



MENTAL HEALTH AND PHYSICAL ACTIVITY: A COMPARISON BETWEEN UNDERGRADUATES WITH AND WITHOUT INTERNET ADDICTION

BOONSITA SUWANNAKUL^{1,*}, PUTTIPONG PONCUMHAK¹, AND ANDREEA FULGA²

¹*Department of Physical Therapy, School of Allied Health Sciences, University of Phayao, Phayao 56000, Thailand*

²*Department of Mathematics, Transilvania University of Brasov, 500036, Romania*

ABSTRACT. Internet addiction (IA) is characterized by excessive or poorly controlled preoccupations, urges, or behaviors related to internet use that result in impairment or distress in daily functioning. University students are considered particularly vulnerable to IA due to their extensive reliance on digital technologies for academic activities, social interaction, and entertainment. This study aimed to compare psychological symptoms, eating attitudes, and physical activity levels between university students with and without internet addiction. A total of 110 undergraduate students were recruited and categorized into two groups according to their Internet Addiction Test (IAT) scores: the internet addiction group (IAT score ≥ 50) and the non-addiction group (IAT score < 50). All participants completed self-administered questionnaires, including the Depression Anxiety Stress Scale-21 (DASS-21), Eating Attitudes Test-26 (EAT-26), and Global Physical Activity Questionnaire (GPAQ). Group differences were analyzed using the independent samples t-test for normally distributed data and the Mann-Whitney U test for non-normally distributed data. Statistical significance was set at $p < 0.05$. The findings demonstrated that participants in the internet addiction group had significantly higher scores in all three subscales of the DASS-21 and the EAT-26 compared with those in the non-addiction group ($p < 0.001$). In addition, the internet addiction group exhibited significantly lower physical activity levels, as measured by GPAQ scores ($p = 0.022$). These findings suggest that internet addiction is associated with poorer psychological well-being, disordered eating attitudes, and reduced physical activity among university students. Addressing these interconnected factors through comprehensive mental health and behavioral interventions may help reduce the negative consequences of internet addiction and promote overall well-being.

Keywords. Problematic internet use, Psychological distress, Physical health, Eating attitudes, Sedentary behavior.

© Journal of Decision Making and Healthcare

1. INTRODUCTION

Internet use has become an essential component of academic, social, and professional life among university students. Despite its educational and communicative benefits, excessive and uncontrolled internet use has increasingly been recognized as a behavioral health concern [1, 2]. Problematic internet use, often referred to as internet addiction (IA), is characterized by excessive or poorly controlled preoccupations, urges, or behaviors regarding internet use that lead to impairment or distress in daily functioning [3]. University students are considered a particularly vulnerable population because of their high dependence on digital technologies for learning, social interaction, and entertainment [4]. Recent systematic reviews have identified university students as a high-risk group for problematic internet use, with psychological and behavioral factors playing significant roles in its development [5].

*Corresponding author.

E-mail address: boonsita.su@up.ac.th (B. Suwannakul), puttipong.po@up.ac.th (P. Poncumhak), and afulga@unitbv.ro (A. Fulga)

Received: July 3, 2026; Revised: July 14, 2026; Accepted: August 28, 2026.

2020 Mathematics Subject Classification: 62P10, 62P15.

Growing evidence has demonstrated a strong association between internet addiction and adverse mental health outcomes. Previous studies have consistently reported that individuals with problematic internet use are more likely to experience symptoms of depression, anxiety, and stress [6]. A systematic review among university students found that problematic internet use was significantly correlated with increased levels of depression and anxiety across multiple countries and educational settings [7]. Furthermore, excessive screen exposure and maladaptive online behaviors have been associated with poorer psychological wellbeing and emotional dysregulation [8].

In addition to mental health problems, internet addiction has also been linked to unhealthy lifestyle behaviors, including disordered eating patterns and physical inactivity. Previous evidence suggests that problematic internet use may contribute to eating disorders through emotional dysregulation, sedentary behavior, and altered body image perceptions influenced by online content [9, 10]. A systematic review and meta-analysis reported that students with problematic internet use had significantly higher risks of eating disorders, including anorexia nervosa, bulimia nervosa, binge-eating disorder, and dieting behaviors [11]. Moreover, prolonged screen time and excessive internet use have been associated with lower levels of physical activity and poorer overall health outcomes among university students [12, 13].

