Validation and Psychometric Properties of the Ukrainian Version of the *Bergen Social Media Addiction Scale*

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Abstract. Over the past decade, social media have become one of the most prevalent online activities and an integral part of everyday life, leading to a growing scientific interest in their use and impact on mental health. In this context, the translation, cultural adaptation and validation of the assessment instrument on a nationally representative sample of Ukrainian users are particularly important for the reliable evaluation of problematic social media use. The aim of the study was to adapt the Ukrainian version of the six-item *Bergen Social Media Addiction Scale* (BSMAS), to assess its psychometric properties and to substantiate its applicability for further scientific research in Ukraine. The Ukrainian version of the BSMAS was developed using the forward–backward translation method of the original English version. A total of 566 Ukrainian participants (64 men and 502 women, aged 14–74 years) have completed the BSMAS via online Google Form survey, along with additional instruments measuring internet addiction, difficulties in emotion regulation, stress, anxiety and depression. Data analysis was conducted using StatSoft Statistica 12 and Jamovi software. The findings of the confirmatory factor analysis supported the one-factor structure of the BSMAS. Evaluation of the key fit indices CFI = .980, TLI = .962, RMSEA = .026, SRMR = .026) indicated an acceptable model fit. Reliability estimates (Cronbach's α = .77; McDonald's ω = .77; split-half = .82) demonstrated good internal consistency of the scale. Significant correlations were found between the total BSMAS score and CIUS scores, the total score and subscales of the DERS, as well as depression, anxiety and stress indicators measured by the DASS-21, providing evidence of construct validity. The obtained results provide initial evidence supporting the use of the Ukrainian version of the BSMAS as a reliable and valid psychodiagnostic instrument for the accurate assessment of problematic social media use as a component of mental health among Ukrainian-speaking populations in Ukraine and abroad.

Keywords: *social media, addiction, problematic use, psychometric assessment, validation, psychological distress, emotional dysregulation.*

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Животовська Лілія, Лукова Світлана. Валідизація та психометричні показники української версії Бергенської шкали залежності від соціальних мереж.

Анотація. За останнє десятиріччя соціальні мережі стали однією з найпоширеніших онлайн-активностей і невід'ємною частиною повсякденного життя, що зумовлює зростання наукового інтересу до їхнього використання та впливу на психічне здоров'я. У цьому контексті особливої актуальності набуває переклад, культурна адаптація та валідизація інструменту на національно репрезентативній вибірці українських користувачів для надійної оцінки проблемного використання соціальних мереж. Метою дослідження було адаптувати україномовну версію шестипунктової *Bergen Social Media Addiction Scale* (BSMAS), оцінити її психометричні характеристики та обґрунтувати можливість застосування в подальших наукових дослідженнях в Україні. Для створення україномовної версії BSMAS здійснено прямий і зворотний переклад англомовної шкали. Через онлайн-сервіс Google Form 566 українців (64 чоловіка, 502 жінки, віком 14–74 років) заповнили BSMAS разом з іншими методиками, що оцінюють показники інтернет-залежності, труднощів емоційної регуляції, стресу, тривоги та депресії. Аналіз отриманих даних здійснювали в програмах StatSoft Statistica 12 та Jamovi. За результатами конфірматорного факторного аналізу було підтверджено однофакторну структуру BSMAS. Перевірка основних індексів CFI=.980, TLI=.962, RMSEA=.026 та SRMR=.026 дозволила виявити прийнятну відповідність моделі. Отримані показники надійності (α Кронбаха = .77; ω Макдональда = .77; split-half = .82) свідчать про добру внутрішню узгодженість шкали. Існують значущі кореляції між загальним балом за шкалою BSMAS та CIUS, загальним показником та субшкалами DERS, показниками депресії, тривоги та стресу за шкалою DASS-21, що вказує на конструктну валідність. Отримані результати надають первинні свідчення на користь застосування україномовної версії BSMAS як надійного та валідного психодіагностичного інструменту для коректної оцінки проблемного використання соціальних мереж як складової психічного здоров'я серед україномовного населення в Україні та за її межами.

