprehensive picture of the frequency distribution of respondents with different levels of cyber aggression and cyber victimization, the frequencies according to the levels determined by the methodology used were analyzed. The distribution by level of cyber victimization was as follows: low level (1-30% of positive responses) – 14%, medium level (31-70% of positive responses) – 46%, high level (81-100%) – 40% of the respondents. Hence, the largest group is the medium level of involvement, but quite a few respondents admitted that they had experienced attacks that they considered to be aggressive actions.

The breakdown of self-reported cyber aggression indicators was as follows: low level (1-30% positive responses) – 10%, medium level (31-70% positive responses) – 58%, high level (81-100% positive responses) – 28%. Thus, most respondents reported an average level of cyber aggression, but almost a third admitted to a high level, which is a very high indicator and may cause concern. The results of the frequency distribution are shown graphically in Chart 1. As can be seen from the results, more respondents reported being victims of cyberbullying, which may be due to either a bias in assessing their actions or the fact that aggressive actions of a minority can be widespread.

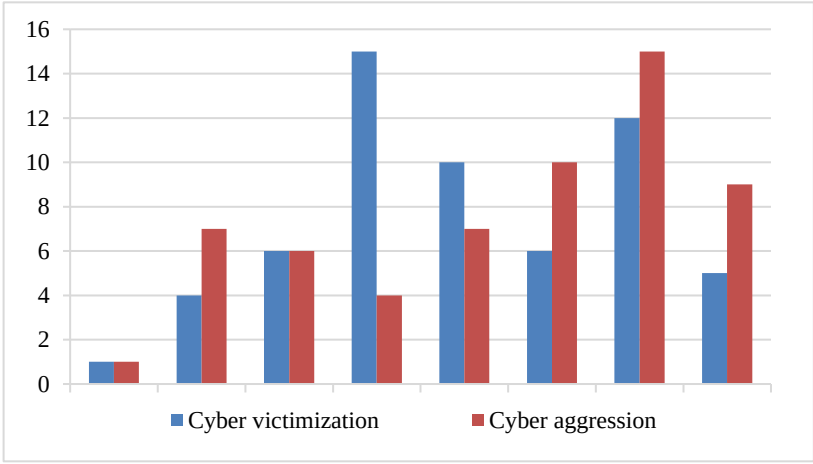

Chart 1 – Frequency distribution of cyber aggression and cyber victimization

The correlation analysis revealed that there is a negative significant relationship between the indicators of cyberaggression and cybervictimization (r=-0.31, threshold value 0.253). This means that most of the respondents have one specific role concerning bullying – they take on the role of either a harasser or a victim, without combining or changing them. It is possible that observing the respondents over a longer period could have revealed a different trend, as the survey only covered the last 30 days.

The study of personality traits using the Big Five questionnaire demonstrated a normal distribution for all the primary traits studied. The average extraversion score, which includes the subscales of sociability, perseverance, activity, excitement seeking, and positive emotions, was 48.65±19.76%. The mean score of agreeableness, which includes trust, honesty, altruism, compromise, and responsiveness, was 48.86±17.37%. conscientiousness, which included the subscales of competence, organization, self-discipline, and morality, was determined in the sample at the level of 46.64±16.37%. Stability, which is the opposite of neuroticism, which included anxiety, anger, depression, self-awareness, and vulnerability as subscales, was 45.08±16.57%. Openness, which is associated with imagination, creative interests, emotionality, adventurousness, and intelligence, was 53.97±12.33%. Thus, all the indicators for this test in the sample were in the range of average values of the traits. It should be noted that the scatter of data around the mean values had a wide interval, which is explained by the heterogeneity of the sample in terms of these indicators – patients had

disorders associated with exacerbations of various character traits, which is reflected in the results. The median and mode values are also shown in Table 2.

Statistical indicator	Indicator according to the survey				
	Agreeableness	Conscientiousness	Sustainability	Openness	Extraversion
Arithmetic mean	48.86	47.64	45.08	53.97	48.65
Standard deviation	17.37	16.37	16.57	12.33	19.76
Median	51	49	40	54	50
Mode	55	57	56	50	70

Table 2 – Descriptive statistics of the scales of the Five Factor Personality Questionnaire 5PFQ, %

The study of self-reports on the SD3Dark Triad Questionnaire included the determination of the severity of traits on three scales describing negative, undesirable personality traits. The average level of narcissism, which is a sense of grandiosity and egocentrism, was 48.34±20.55%. The level of psychopathy, which was defined as a violation of social behavior and unwillingness to comply with norms, was 34.27±16.09%. Machiavellianism, i.e., manipulative behavior and the use of others for personal purposes, was recognized by 34±16.6% of respondents. Thus, most respondents acknowledged the presence of narcissistic traits, which is typical for this age group – adolescents and young people and is associated with the process of social formation and self-affirmation. Data on these indicators are presented in Table 3.

Statistical indicator	Indicator according to the survey			
	Narcissism	Psychopathy	Machiavellianism	Satisfaction with life
Arithmetic mean	48.34	34.27	34	54.03
Standard deviation	20.55	15.6	16.09	16.6
Median	50	30	30	57
Mode	51	20	33	58

Table 3 – Descriptive Statistics for the SD3Dark Triad Short Form Questionnaire, %

Moreover, life satisfaction was determined as a separate indicator, which included self-assessment of emotional and cognitive life satisfaction. It turned out that the average indicator for the group was 54.03±16.6% (Table 3). This indicator indicates an average level of satisfaction; most of the answers were grouped around the average value.