Although previous studies have independently explored the relationships between internet addiction, psychological distress, eating behaviors, and physical activity, evidence examining these factors simultaneously among university students remains limited. Understanding these associations is important for developing preventive strategies and health promotion programs targeting digital wellbeing in young adults. Therefore, the present study aimed to compare depression, anxiety, stress, eating attitudes, and physical activity levels between university students with internet addiction and those without internet addiction. It was hypothesized that students with internet addiction would demonstrate higher levels of psychological distress and disordered eating attitudes, along with lower levels of physical activity, compared with non-addicted students.

2. MATERIALS AND METHODS

This cross-sectional survey study was conducted among undergraduate students in northern Thailand. The study was carried out in accordance with the principles outlined in the Declaration of Helsinki. The research protocol was approved by the Human Ethics Committee at the University of Phayao (protocol code HREC-UP-HSST 1.2/062/67). Prior to participation, all participants provided written informed consent.

2.1. Participants. The sample size was calculated using the G*Power software (version 3.1.9.7) for difference between two independent means, with an effect size of 0.5, an alpha level of 0.05, and a statistical power of 80%. The calculation indicated a minimum required sample size of 51 participants per group.

The study participants consisted of male and female undergraduate students were enrolled in the first trimester of the 2024–2025 academic year. The inclusion criteria were: (1) undergraduate student status, (2) age between 19 and 23 years, and (3) absence of major adverse health conditions, serious mental health diagnoses, or eating disorders. Participants who failed to complete all tests and questionnaires were excluded.

2.2. Procedure for data Collection. Participants were first assessed for internet addiction status using the Internet Addiction Test (IAT). Based on their IAT scores, they were subsequently categorized into two groups: internet addiction group (IAT score ≥ 50) and those with non-addiction group (IAT score < 50).

All participants provided demographic information before completing self-assessment questionnaires, including the Depression Anxiety Stress Scale-21 (DASS-21), the Eating Attitudes Test-26 (EAT-26), and the Global Physical Activity Questionnaire (GPAQ) in the Thai version.

2.2.1. Demographic data. Sociodemographic factors included age (years), gender (male or female), faculty (health sciences, non-health sciences), family income (sufficient or insufficient), monthly expenses (sufficient or insufficient), devices count to access the internet (mobile phone only or mobile phone and other), and screen time (1-4, 5-9, or ≥ 10 hours/day).

2.2.2. Internet Addiction Test (IAT). Internet use behavior was assessed using the 20-item Young's IAT, originally developed by Young (1998) to evaluate problematic and compulsive of internet use. The instrument consists of 20 items rated on a five-point Likert scale ranging from 1 ("rarely") to 5 ("always"), resulting in a total score between 20 and 100, with higher scores indicating greater levels of problematic internet use. In the present study, participants with IAT scores ranging from 0–49 were classified as non-addicted internet users, whereas those with scores of 50 or higher were classified as having internet addiction [14]. The questionnaire was translated and culturally adapted into Thai using standardized forward-backward translation procedures. The Thai version of the IAT has demonstrated good psychometric properties and high internal consistency among university student populations, with a reported Cronbach's alpha coefficient of 0.89 [15].

2.2.3. Depression Anxiety Stress Scale-21 (DASS-21). The DASS-21 is a self-report instrument developed to assess symptoms of depression, anxiety, and stress over the previous week experienced during the previous week [16]. The questionnaire consists of 21 items equally distributed across three subscales: depression, anxiety, and stress, with seven items in each subscale. Each item is rated on a four-point Likert scale ranging from 0 ("Did not apply to me at all") to 3 ("Applied to me very much or most of the time"), with higher scores indicating greater severity of psychological distress. The Thai version of the DASS-21 was translated and culturally adapted using standardized cross-cultural translation procedures and has demonstrated acceptable psychometric properties among Thai university students. Previous validation studies reported satisfactory internal consistency coefficients, with Cronbach's alpha values of 0.82 for the depression subscale, 0.78 for anxiety, and 0.69 for stress [17].