Ключові слова: *соціальні мережі, залежність, проблемне використання, психометрична оцінка, валідизація, психологічний дистрес, емоційна дисрегуляція*.

Introduction

The rapid growth in the popularity of social media over the past decade has significantly influenced the ways people communicate, develop relationships and perceive the world. According to the Digital 2026: Global Overview Report (Kemp, 2026), social media usage accounts for 93.8 % of all Internet users, while the number of active users has increased by 4.8 % over the past year, reaching 5.66 billion individuals, or 68.7 % of the global population. Social media remain the most popular form of leisure activity, with an average daily usage exceeding 2.5 hours, accounting for approximately 16 % of waking time among the online audience

Nowadays, the "social media" term refers to online services operating within the Internet environment that are used as tools for communication and social support, information exchange, self-presentation, and users' personal development. According to recent data, the primary motivation for social media

use worldwide is maintaining contact with friends and family (50.2 % of adult users), followed by "filling free time" (39.7 %), while "reading news" ranks among the main reasons for more than one third of active online participants (35.4 %) (Kemp, 2026). The number of engaged users continues to increase annually, particularly among young people (Primack et al., 2017). Consequently, scientific interest has focused both on the study of individual psychological well-being (Verduyn et al., 2017; Lukova et al., 2022), the causal relationships between stressors, psychoemotional disorders and sleep disturbances (Zhyvotovska et al., 2024; Boiko et al., 2024), as well as on the investigation of social media use and its impact on mental health and sleep-related problems (Levenson et al., 2016; Karim et al., 2020).

Studies devoted to the impact of Internet use, conducted on adolescent samples, revealed its associations with psychoemotional state, self-esteem and eating behavior (Ohorenko et al., 2024), as well as with online harassment, poor sleep quality, body image dissatisfaction, low self-esteem and depressive symptoms (Kelly et al., 2019). An indirect role of assessment of problematic social media use and fear of missing out has been identified in the development of emotional dysregulation and internet addiction among university students (Varchetta et al., 2023). Other reported consequences among students include sleep deprivation, negative emotional states, reduced attentional capacity, academic underachievement and decreased participation in sports and social activities (Li et al., 2015).

Excessive social media use is also associated with reduced levels of physical activity among young athletes, which may be accompanied by sleep disturbances and an exacerbation of depressive symptoms (Hudimova et al., 2021). Furthermore, evidence indicates a relationship between problematic social media use and psychological distress: the intensity and duration of use are considered risk factors for depression and anxiety (Lopes et al., 2022), whereas sleep quality may act as a mediating factor in the development of negative outcomes related to excessive online activity (Alonzo et al., 2021). In particular, social media use has been shown to correlate positively with depression, anxiety and sleep disturbances, and negatively with overall well-being, highlighting its impact on psychoemotional state and daily functioning across different age groups (Ahmed et al., 2024).

In global research practice, several instruments are available for assessing problematic social media use, among which the *Bergen Social Media Addiction Scale* (BSMAS) is the most widely used and most frequently applied. This scale was adapted from the *Bergen Facebook Addiction Scale* (BFAS) (Andreassen et al., 2012) by replacing the word "Facebook" with the broader term "social media." The instrument is theoretically grounded and based on the components model of addiction (Griffiths, 2005), which comprises six core components: salience,

mood modification, tolerance, withdrawal symptoms, conflict and relapse. Salience reflects the dominance of social media in an individual's life, mood modification refers to the use of social media to improve emotional state, tolerance denotes the need to increase addictive activity to achieve the desired effect, withdrawal symptoms involve discomfort experienced when such activity is restricted, conflict encompasses intrapersonal and interpersonal difficulties, and relapse refers to a return to previous patterns of use after a period of abstinence.

Based on empirical data obtained from large-scale studies, a cut-off score of 19 has been established to indicate problematic social media use (Bányai et al., 2017), and a clinical cut-off score of 24 is a marker of social media addiction (Luo et al., 2021).