The correlation between indicators of involvement in cyberbullying and personality traits was investigated using correlation analysis. First, the relationship between cyber victimization and the Big Five questionnaire scores was analyzed. The most significant correlation was found with openness to experience (r=0.259, threshold value 0.253). The probable cause for this is that openness to new experiences, including a tendency to fantasize, sensuality, and aesthetics, is inherent in people with a sensitive, respectively, weak type of nervous system. This can cause the aggressor to feel impunity and unable to defend oneself. Individuals high in this trait often exhibit greater sensitivity and emotional responsiveness, making them more vulnerable to online attacks. Their openness to new experiences can lead to a willingness to engage with diverse social groups, which may expose them to a wider array of potential aggressors. On the other hand, an increase in cyber-victimization rates may be associated with vulnerability and a tendency to react more sensitively to rudeness on social media. The situation is like the friendliness indicator, which is related to responsiveness and compromise: a strong correlation was observed, just below the level of statistical significance (r=0.249). A statistically significant negative correlation was also found with the stability indicator (r=-0.266). It is known that a decrease in stability corresponds to an increase in neuroticism, which is an indicator of the ability of nervous processes, making a person more vulnerable to external influences. A weak positive, statistically insignificant correlation was found with the conscientiousness score (r=0.104). And with extraversion (r=-0.054) – a weak,

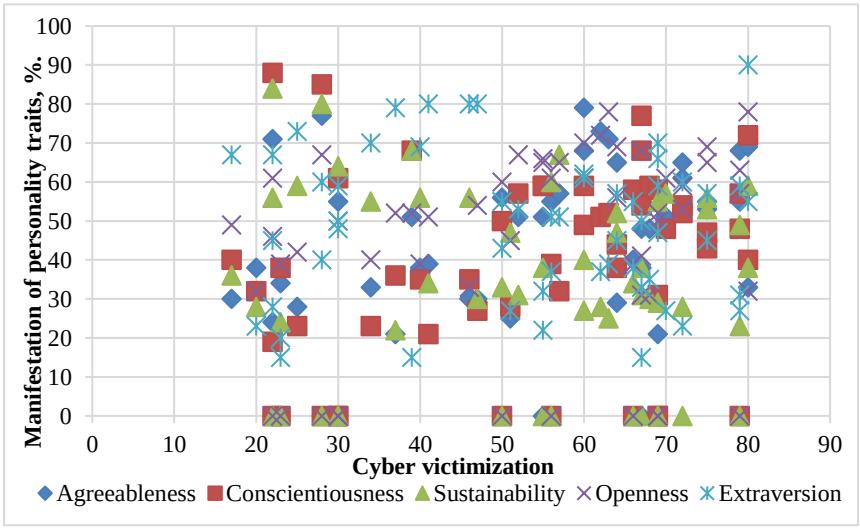

Chart 2 – The correlation between cyber victimization and the scores of the Five Factor Personality Questionnaire 5PFQ

negative, statistically insignificant relationship. Thus, conscientiousness and extraversion are not factors that can become risk factors for cyberbullying. The correlation matrix for all the above indicators is shown in Chart 2.

Cyberaggression was most closely correlated with extraversion (r=0.478). This result can be explained by the activity and search for stimulation of people with high levels of extraversion, which can result in the search for and creation of conflict situations in virtual space.

Extraversion is usually correlated with a strong nervous system type, which means that such people tend to have a more stoic and expansive type of response.

Three characteristics – friendliness, conscientiousness, and openness to new experiences – had a significant negative correlation with cyber aggression. As for the indicators of friendliness (r=-0.853) and conscientiousness (r=-0.759), both indicators suggest a social orientation of behavior, so they are expected to decrease in individuals prone to bullying and other antisocial behaviors.

As can be seen from Chart 3, high openness to new experiences was more common in the group with high cyberaggression scores, although it was more common in the lowest values (r=-0.522), which may indicate that this indicator can strengthen other character traits.

Those who are open are less likely to engage in aggressive behaviors themselves; they may prioritize empathy and understanding over conflict, resulting in a lower propensity for perpetrating cyberbullying.

This duality of openness highlights the complex interplay between personality traits and social dynamics in online environments, where openness can enhance vulnerability while simultaneously discouraging aggressive actions. The stability indicator did not have a statistically significant impact on the tendency to cyber aggression.

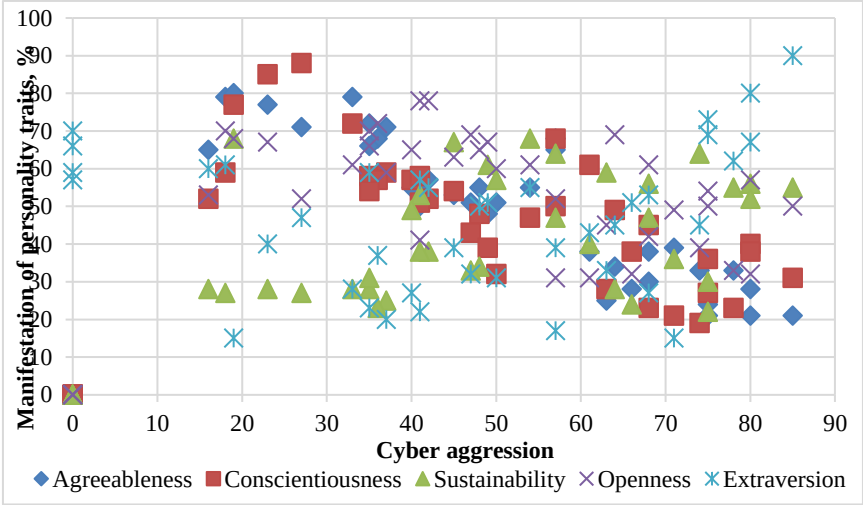

Chart 3 – Correlation between cyber aggression and the Five Factor Personality Questionnaire 5PFQ

However, Pearson's coefficient is used for correlation of linear relationships with only two variables. Therefore, there are some potential non-linear relationships that the standard Pearson's correlation coefficient might have failed to capture. For instance, the relationship between psychopathy and cybervictimization exhibited non-linear characteristics, with the highest values of psychopathy being associated with high cybervictimization, contrary to initial expectations. This suggests a complex psychological mechanism where the impact of psychopathic traits on victimization may not follow a simple linear progression. Similarly, the correlation between life satisfaction and cyber aggression revealed two distinct clusters, indicating potential non-linear interactions where internal psychological discomfort might drive aggressive behaviors in ways not immediately apparent through linear statistical methods. The indicator of openness to new experiences also demonstrated an intriguing pattern, showing prevalence at both low and high levels of cyber aggression, which hints at a more complex relationship than a straightforward linear correlation.