2.2.4. Eating Attitudes Test (EAT-26). The EAT-26 was used to assess eating-related attitudes and behaviors associated with the risk of eating disorders. The instrument comprises 26 items categorized into three subscales: dieting, bulimia and food preoccupation, and oral control [18]. Each item is rated using a six-point Likert scale and subsequently converted to a standardized 0–3 scoring format, resulting in a total score ranging from 0 to 78, with higher scores reflecting greater risk of disordered eating behaviors. Although the internationally recommended cutoff score for identifying individuals at risk of eating disorders is ≥ 20 , validation studies conducted among Thai university students have suggested that a lower cutoff score (>12) provides superior screening performance within the Thai population [19]. Previous studies reported sensitivity and specificity values of 88.6% and 88.7%, respectively, using this threshold [20]. Therefore, in the present study, participants with EAT-26 scores greater than 12 were classified as being at risk for disordered eating behaviors.

2.2.5. Global Physical Activity Questionnaire (GPAQ). The GPAQ consists of 16 items designed to assess physical activity across multiple domains of daily life, including work-related activity (items P1–P6), travel-related activity (items P7–P9), recreational activity (items P10–P15), and sedentary behavior or sitting time (item P16). These components are collectively referred to as domain-specific physical activities. Physical activity intensity is categorized into three levels based on metabolic equivalent tasks

TABLE 1. Demographic characteristics of participants

Parameters		Non-addiction (<i>n</i> = 55)	Internet addiction (<i>n</i> = 55)	<i>p</i> -value
Age (years)		20.77 ± 1.04	20.64 ± 1.61	0.406
Gender	Female	41 (75.2)	37 (67.3)	0.239
	Male	14 (24.8)	18 (32.7)	
Faculty	Health sciences	43 (78.3)	39 (70.9)	0.288
	Non-health sciences	12 (21.7)	16 (29.1)	
Family income	Sufficient	48 (86.6)	51 (92.7)	0.229
	Insufficient	7 (13.4)	4 (7.3)	
Monthly expenses	Sufficient	50 (91.3)	46 (83.6)	0.057
	Insufficient	5 (8.7)	9 (16.4)	
Internet access device	Mobile phone only	5 (9.1)	10 (18.2)	0.129
	Mobile phone and other	50 (90.9)	45 (81.8)	
Internet time (h/day)	1–4	(7.1)	3 (5.5)	0.470
	5–9	(52.8)	25 (45.5)	
	≥10	(40.2)	27 (49.1)	
IAT scores		31.33 ± 10.45	58.93 ± 9.23	<0.001*

Note: Data are presented as mean ± SD or *n* (%). IAT, Internet Addiction Test. * *p* < 0.05.

(METs): moderate-intensity activity (4 METs), vigorous-intensity activity (8 METs), and sedentary behavior or inactivity (1 MET). Total physical activity was expressed as MET-minutes per week and calculated by summing the MET-minutes accumulated across all activity domains [21].

2.3. Statistical analysis. Descriptive statistics were used to explain demographic data and the findings of the study. All data were tested for normally distributed patterns by the Kolmogorov–Smirnov test. The chi-square test was used to examine the differences between categorical variables between the two groups. The independent t-test for parametric data or Mann–Whitney U test for non-parametric data was used to compare mean differences between both groups. A *p*-value < 0.05 was considered statistically significant.

3. RESULTS

A total of 110 participants who met the inclusion criteria were enrolled in the study. Participants were equally categorized into two groups based on their IAT scores: the internet addiction group (IAT score ≥ 50; *n* = 55) and the non-addiction group (IAT score < 50; *n* = 55). The majority of participants were female students from health sciences faculties. No statistically significant differences in baseline characteristics were observed between the two groups, with the exception of IAT scores, as presented in Table 1.