The use of a short-form diagnostic instrument is particularly appropriate in studies employing a wide range of measures and/or under conditions of online data collection. The reliability and validity of the BSMAS have been confirmed by the findings of psychometric studies using both classical and modern approaches, including evidence of measurement invariance across different groups, which enables valid comparisons (Yue et al., 2022). The BSMAS has been adapted and validated in international samples in Hungarian (Bányai et al., 2017), Italian (Monacis et al., 2017), Greek (Dadiotis et al., 2021), English (Zarate et al., 2022), Romanian (Stănculescu, 2022), Korean (Shin, 2022), Bengali (Naher et al., 2022), French (Rouleau et al., 2023), etc., demonstrating good psychometric properties.

The validation of the BSMAS diagnostic instrument on a nationally representative sample of Ukrainian users is warranted by the widespread use of social media, the marked increase in user activity over the past decade and the limited availability of Ukrainian-language psychodiagnostic measures.

The aim of the present study was to validate the Ukrainian version of the Bergen Social Media Addiction Scale, to determine its psychometric properties and to assess its suitability for use in future scientific research.

Methods

Participants and Procedures

Data collection was conducted via Google Forms between March and June 2024. The project was implemented in accordance with the principles of the Declaration of Helsinki and its subsequent amendments (World Medical Association, 2013). Invitations containing a link to the Google Form were disseminated through social media platforms and communication chats of the

Ukrainian community. All Ukrainian-speaking respondents were informed about the purpose of the study, its duration, confidentiality conditions, and provided voluntary informed consent prior to participation, along with selected sociodemographic information and responses to the questionnaires. Data from 15 respondents were excluded from the analysis due to missing indicators, and 3 respondents were excluded because they reported minimum scores across all scales. The final sample consisted of 566 participants. The mean age of the participants was M = 33.8 years (Min = 14, Max = 74, SD = 14.89). The age distribution was positively skewed (Med = 32; Shapiro–Wilk W = .93319; $p < .0001$).

Materials

To assess social media use over the past 12 months, the Ukrainian translation of the Bergen Social Media Addiction Scale (BSMAS) was administered, where each item is rated on a 5-point Likert scale ranging from 1 (very rarely) to 5 (very often). The total score ranges from 6 to 30, with higher scores reflecting greater severity of problematic social media use. The study by Andreassen et al., 2016 confirmed the high internal consistency of the scale (Cronbach's $\alpha = .88$;).

To study the construct validity of the Ukrainian version of the BSMAS, the respondents completed additional instruments assessing internet addiction, difficulties in emotion regulation, stress, anxiety and depression.

The Compulsive Internet Use Scale (CIUS) was selected as a brief diagnostic instrument widely used in contemporary research on addictive internet behavior (Gmel et al., 2019). The short form of the CIUS is a highly reliable measure comprising eight items that assess problems related to Internet use. Responses are rated on a 5-point Likert scale ranging from 0 (never) to 4 (very often). The scale demonstrates good internal consistency with Cronbach's $\alpha = .829$.

The Difficulties in Emotion Regulation Scale (DERS) consists of 36 items, each rated on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always) (Gratz & Roemer, 2004). Total scores range from 36 to 180, with higher scores indicating greater difficulties in emotion regulation. The DERS comprises six subscales: nonacceptance of emotional responses, difficulties engaging in goal-directed behavior, impulse control difficulties, lack of emotional awareness, limited access to emotion regulation strategies and lack of emotional clarity. The scale demonstrates good internal consistency with Cronbach's $\alpha = .70$ (Sak & Fedotova, 2023).

The Depression Anxiety Stress Scales – 21 (DASS-21) is a 21-item self-report scale designed to measure negative emotional states, comprising three subscales that assess the severity of symptoms of depression, anxiety and stress over the past week (Lovibond & Lovibond, 1995). The items are rated on a 4-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). The DASS-21 demonstrates high internal consistency for each subscale: .92 for depression, .90 for stress, and .86 for anxiety.