At the next stage, the relationship between cyberbullying and the dark triad indicators was addressed. The presence of a statistical relationship was observed with all the studied traits. Cybervictimization had the most pronounced significant negative correlation with the narcissism score (r=-0.328). The explanation for this may lie in the field of relationships – self-confidence repels people. People who have negative intentions. However, it can also be a consequence of the

psychological mechanism of denial, when people with narcissistic traits do not recognize aggressive actions against them to preserve their reputation. A negative correlation was also observed with the psychopathy score (r=-0.299). People with increased aggressiveness, which is usually associated with psychopathy, may appear more confident, which causes fear of punishment among potential offenders. At the same time, when analyzing the outlier points from the graph, the highest values of psychopathy were noted to be associated with high cybervictimization. It is possible to assume that the exacerbation of psychopathic traits may be a consequence, i.e., an aggressive response to bullying. At the same time, the opposite situation is also possible – victims are harassed because of their antisocial behavior. Establishing the causes of such phenomena requires a more in-depth study. No significant correlation was found with the Machiavellianism (manipulativeness) indicator (r=0.023). However, it should be noted that some of the points with the highest Machiavellianism scores were associated with moderate to high levels of cyber victimization. There were also spikes in points showing high values for narcissism and psychopathy, reflecting the situation where people with strongly demonstrative or antisocial traits are at increased risk of becoming victims of bullying. However, another scenario should not be dismissed, when the aggravation of negative stenotic traits is a reaction to bullying. The correlation matrix with these indicators is shown in Chart 4.

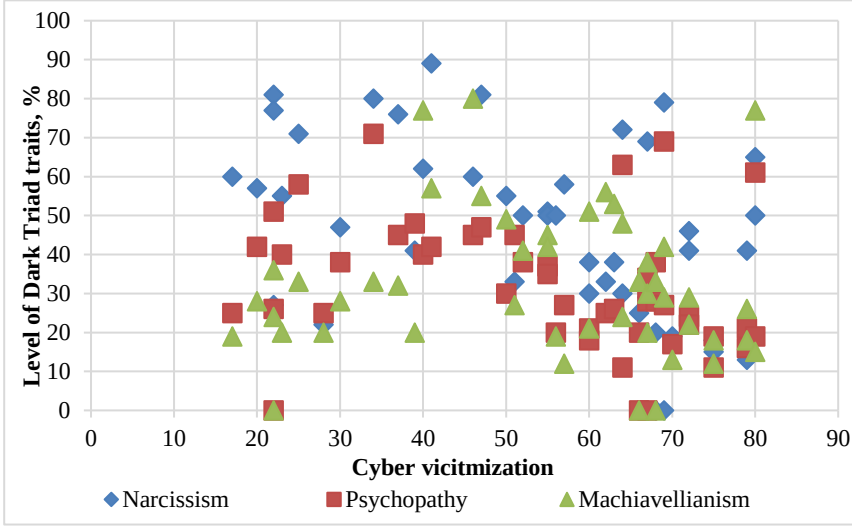

Chart 4 – The correlation between cyber victimization and the scales of the SD3 Dark Triad Short Form Questionnaire

The relationship between the traits of the dark triad and the tendency to bully was the most pronounced. The highest correlation rates were observed between cyber aggression and the psychopathy scale (r=0.736), as psychopathy is characterized by antisocial behavior and an increased level of aggression, which is quite expected. Similarly, a high level of correlation was observed between cyber aggression and narcissism (r=0.649). The use of bowling in the virtual space may be one of the main ways of affirming people with high levels of narcissism, as devaluing others is one of the leading defenses in their personality structure. The relationship with Machiavellianism was also positive and quite strong (r=-0.339). Machiavellianism is a tendency to use others for one's purposes, which can also be realized in virtual space. However, Machiavellianism does not imply an immediate result, unlike the other two traits of the dark triad, so the carriers of this trait are less likely to openly express hostility, they tend to act more covertly, sometimes inciting others to commit illegal actions. The results are presented graphically in Chart 5, which shows a strong correlation between the studied indicators of the dark triad. It can also be seen that the overall level of narcissistic traits is the highest in the sample. It should be noted that negative correlations were found between some of the Big Five and Dark Triad indicators. Agreeableness is related to psychopathy by a strong negative correlation (r=-0.721), narcissism (r=-0.56), and Machiavellianism (r=-0.278). Since Machiavellianism implies manipulativeness, these people are more likely to engage in friendly behavior than those with other traits. A significant negative relationship was also observed between conscientiousness and psychopathy (r=-0.521).

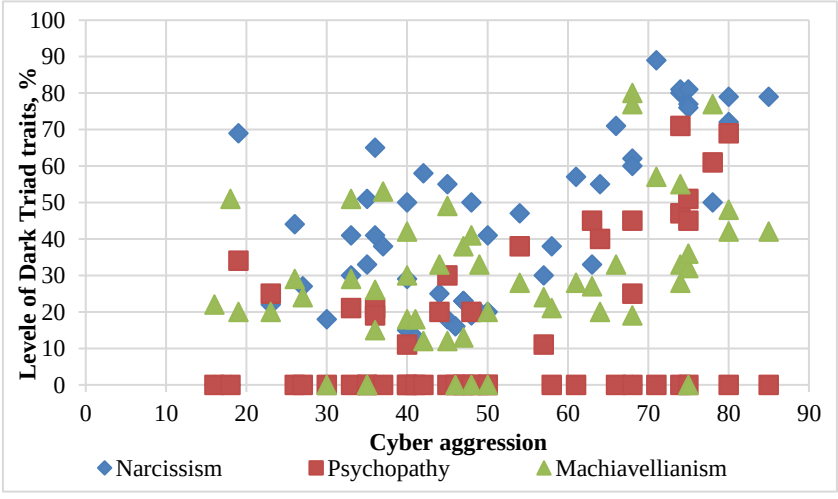

Chart 5 – The correlation between cyber-aggression and the scales of the SD3 Dark Triad Short Form Questionnaire

Lastly, the existence of a statistical relationship between life satisfaction and cyberbullying was investigated (Chart 6). A negative correlation between satisfaction with quality of life and both cyber victimization and cyber aggression was found. Cyber victimization had a stronger and statistically significant relationship with this parameter (r=-0.27). It should be noted that dissatisfaction with one's own life can be both a cause and a consequence of bullying. On the one hand, a person in a state of depression and anxiety becomes a more accessible victim who is not inclined to resist offenders, and on the other hand, bullying reinforces these trends. The relationship with cyber aggression was also positive, but not strong enough to reach the level of statistical significance (r=-0.156).