Table 2 presents the classification of the DASS-21 scales, EAT-26 scores, and Global PAQ scales among the internet addiction and non-addiction groups. Most participants in the non-addiction group were classified as having normal levels of stress, anxiety, and depression. They were also identified as having a low risk of eating disorders and being sufficiently physically active. In contrast, participants in the internet addiction group predominantly exhibited moderate depression, severe stress, and extremely severe anxiety. Furthermore, the majority were classified as insufficiently physically active and at risk for eating disorders.

Table 3 presents the comparisons of DASS-21 scores, EAT-26 scores, and GPAQ scores between the internet addiction and non-addiction groups. Independent samples t-test analysis demonstrated that participants in the internet addiction group had significantly higher scores across all three DASS-21 subscales, including depression, anxiety, and stress, as well as significantly higher EAT-26 scores compared with the non-addiction group (*p* < 0.001). Furthermore, the internet addiction group exhibited

TABLE 2. Classification of Depression Anxiety Stress Scales (DASS-21), Eating Attitudes Test (EAT-26) scores, and Global Physical Activity Questionnaire (GPAQ) scales among internet addiction and non-addiction groups

Parameters		Non-addiction (<i>n</i> = 55)		Internet addiction (<i>n</i> = 55)	
		n	%	n	%
<i>DASS-21 scale</i>					
Depression	Normal (0–9)	33	59.4	14	25.5
	Mild (10–13)	7	13.4	9	16.4
	Moderate (14–20)	11	19.7	18	32.7
	Severe (21–27)	2	3.1	3	5.5
	Extremely severe (≥ 28)	2	4.3	11	20.0
Anxiety	Normal (0–7)	24	43.7	9	16.4
	Mild (8–9)	13	24.4	8	14.5
	Moderate (10–14)	7	13.4	9	16.4
	Severe (15–19)	6	10.6	6	10.9
	Extremely severe (≥ 20)	4	7.9	23	41.8
Stress	Normal (0–14)	32	57.9	14	25.5
	Mild (15–18)	9	16.1	11	20.0
	Moderate (19–25)	9	16.9	12	21.8
	Severe (26–33)	5	8.3	15	27.3
	Extremely severe (≥ 34)	0	0.8	3	5.5
EAT-26 scores	Low risk (0–12)	40	72.4	14	25.5
	At risk (≥ 12)	15	27.6	41	74.5
GPAQ	Sufficiently active (≥ 600 MET-min/wk)	37	67.7	21	38.2
	Insufficiently active (< 600 MET-min/wk)	18	32.3	34	61.8

TABLE 3. Comparison of the Depression Anxiety Stress Scales (DASS-21), Eating Attitudes Test (EAT-26) scores, and Global Physical Activity Questionnaire (GPAQ) scales between internet-addicted and non-addicted undergraduate students

Parameters	Without IA (<i>n</i> = 55)	With IA (<i>n</i> = 55)	<i>p</i> -value
<i>DASS-21 scale</i>			
Depression	4.65 $\pm$ 3.86	7.53 $\pm$ 4.81	<0.001**
Anxiety	4.53 $\pm$ 3.45	8.02 $\pm$ 4.34	<0.001**
Stress	7.03 $\pm$ 3.78	10.22 $\pm$ 4.25	<0.001**
EAT-26 scores	13.02 $\pm$ 8.91	19.15 $\pm$ 11.35	<0.001**
GPAQ	927.91 $\pm$ 1035.21	593.73 $\pm$ 528.66	0.022*

IA, internet addiction. Data are mean $\pm$ SD. * $p < 0.05$; ** $p < 0.001$.

significantly lower GPAQ scores, indicating lower levels of physical activity, than the non-addiction group ($p = 0.022$).

4. DISCUSSION

The present study aimed to explore the psychological, behavioral, and lifestyle differences between university students with and without internet addiction. Our findings indicate that individuals classified as having internet addiction exhibited significantly higher levels of psychological distress, disordered eating attitudes, and lower physical activity compared to their non-addicted counterparts.