Data Analysis

Data were analyzed using StatSoft Statistica 12 and Jamovi, applying descriptive statistics to assess the reliability and structural validity of the scale. Internal consistency was evaluated using Cronbach's α and McDonald's ω, along with analyses of mean item-total correlations, inter-item correlations, and split-half reliability. The suitability of the data for factor analysis was assessed using Bartlett's test of sphericity ($p < .05$), and sample adequacy was evaluated using the Kaiser-Meyer-Olkin (KMO) measure, where values ≥ .6 are considered mediocre, ≥ .7 – acceptable, and ≥ .8 – indicative of adequate sampling adequacy (Shrestha, 2021).

To examine the factorial structure and assess model fit to the empirical data, Confirmatory Factor Analysis (CFA) was conducted. Model fit was interpreted as acceptable for Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) values above .90, and as good for values above .95. Additionally, the Root Mean Square Error of Approximation (RMSEA) with its 90% confidence intervals and the Standardized Root Mean Square Residual (SRMR) were evaluated, with lower values indicating better fit. Thresholds of .05–.08 were considered indicative of acceptable fit, and values < .05 were considered indicative of good fit (Brown, 2015; Pavlov et al., 2021). Given the ordinal nature of the BSMAS items, model fit indices were estimated using the Weighted Least Squares Mean and Variance adjusted method (Wu & Estabrook, 2016).

Data screening using the Shapiro-Wilk and Kolmogorov-Smirnov tests indicated that the dataset conformed to a normal distribution. The mean BSMAS score was 12.68, the median was 12, skewness – .44, and kurtosis – .26, which also met the assumptions of normality; therefore, parametric statistical methods were applied. To study the relationships between variables, correlation analysis was performed (Pearson's r correlation coefficient). Statistical significance was set at $p < .05$.

Results

Linguistic Validity

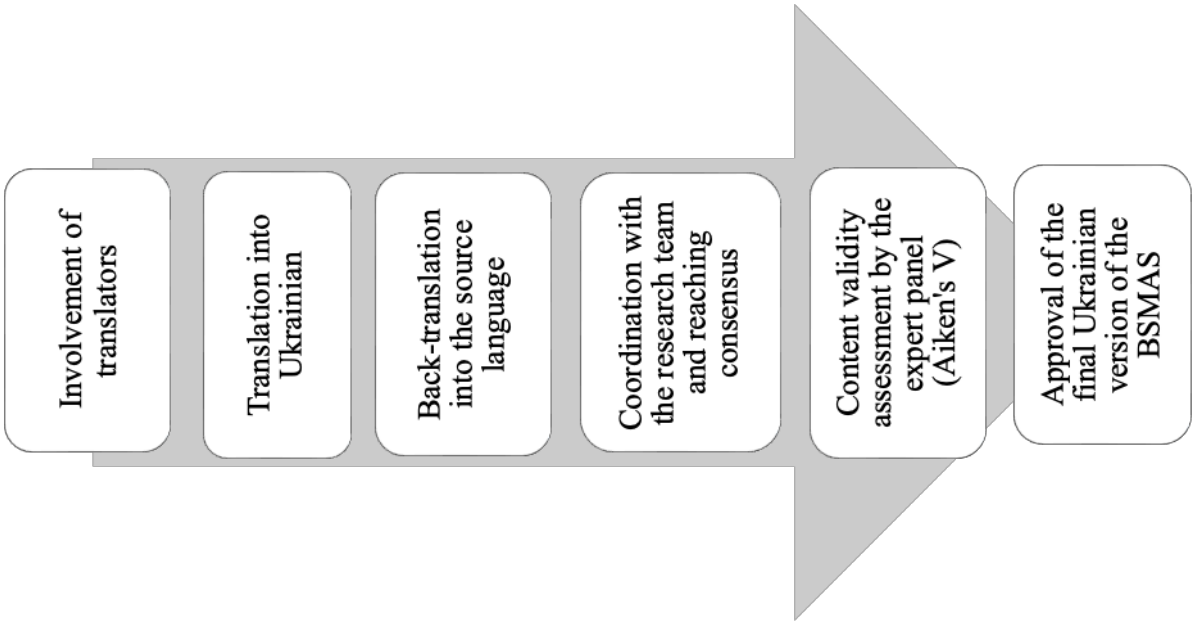
The Ukrainian translation of the Bergen Social Media Addiction Scale (BSMAS) was conducted following a standard forward-backward translation procedure

performed by two independent translators. The process of linguistic adaptation and content validation of the Ukrainian version of BSMAS is presented in Figure 1.