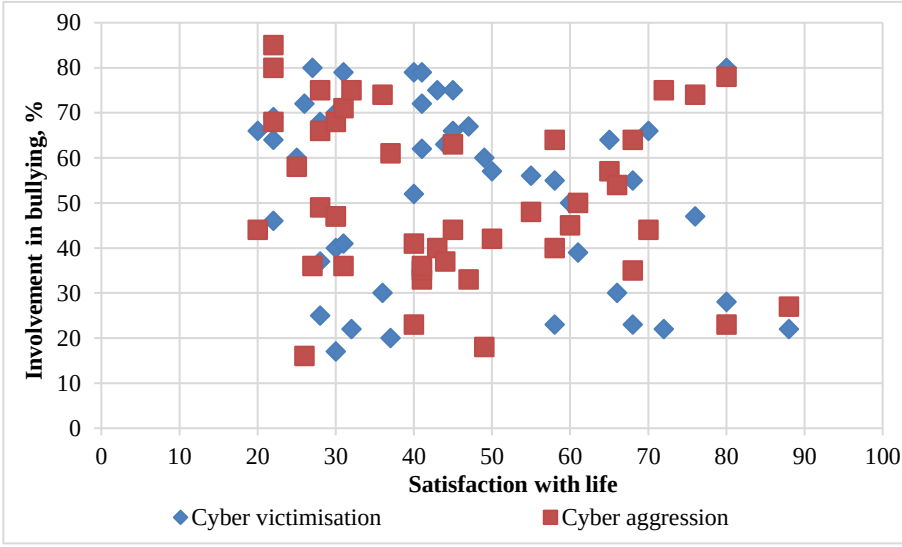

Chart 6 – Correlation between life satisfaction and indicators of cyberbullying involvement

The correlation matrix in Chart 6 shows that the distribution of cyber aggression values has two clusters, tending to lower and higher values of life satisfaction. It is possible to assume that the reasons behind them are also different – internal discomfort pushes people to take out their aggression on others while getting pleasure from it temporarily improves the offender's well-being. Generalized data on all indicators are presented in Table 4.

Indicator	Victimisation	Cyber aggression
Cyber aggression	-0.31	1
Friendliness	0.25	-0.85

Good faith	0.14	-0.76
Stability	-0.27	0.02
Transparency	0.26	-0.52
Extraversion	-0.05	0.48
Narcissism	-0.33	0.65
Psychopathy	-0.3	0.74
Machiavellianism	0.02	0.34
Life satisfaction	-0.27	-0.16

Table 4 – Correlation between all the studied indicators

Thus, the study demonstrates that the level of involvement of adolescents and young people in the study sample in cyberbullying is quite significant. Most of the values are in the range of average indicators of cyber aggression and cyber victimization, and this group is the largest, so it can be assumed that manifestations of aggression in the Internet space are a certain norm to which most respondents are accustomed. There is a significant correlation between the personality traits identified by the Big Five questionnaire and the propensity to engage in certain forms of cyberbullying. The dark triad traits of Machiavellianism, narcissism, and psychopathy have a strong positive correlation with signs of cyberaggression and a negative correlation with cybervictimization. Considering the special psychiatric status of patients, these data can help in understanding the psychological aspects of the impact of cyberbullying on the dynamics of their condition.

DISCUSSION

The study demonstrated that cyberbullying is a widespread phenomenon. Among the patients who took part in the study, the level of involvement in cyberbullying, when respondents reported frequent conflicts, was 34%, of which 40% were victims and 28% were aggressors. It should be noted that these figures are significantly higher than the World Health Organization (WHO) statistics based on the analysis of reports from 279,000 young people in the total sample of European adolescents, which set the rate at 15%. A. Schonfeld, D. McNiel, T. Toyoshima, and R. Binder (2023) reported a rate of 14.9% in the American population. As for the data for Ukraine, K.D. Yanishevska and G.S. Zinchenko (2022), citing data from the Institute of Social and Political Psychology of the National Academy of Pedagogical Sciences of Ukraine in the regions of Ukraine, report that as of 2020, 14% of high school students reported cyberbullying. I. Lubenets (2016) cites the results of own research among Ukrainian adolescents, according to which the level of involvement in cyberbullying is 37%.

The prevalence of cyberbullying among patients is a new area of research, although many disorders make patients more prone to venting aggression and negative affect on the Internet. It is known that antisocial personality disorder has a significant risk of hyper aggression. Borderline personality disorder poses a significant risk for both cyberaggression and victimization (Stockdale, Coyne, Nelson, & Erickson, 2015; Wong, Yanagida, Spiel, & Graf, 2022). S. Bansal et al. (2024) conducted a global bibliometric analysis on the relationship between cyberbullying and mental health, and the authors point to serious risks of developing and worsening psychiatric illnesses under the influence of cyberbullying. At the same time, the authors highlight the lack of research in this area.

In determining the psychological factors that increase the risk of cyberbullying, the phenomenon of disinhibition on the Internet, which is associated with the lack of direct contact between participants in communication, should be addressed. J. Stuart and R. Scott (2021) indicate that with an increase in the time spent on the Internet, disinhibition increases, and the level of negative cyber behavior and well-being worsens. In the context of this study, this is of particular importance, as for people with mental disorders, the amount of time spent online increases at the expense of face-to-face communication, which is an additional risk factor for engaging in bullying and deteriorating health. A statistically significant negative correlation between cybervictimization and cyberaggression was observed in the study, which indicates that one person rarely combines or changes these roles. In different studies, the authors reached different conclusions on the possibility of combining these roles. M.C. Martínez-Monteagudo, B. Delgado, J.M. García-Fernández, and E. Rubio (2019) indicated that personality traits such as physical and verbal aggression, anger, and hostility increase the likelihood of both types of cyberaggression, and about half of cyberbullying participants combine these roles. In the present study, some respondents with the highest scores on narcissism and psychopathy had high rates of cybervictimization. Thus, the combination of negative traits and aggressiveness does not contradict the possibility of being a victim of bullying.