Our results demonstrated that participants with internet addiction scored markedly higher on the DASS-21 subscales—depression, anxiety, and stress—highlighting the strong association between problematic internet use and psychological distress. Elevated levels of stress and anxiety among individuals

with internet addiction have been well-documented, suggesting that excessive internet use may serve both as a coping mechanism and a contributor to mental health issues [22]. A meta-analysis by Javaeed et al. (2019) reported significant associations between internet addiction and depression and stress symptoms among undergraduate medical students [23]. The heightened depression scores further align with literature indicating that internet addiction can exacerbate feelings of loneliness [24]. Similarly, the previous studies emphasized that excessive internet use may function as both a coping mechanism for underlying distress and a contributor to worsening emotional regulation over time [25, 26]. The displacement hypothesis may partially explain these findings, whereby excessive online engagement reduces time spent on adaptive offline activities such as social interaction, sleep, and physical activity, thereby exacerbating psychological vulnerability [27].

In addition, participants in the internet addiction group demonstrated significantly higher EAT-26 scores, indicating an elevated risk of disordered eating behaviors. This finding is consistent with emerging evidence suggesting that problematic internet use, particularly engagement with appearance-focused content and social media platforms, may contribute to body dissatisfaction and unhealthy eating attitudes [10]. Dan & Bhatia (2023) reported that exposure to idealized body images online is associated with increased internalization of thin ideals and disordered eating symptomatology [28]. Furthermore, compulsive internet use may be linked to emotional dysregulation, which in turn can contribute to maladaptive coping strategies such as binge eating or restrictive behaviors [29, 30].

The present study also found that individuals with internet addiction had significantly lower physical activity levels compared with their non-addicted counterparts. This finding is consistent with previous studies, which have also shown that excessive internet use promotes a sedentary lifestyle, which displace time otherwise allocated to physical movement [31, 32]. Prolonged internet use has been associated with decreased cardiorespiratory fitness and increased sedentary behavior among young adults [33]. The reduction in physical activity observed in the internet addiction group may also indirectly contribute to poorer mental health outcomes, given the well-established protective role of physical activity against depression and anxiety.

Importantly, the coexistence of higher psychological distress, increased disordered eating risk, and reduced physical activity in the internet addiction group suggests a clustering of adverse health behaviors. This pattern may reflect shared underlying mechanisms such as impaired self-regulation, reward system dysregulation, and compulsive behavioral tendencies. Neurobiological studies have suggested that internet addiction shares similarities with behavioral addictions in terms of dopaminergic reward pathway activation, which may reinforce compulsive use patterns [34].

From a public health perspective, these findings highlight the importance of early identification of problematic internet use among university students. Integrated interventions targeting digital behavior management, psychological well-being, and lifestyle modification (including physical activity promotion and healthy eating behaviors) may be beneficial.

Several limitations should be acknowledged. First, the cross-sectional design precludes causal inferences regarding the directionality of the associations observed. Future research should employ longitudinal designs to clarify causal pathways and explore potential mediating factors such as sleep quality, social support, and emotional regulation. Intervention studies may also be useful in determining whether reducing internet use can improve psychological and lifestyle outcomes. Second, self-reported measures may introduce recall or social desirability bias. Future studies should consider using objective or clinically validated measures, such as digital tracking tools or clinical interviews, to improve the accuracy and reliability of the data. Finally, the sample was limited to a single academic setting and predominantly female health science students, which may limit generalizability to other populations, suggests a need for further research to determine whether these findings are generalizable across diverse populations.

5. CONCLUSION

In conclusion, internet addiction among university students is associated with heightened psychological distress, disordered eating attitudes, and lower physical activity levels. Addressing these interconnected issues through comprehensive mental health and behavioral interventions could mitigate the adverse effects of internet addiction and promote overall well-being.

STATEMENTS AND DECLARATIONS

The authors declare that they have no conflicts of interest. The data are available upon reasonable request from the corresponding author.

The study was conducted in accordance with the Declaration of Helsinki and approved by the Human Ethics Committee of the University of Phayao (protocol code HREC-UP-HSST 1.2/062/67). Written informed consent was obtained from all participants.

ACKNOWLEDGMENTS

The authors would like to thank all participants.