As identified in the present study, openness to experience and increased neuroticism were factors that increased the likelihood of being a victim of cyberbullying. Y. Zhou, W. Zheng, and X. Gao (2019) reported that friendliness was negatively related to victimization and aggressiveness. Whereas in the present study, friendliness also had a strong negative relationship with cyberaggression, but a positive relationship with cybervictimization. In the present study, cybervictimization was negatively correlated with narcissistic psychopathy scores. Since dark traits are associated with high levels of aggression, this finding is quite expected. M.C. Martínez-Monteagudo et al. (2019) demonstrate that the

role of a victim can lead to increased aggression and involvement in cyberbullying as an aggressor. According to R. Escortell, D. Aparisi, M.C. Martínez-Monteagudo, and B. Delgado (2020), this trend is not confirmed, as adolescents who combine the roles of victim and attacker have a higher level of pleasantness than aggressors alone. N. Ekinci (2023), in a meta-analysis of 12 studies on the topic, concludes that friendliness and conscientiousness are most strongly associated with cybervictimization, which coincides with the results of this study. Neuroticism also had a positive effect on this indicator, which is also consistent with the results of this study. Z.F. Albikawi (2023) points to low self-esteem as a factor in cybervictimization, as well as anxiety, which is mutually reinforced by the role of the victim.

Among the personality traits studied, cyber aggression was associated with a high level of extraversion, and the relationship was quite strong. R. Escortell et al. (2020), in a sample of Spanish adolescents, demonstrated that the extraversion index, on the contrary, predicts the role of the victim. On the other hand, V.O. Sobowale and A.M. Lawal (2017), in a study of schoolchildren in Nigeria, concluded that high levels of extraversion and low levels of friendliness are associated with cyberbullying. As for the negative correlates of cyber aggression, they included a high level of openness to new experiences, good faith, and friendliness. R. Escortell et al. (2020) confirmed the data on the negative relationship between openness to new experiences and cyber aggression. The decrease in friendliness among aggressors is confirmed by many researchers (van Geel, Goemans, Toprak, & Vedder, 2017; Escortell et al., 2020). V. Balakrishnan, S. Khan, T. Fernandez, and H.R. Arabnia (2019) developed an automatic algorithm for detecting cyberbullying tendencies on social media based on the two models used in this study: the Big Five and the Dark Triad. As shown in the tests, indicators such as increased extraversion, neuroticism, and decreased agreeableness, along with increased psychopathy, predict cyberbullying with an accuracy of 96%.

A positive correlation was found between all factors of the dark triad in this study, with psychopathy being the strongest, followed by narcissism and Machiavellianism. As noted above, psychopathy is indeed a reliable predictor of cyber aggression (Balakrishnan et al., 2019; Alraggad, Almahasneh, Borovikova, Zhyvko, & Komissarchuk, 2024). However, such a relationship is also expected for other traits, as they are associated with an exacerbated need for self-actualization. M. van Geel et al. (2017), in a study of a large sample of young people from the Netherlands, reached a similar conclusion about the association of all the dark triad traits with cyberbullying. S.A. Panatik, N.N. Abdul Raof, N.A. Nordin, J. Yusof, and R. Shahrin (2022) reached a similar conclusion about the high correlation of all Dark Triad scales with cyberbullying, and that psychopathy

and narcissism have a high predictive power for cyberbullying. Moreover, sadism, which has recently been included in the dark personality traits, had a significant impact on aggressive behavior on the Internet, but it was not studied separately in this study. Nevertheless, all indicators of the dark triad predict sadism. M.S.-A. Park, J. Billieux, S. Raj, M.C. Lee, D.S. Geoffrey, and F. Nuyens (2024) confirmed the patterns described above in their study and pointed out that psychopathy does not directly affect cyberbullying, but indirectly – through a tendency to dysfunctional aggression, as opposed to functional aggression, which allows for effect containment. This observation might be important in the context of this study, as the respondents belong to a sample of psychiatric patients, so their ability to consciously control aggression may be reduced. Therefore, the influence of psychopathic traits on cyberbullying is so significant and has a strong negative correlation with friendliness and conscientiousness.

According to the model developed by C.M.K. Cheung, R.Y.M. Wong, and T.K.H. Chan (2020), disinhibition on the Internet is a serious problem because it leads to a distortion of subjective reality. It includes the following dimensions: dissociative anonymity, invisibility, asynchrony, solipsistic introjections, dissociative imagination, and minimization of responsibility. All these factors reinforce the traits of patients with the dark triad and weaken the restraining control they have in real life. The study found a strong negative correlation between the levels of cyber-victimization and cyber-aggression and life satisfaction. This relationship can be both causal and consequential concerning cyberbullying, so this area requires more detailed research. R.M. Viner, A. Gireesh, N. Stiglic, L.D. Hudson, A.-L. Goddings, J.L. Ward, and D.E. Nicholls (2019) investigated the relationship between lifestyle, cyberbullying, and mental well-being and concluded that total time spent online has a strong negative impact on life satisfaction and anxiety, and cyberbullying significantly exacerbates this relationship. C. Maurya et al. (2022) in a three-year cohort study in India concluded that victims of cyberbullying are 2.07 times more likely to have a depressive disorder and 2.5 times more likely to have suicidal thoughts. The same conclusion is reached by E.M. Selkie, R. Kota, Y.F. Chan, and M. Moreno (2015) in their study of high school students – cyberbullying increases the chances of depressive symptoms and alcohol dependence. A. Schonfeld et al. (2023) indicates that the rate of suicidal thoughts in individuals who have been cyberbullied reaches 13.6%. K.B. Schodt, S.I. Quiroz, B. Wheeler, D.L. Hall, and Y.N. Silva (2021) reported that in an online survey of American adults, depression and anxiety were positively correlated with both components of cyberbullying among men.

There is also a link between the risk of psychotic episodes and cyberbullying, which is especially important given the increased risks of the study

group. G. Catone, S. Marwaha, B. Lennox, and M.R. Broome (2017) in a meta-analysis on the relationship between psychotic episodes and cyberbullying report that patients with psychosis reportedly report cyberbullying 2-4 times more often than the control group. Cyberbullying also exacerbates the trauma and intensity of symptoms, and sometimes delusions include elements of traumatic and humiliating events (Buniak, 2024; Lewinski, Lukasik, Kurdej, Leonarski, Bielczyk, Rakowski, & Plewczynski, 2019). J.M. Twenge, G.N. Martin, and B.H. Spitzberg (2019) showed an increased risk of psychosis and increased paranoia and insomnia in adolescents with gambling addiction when cyberbullying was used against them. F. Fekih-Romdhane et al. (2024) studied the relationship between psychotic symptoms and cyberbullying experiences and demonstrated a close positive correlation between symptoms of psychotic experiences and cyberbullying experiences. It has also been shown that the factors of psychosis cyberbullying and victimization are mutually reinforcing. A similar assumption was made in the present study. All the above data indicate a significant risk of exacerbation of mental illness, psychotic states and suicide among psychiatric patients who are subjected to cyberbullying.

The findings significantly enhance the understanding of cyberbullying within psychiatric populations. Examining a sample of 60 people with mild to moderate psychiatric disorders, the study shows that 34% of these patients report being the victim or perpetrator of cyberbullying, indicating that these patients are highly involved in the practice. This finding underscores the unique vulnerability of psychiatric patients to cyber aggression, which has been underexplored in current literature. Notably, the study highlights that cyber victimization correlates positively with traits such as openness to experience while negatively correlating with stability and dark triad characteristics, suggesting that personality traits play a critical role in mediating the effects of cyberbullying on mental health. These insights extend current knowledge by illustrating how cyberbullying not only affects general populations but also poses specific risks to those with mental health challenges, potentially leading to increased rates of depression, anxiety, and suicidal ideation. Therefore, the implications of these findings are profound; they call for targeted interventions and preventive strategies tailored to the needs of psychiatric patients, emphasizing the necessity for mental health professionals to consider the impact of cyberbullying in their treatment approaches.

CONCLUSION

The study investigated the nature of psychological characteristics of people with mental disorders that correlate with their involvement in cyberbullying. The study demonstrated that the level of involvement in cyberbullying in the studied sample of patients with mental disorders is quite high. Among them, 28% of

respondents report high rates of cybervictimization, and 40% of respondents report cyberaggression. The results of the personality trait studies indicate an increase in many personality traits and their connection with cyberbullying. It was found that there is a significant positive correlation between cybervictimization and indicators of openness to new experiences and a negative correlation with the indicator of stability.

Cybervictimization was also negatively correlated with all traits of the dark triad, most of all with psychopathy and narcissism. Cyberaggression was positively correlated with extraversion, and negatively with friendliness and conscientiousness. The most pronounced statistical relationship was found between cyberaggression and the Dark Triad indicators, in particular psychopathy, and a less pronounced one with narcissism and Machiavellianism. This relationship is quite expected, given the increased aggressiveness and antisocial behavior of Dark Triad trait carriers, which is exacerbated by the phenomenon of disinhibition on the Internet. Both components of cyber aggressive behavior were negatively correlated with life satisfaction, suggesting that cyberbullying creates a vicious circle where a negative assessment of one's own life associated with mental disorders leads to involvement in cyberbullying, which worsens the condition even further. The data obtained are in good agreement with the literature data obtained on a non-clinical sample, which indicates a single pattern that combines a conditionally healthy sample and patients with clinical manifestations of mental disorders.

The study's conclusions emphasize how urgently mental health prevention initiatives must include tactics that especially target the dangers of cyberbullying for psychiatric patients. Mental health practitioners can better prepare these people to deal with the difficulties presented by cyber violence by designing therapies that emphasize strengthening coping skills and resilience, which will ultimately improve their general mental health outcomes. First, since cyberbullying can worsen pre-existing mental health conditions, they should perform comprehensive evaluations to find patients who might be victims or offenders. Second, psychoeducation regarding the nature of cyberbullying, its psychological impacts, and effective coping mechanisms should be given by specialists to patients and their families. Third, creating specialized intervention programs that target the psychological characteristics linked to cyberbullying and victimization can help reduce these risks. Finally, collaboration with educators and community organizations is essential to create a supportive environment that fosters resilience and reduces the prevalence of cyberbullying among vulnerable populations.

This study highlighted the problem of cyberbullying in people with mental disorders and may be useful for healthcare professionals and researchers of

cyberaggression. Future studies ought to concentrate on the psychological processes that underpin the connection between cyberbullying and psychiatric patients' mental health outcomes. The long-term impacts of cyberbullying on mental health, such as the possibility of a rise in the prevalence of depressive illnesses and suicidal thoughts over time, require longitudinal research. Additionally, researching successful intervention techniques catered to this susceptible group may offer important new perspectives on reducing the negative impacts of cyberbullying.

REFERENCES

Albikawi, Z. F. (2023). Anxiety, depression, self-esteem, internet addiction and predictors of cyberbullying and cybervictimization among female nursing university students: A cross sectional study. *International Journal of Environmental Research and Public Health*, *20*(5), 4293. https://doi.org/10.3390/ijerph20054293

Alraggad, M. M., Almahasneh, A. A. A. A., Borovikova, V., Zhyvko, Z., & Komissarchuk, Y. (2024). The policy of rethinking the criminal process in the national security system: The impact of digitalisation on working with electronic evidence. *Social and Legal Studios*, *7*(2), 162-170. https://doi.org/10.32518/sals2.2024.162

Balakrishnan, V., Khan, S., Fernandez, T., & Arabnia, H. R. (2019). Cyberbullying detection on twitter using Big Five and Dark Triad features. *Personality and Individual Differences*, *141*, 252-257. https://doi.org/10.1016/j.paid.2019.01.024