REFERENCES

- [1] U. Zubair, M. K. Khan, and M. Albashari. Link between excessive social media use and psychiatric disorders. *Annals of Medicine and Surgery*, 85(4):875-878, 2023.
- [2] M. Kumar and A. Mondal. A study on Internet addiction and its relation to psychopathology and self-esteem among college students. *Industrial Psychiatry Journal*, 27(1):61-66, 2018.
- [3] M. Shaw and D. W. Black. Internet addiction. *CNS Drugs*, 22(5):353-365, 2008.
- [4] G. T. Umeta, S. D. Regasa, G. M. Taye, H. D. Ayeno, and G. M. Tefera. Prevalence of internet addiction and its correlates among regular undergraduate medicine and health science students at Ambo University: a cross-sectional study. *Substance Abuse: Research and Treatment*, 16:Article ID 11782218221080772, 2022.
- [5] M. Sánchez-Fernández, M. Borda-Mas, and J. A. Mora-Merchán. Problematic internet use by university students and associated predictive factors: a systematic review. *Computers in Human Behavior*, 139:Article ID 107532, 2023.
- [6] X. Xie, K. Zhu, Q. Xue, Y. Zhou, Q. Liu, H. Wu, Z. Wan, J. Zhang, H. Meng, B. Zhu, and R. Song. Problematic internet use was associated with psychological problems among university students during COVID-19 outbreak in China. *Frontiers in Public Health*, 9:Article ID 675380, 2021.
- [7] Z. Cai, P. Mao, Z. Wang, D. Wang, J. He, and X. Fan. Associations between problematic internet use and mental health outcomes of students: a meta-analytic review. *Adolescent Research Review*, 8(1):45-62, 2023.
- [8] Y. Dai and N. Ouyang. Excessive screen time is associated with mental health problems in US children and adolescents: Physical activity and sleep as parallel mediators. *Humanities and Social Sciences Communications*, 13:Article ID 25, 2026.
- [9] M. Azizi, B. Abbasi, and H. Aghaei. Relationship between Internet addiction and body mass index and the predictive role of emotion dysregulation. *Frontiers in Psychology*, 14:Article ID 1305828, 2024.
- [10] C. Ruiz-Centeno, R. Cueto-Galán, J. M. Pena-Andreu, and A. Fontalba-Navas. Problematic internet use and its relationship with eating disorders. *Frontiers in Public Health*, 13:Article ID 1464172, 2025.
- [11] F. J. Hinojo-Lucena, I. Aznar-Díaz, M. P. Cáceres-Reche, J. M. Trujillo-Torres, and J. M. Romero-Rodríguez. Problematic internet use as a predictor of eating disorders in students: a systematic review and meta-analysis study. *Nutrients*, 11(9):Article ID 2151, 2019.
- [12] P. Lavados-Romo, O. Andrade-Mayorga, G. Morales, S. Muñoz, and T. Balboa-Castillo. Association of screen time and physical activity with health-related quality of life in college students. *Journal of American College Health*, 71(1):1-6, 2023.
- [13] M. C. Martínez-Murciano, M. C. González-Afonso, E. Ariño-Mateo, and D. Pérez-Jorge. Relationships between problematic internet use, physical activity, and mental health in university students. *Education Sciences*, 16(4):Article ID 641, 2026.
- [14] K. S. Young. Internet addiction: the emergence of a new clinical disorder. *CyberPsychology & Behavior*, 1(3):237-244, 1998.
- [15] A. Neelapajit, M. Pinyopornpanish, S. Simcharoen, P. Kuntawong, N. Wongpakaran, and T. Wongpakaran. Psychometric properties of a Thai version internet addiction test. *BMC Research Notes*, 11(1):Article ID 69, 2018.