Balalayeva, E. (2024). Determinants of the genesis of digital culture. *Humanities Studios: Pedagogy, Psychology, Philosophy*, *12*(1), 119-125. https://doi.org/10.31548/hspedagog15(1).2024.119-125

Bansal, S., Garg, N., Singh, J., & Van Der Walt, F. (2024). Cyberbullying and mental health: Past, present and future. *Frontiers in Psychology*, *14*, 1279234. https://doi.org/10.3389/fpsyg.2023.1279234

Bedan, V. B. (2022). The problem of cyberbullying in the youth environment: Theoretical analysis. *Dnipro Scientific Journal of Public Administration, Psychology, Law*, *1*, 42-47. https://doi.org/10.51547/ppp.dp.ua/2022.1.6

Buniak, N. (2024). The model of today's healthy youth. *Psychology and Personality*, *14*(1), 45-57. https://doi.org/10.33989/2226-4078.2024.1.298770

Catone, G., Marwaha, S., Lennox, B., & Broome, M. R. (2017). Bullying victimisation and psychosis: The interdependence and independence of

risk trajectories. *BJPsych Advances*, *23*(6), 397-406. https://doi.org/10.1192/apt.bp.116.016584

Cheung, C. M. K., Wong, R. Y. M., & Chan, T. K. H. (2020). Online disinhibition: Conceptualization, measurement, and implications for online deviant behavior. *Industrial Management & Data Systems*, *121*(1), 48-64. https://doi.org/10.1108/IMDS-08-2020-0509

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, *49*(1), 71-75. https://doi.org/10.1207/s15327752jpa4901_13

Ekinci, N. (2023). A meta-analytic review of big five-personality trait and cyberbullying. *Educational Policy Analysis and Strategic Research*, *18*(3), 78-91. https://doi.org/10.29329/epasr.2023.600.4

Escortell, R., Aparisi, D., Martínez-Monteagudo, M. C., & Delgado, B. (2020). Personality traits and aggression as explanatory variables of cyberbullying in Spanish preadolescents. *International Journal of Environmental Research and Public Health*, *17*(16), 5705. https://doi.org/10.3390/ijerph17165705

Fekih-Romdhane, F., Malaeb, D., Farah, N., Stambouli, M., Cheour, M., Obeid, S., & Hallit, S. (2024). The relationship between cyberbullying perpetration/victimization and suicidal ideation in healthy young adults: The indirect effects of positive and negative psychotic experiences. *BMC Psychiatry*, *24*, 121. https://doi.org/10.1186/s12888-024-05552-2

Gidenko, E. S. (2021). Cyberbullying: Violence in a social network. *Scientific Bulletin of the International Humanitarian University*, *50*, 26-29. https://doi.org/10.32841/2307-1745.2021.50.6

Husiev, I. (2021). Principles of socio-psychological technologies' development to support stigmatized minorities in the field of media communication. *Scientific Studios on Social and Political Psychology*, *27*(1), 180-189. https://doi.org/10.61727/sssppj/1.2021.180

Ivanova, O. S., Kit, N., & Storozhyk, M. (2024). Philosophy of education in the context of digital transformation of public life. *Humanities Studios: Pedagogy, Psychology, Philosophy*, *12*(1), 141-148. https://doi.org/10.31548/hspedagog15(1).2024.141-148

Jones, D. N., & Paulhus, D. L. (2014). Introducing the Short Dark Triad (SD3): A brief measure of Dark Personality Traits. *Assessment*, *21*(1), 28-41. https://doi.org/10.1177/1073191113514105

Khadzhiradieva, S., Bezverkhniuk, T., Nazarenko, O., Bazyka, S., & Dotsenko, T. (2024). Personal data protection: Between human rights protection and national security. *Social and Legal Studios*, *7*(3), 245-256. https://doi.org/10.32518/sals3.2024.245

Kononova, M. M. (2022). Psychological factors of cyberbullying among adolescents. *Scientific Bulletin of Uzhhorod National University*, *4*, 29-32. https://doi.org/10.32782/psy-visnyk/2022.4.6

Law of Ukraine No. 2657-VIII "On Amendments to Certain Legislative Acts of Ukraine on Combating Bullying (Harassment)". (2018). https://zakon.rada.gov.ua/laws/show/2657-19#Text

Lewinski, P. (2016). Commentary: Rethinking the development of nonbasic emotions: A critical review of existing theories. *Frontiers in Psychology*, *6*(JAN), 1967. https://doi.org/10.3389/fpsyg.2015.01967

Lewinski, P., Lukasik, M., Kurdej, K., Leonarski, F., Bielczyk, N., Rakowski, F., & Plewczynski, D. (2019). The world color survey: Data analysis and simulations. In *Complexity Applications in Language and Communication Sciences* (pp. 289-311). Cham: Springer International Publishing.

Lubenets, I. (2016). Cyberviolence (cyberbullying) among secondary school students. *National Law Journal: Theory and Practice*, *3*(19), 169-173. https://ibn.idsi.md/ro/vizualizare_articol/46202/cerif

Martínez-Monteagudo, M. C., Delgado, B, García-Fernández, J. M., & Rubio, E. (2019). Cyberbullying, aggressiveness, and emotional intelligence in adolescence. *International Journal of Environmental Research and Public Health*, *16*(24), 5079. https://doi.org/10.3390/ijerph16245079

Maurya, C., Muhammad, T., Dhillon, P., & Maurya, P. (2022). The effects of cyberbullying victimization on depression and suicidal ideation among adolescents and young adults: A three year cohort study from India. *BMC Psychiatry*, *22*, 599. https://doi.org/10.1186/s12888-022-04238-x

Online Test Pad. (2024). *Five Factor Personality Questionnaire 5PFQ*. https://onlinetestpad.com/ua/test/1491907-pyatifaktornij-opituvalnik-osobistosti-5pfq

Panatik, S. A., Abdul Raof, N. N., Nordin, N. A., Yusof, J., & Shahrin, R. (2022). Effect of dark triad personality on cyberbullying behavior among Malaysian university students. *Eurasia Proceedings of Educational and Social Sciences*, *25*, 26-44. http://dx.doi.org/10.55549/epess.1192356

Park, M. S.-A., Billieux, J., Raj, S., Lee, M. C., Geoffrey, D. S., & Nuyens, F. (2024). Functional and dysfunctional impulsivity mediates the relationships between 'Dark Triad' traits and cyberbullying perpetration. *Criminal Behaviour and Mental Health*, *34*(1), 54-65. https://doi.org/10.1002/cbm.2321

Schodt, K. B., Quiroz, S. I., Wheeler, B., Hall, D. L., & Silva, Y. N. (2021). Cyberbullying and mental health in adults: The moderating role of social

media use and gender. *Frontiers in Psychiatry*, *12*, 674298. https://doi.org/10.3389/fpsyt.2021.674298

Schonfeld, A., McNiel, D., Toyoshima, T., & Binder, R. (2023). Cyberbullying and adolescent suicide. *Journal of the American Academy of Psychiatry and the Law Online*, *51*(1), 112-119. https://jaapl.org/content/51/1/112

Selkie, E. M., Kota, R., Chan, Y. F., & Moreno, M. (2015). Cyberbullying, depression, and problem alcohol use in female college students: A multisite study. *Cyberpsychology, Behavior, and Social Networking*, *18*(2), 79-86. https://doi.org/10.1089/cyber.2014.0371

Shcherban, T., & Samoilov, O. (2024). Socialisation of student youth in social networks. *Scientific Bulletin of Mukachevo State University. Series "Pedagogy and Psychology"*, *10*(2), 9-16. https://doi.org/10.52534/msu-pp2.2024.09

Sobowale, V. O., & Lawal, A. M. (2017). *The Big Five personality traits and attitude towards cyberbullying as predictors cyberbullying perpetration*. https://www.academia.edu/40270357/The_Big_Five_Personality_Traits_and_Attitude_towards_Cyberbullying_as_Predictors_Cyberbullying_Perpetration

Stockdale, L. A., Coyne, S. M., Nelson, D. A., & Erickson, D. H. (2015). Borderline personality disorder features, jealousy, and cyberbullying in adolescence. *Personality and Individual Differences*, *83*, 148-153. https://doi.org/10.1016/j.paid.2015.04.003

Stuart, J., & Scott, R. (2021). The measure of online disinhibition (MOD): Assessing perceptions of reductions in restraint in the online environment. *Computers in Human Behavior*, *114*, 106534. https://doi.org/10.1016/j.chb.2020.106534

Titova, T., & Lavrinenko, V. (2022). Factors of cyberbullying in adolescent environment: Theoretical review. *Psychology and Personality*, *12*(2), 211-224. https://doi.org/10.33989/2226-4078.2022.2.265500

Twenge, J. M., Martin, G. N., & Spitzberg, B. H. (2019). Trends in US adolescents' media use, 1976-2016: The rise of digital media, the decline of TV, and the (near) demise of print. *Psychology of Popular Media Culture*, *8*(4), 329-345. https://doi.org/10.1037/ppm0000203

van Geel, M., Goemans, A., Toprak, F., & Vedder, P. (2017). Which personality traits are related to traditional bullying and cyberbullying? A study with the Big Five, Dark Triad and sadism. *Personality and Individual Differences*, *106*, 231-235. https://doi.org/10.1016/j.paid.2016.10.063

Vilks, A., & Kipane, A. (2018). Cognitive aspects of criminal justice policy. *Journal of Advanced Research in Law and Economics*, *9*(5), 1798-1805. https://doi.org/10.14505//jarle.v9.5(35).35

Vilks, A., Kipane, A., Kudeikina, I., Palkova, K., & Grasis, J. (2022). Criminological aspects of current cyber security. *Revista de Direito, Estado e Telecomunicacoes*, *14*(2), 94-108. https://doi.org/10.26512/lstr.v14i2.41411

Viner, R. M., Gireesh, A., Stiglic, N., Hudson, L. D., Goddings, A.-L., Ward, J. L., & Nicholls, D. E. (2019). Roles of cyberbullying, sleep, and physical activity in mediating the effects of social media use on mental health and wellbeing among young people in England: A secondary analysis of longitudinal data. *Lancet. Child & Adolescent Health*, *3*(10), 685-696. https://doi.org/10.1016/s2352-4642(19)30186-5

What are they like, Ukrainian teenagers: About social media, sex, alcohol, sports, trust in parents and friends. Research. (2019). https://life.pravda.com.ua/society/2019/05/22/236974/

Widiger, T. A., & Costa, P. T. (2012). *Personality disorders and the five-factor model of personality*. Washington: American Psychological Association. https://www.apa.org/pubs/books/4317287

Wong, N., Yanagida, T., Spiel, C., & Graf, D. (2022). The association between appetitive aggression and social media addiction mediated by cyberbullying: The moderating role of inclusive norms. *International Journal of Environmental Research and Public Health*, *19*(16), 9956. https://doi.org/10.3390/ijerph19169956

World Health Organization. (2024). *One in six school-aged children experiences cyberbullying, finds new WHO/Europe study*. https://www.who.int/europe/news/item/27-03-2024-one-in-six-school-aged-children-experiences-cyberbullying--finds-new-who-europe-study

Yanishevska K. D., & Zinchenko G. S. (2022). Prevention of cyberbullying, cybermobing, cybergrooming in Ukraine. *Legal Scientific Electronic Journal*, *2*, 132-135. https://doi.org/10.32782/2524-0374/2022-2/29

Zhou, Y., Zheng, W., & Gao, X. (2019). The relationship between the big five and cyberbullying among college students: The mediating effect of moral disengagement. *Current Psychology*, *38*(5), 1162-1173. https://doi.org/10.1007/s12144-018-0005-6

The Law, State and Telecommunications Review / Revista de Direito, Estado e Telecomunicações

Contact:
Universidade de Brasília - Faculdade de Direito - Núcleo de Direito Setorial e Regulatório
Campus Universitário de Brasília
Brasília, DF, CEP 70919-970
Caixa Postal 04413

Phone: +55(61)3107-2683/2688

E-mail: getel@unb.br

Submissions are welcome at: https://periodicos.unb.br/index.php/RDET