- [16] P. F. Lovibond and S. H. Lovibond. The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, 33(3):335-343, 1995.
- [17] R. Chootong, P. Wiwattanaworaset, N. Buathong, Y. Noofong, P. Chaithaweessup, and P. Cheechoen. Mental health status, family state and family functioning of undergraduate students in a southern university, Thailand. *Journal of the Psychiatric Association of Thailand*, 64(4):337-350, 2019.
- [18] D. M. Garner, M. P. Olmsted, Y. Bohr, and P. E. Garfinkel. The eating attitudes test: Psychometric features and clinical correlates. *Psychological Medicine*, 12(4):871-878, 1982.
- [19] G. Khawda and S. Suppakitporn. Self-objectification, eating disorders, and mental health of senior high school female students in Bangkok. *Chulalongkorn Medical Journal*, 66(3):273-281, 2022.
- [20] T. Kaewporndawan, P. Pariwatcharakul, and W. Pimratana. Criterion validity study of the eating attitudes test-26 (EAT-26 Thai version) among Thai females. *Journal of the Psychiatric Association of Thailand*, 58(3):283-296, 2013.
- [21] World Health Organization. *Global Physical Activity Questionnaire (GPAQ) Analysis Guide*. World Health Organization, Geneva, Switzerland, 2012.
- [22] E. Soriano-Molina, R. M. Limiñana-Gras, R. M. Patró-Hernández, and M. Rubio-Aparicio. The association between internet addiction and adolescents' mental health: a meta-analytic review. *Behavioral Sciences*, 15(2):Article ID 116, 2025.
- [23] A. Javaeed, M. B. Zafar, M. Iqbal, and S. K. Ghauri. Correlation between internet addiction, depression, anxiety and stress among undergraduate medical students in Azad Kashmir. *Pakistan Journal of Medical Sciences*, 35(2):506-509, 2019.
- [24] N. A. Muhamad, N. H. Maamor, T. P. N. Tengku Baharudin Shah, N. H. Jamalluddin, F. N. Leman, and N. A. F. Nik Azhan. Association between depression, anxiety and loneliness with internet addictions among public university students in Malaysia. *BMJ Open*, 16(1):Article ID e108315, 2026.
- [25] M. L. McNicol and E. B. Thorsteinsson. Internet addiction, psychological distress, and coping responses among adolescents and adults. *Cyberpsychology, Behavior, and Social Networking*, 20(5):296-304, 2017.
- [26] L. Liang, M. Zhu, J. Dai, M. Li, and Y. Zheng. The mediating roles of emotional regulation on negative emotion and internet addiction among Chinese adolescents from a development perspective. *Frontiers in Psychiatry*, 12:Article ID 608317, 2021.
- [27] V. S. Nakshine, P. Thute, M. N. Khatib, and B. Sarkar. Increased screen time as a cause of declining physical, psychological health, and sleep patterns: a literary review. *Cureus*, 14(10):Article ID e30051, 2022.
- [28] A. Dane and K. Bhatia. The social media diet: a scoping review to investigate the association between social media, body image and eating disorders amongst young people. *PLOS Global Public Health*, 3(3):Article ID e0001091, 2023.
- [29] A. Gözrig, M. Jaron Bedrosova, and R. M. Milani. Using the internet to cope with emotional problems: the role of preference of online communication in adolescents across 18 countries. *Scandinavian Journal of Psychology*, 67:1337-1350, 2026.
- [30] F. Gioia, V. Rega, and V. Boursier. Problematic internet use and emotional dysregulation among young people: a literature review. *Clinical Neuropsychiatry*, 18(1):41-54, 2021.
- [31] E. Kolle, J. Steene-Johannessen, and S. A. Anderssen. The impact of screen time and social media use on physical activity. *Nordic Journal of Digital Literacy*, 20(1):40-44, 2025.
- [32] M. Nasrallah, A. Abu Helwa, N. Y. Jawhar, A. Alshammari, A. R. Jamal Eddin, H. BaniHani, and M. N. Al Ojaimi. Assessing the effect of screen time on physical activity in children based on parent-reported data: a cross-sectional study. *Cureus*, 17(4):Article ID e82971, 2025.
- [33] A. Lepp, J. E. Barkley, G. J. Sanders, M. Rebold, and P. Gates. The relationship between cell phone use, physical and sedentary activity, and cardiorespiratory fitness in a sample of U. S. college students. *International Journal of Behavioral Nutrition and Physical Activity*, 10:Article ID 79, 2013.
- [34] S. Y. Tereshchenko. Neurobiological risk factors for problematic social media use as a specific form of internet addiction: a narrative review. *World Journal of Psychiatry*, 13(5):160-173, 2023.