Upon completion of the translation, the research team refined item wording and made necessary adjustments. The translators also identified several linguistic constructions that required careful selection of lexical equivalents to ensure maximal accuracy in conveying the meaning of terms used in the original scale.

Figure 1

Stages of Translation, Adaptation and Expert Evaluation of the Ukrainian Version of the BSMAS



Specifically, for the item assessing respondents' tolerance to social media use, the English term "an urge" was translated not as "потяг", but as the more socially acceptable term "бажання". During the translation of the fifth item, a discussion arose regarding the adjectives "restless" and "troubled", which describe a state of personal unease. Among possible translations of "restless" – "неспокійний", "метушливий", "знервований" – the term "неспокійний" was selected as the most neutral option, directly indicating the absence of calm without describing behavioral manifestations. The translation of the term "troubled" was selected from among the lexical options "занепокоєний", "стурбований", "стривожений", "роздратований". The term "стурбований" was chosen as it reflects the individual's experience of concern without implying an intense emotional reaction. The selection of these lexical constructs was guided by the goal of minimizing potential social desirability effects.

The content validity of the questionnaire was evaluated by a panel of four experts, each of whom rated every item of the scale. The Aiken's V coefficient was .94, indicating high content validity. The Ukrainian version of the questionnaire is provided in the Appendix.

Structural Validity

The means and standard deviations of the items of the Bergen Social Media Addiction Scale are presented in Table 1.

Table 1
Means and Standard Deviations for Each Item of the Bergen Social Media Addiction Scale

Item No	Addiction Component	Means	Standard deviations	Skewness	Kurtosis
1	Salience	2.01	1.06	.76	-.17
2	Tolerance	2.48	1.07	.38	-.37
3	Mood Modification	2.47	1.26	.31	-.98
4	Relapse	2.12	1.16	.75	-.37
5	Withdrawal Symptoms	1.92	1.14	.99	-.07
6	Conflict	1.69	1.02	1.40	1.26
	Total Score	12.68	4.57	.64	.26

Based on the item-level means, the most prominent items in the sample were Item 2 (Tolerance) and Item 3 (Mood Modification), while the least prominent was Item 6 (Conflict).

According to the proposed cut-off score for social media addiction (24-30 points) (Luo et al., 2021), the prevalence of social media addiction in our sample was 1.94%, while problematic use, defined as scores above 19 points, was observed in 9.54% of participants.

The Ukrainian version of the BSMAS demonstrated acceptable reliability (Cronbach's $\alpha = .77$; McDonald's $\omega = .77$). The item-level analysis indicated that all six items showed moderate to high inter-item correlations, ranging from $r = .63$ to $r = .71$, as shown in Table 2. The potential removal of any individual item would not increase the internal consistency of the scale.

Inter-item correlations were acceptable, ranging from .277 to .490, which falls within the recommended range of .150 to .500 (Clark & Watson, 2019). The mean item-total correlations ranged from .63 to .71. The Split-Half Reliability

coefficient, calculated by dividing the scale into odd- and even-numbered items, was .82, indicating good internal consistency of the questionnaire.

Table 2
Cronbach's α If an Item Deleted and Inter-Item Correlations for the BSMAS

Item No	Cronbach's α	BSMAS Item Score	1	2	3	4	5
1	.74	.63					
2	.73	.69	.401				
3	.74	.68	.277	.393			
4	.73	.69	.297	.363	.382		
5	.73	.69	.298	.361	.290	.371	
6	.72	.71	.370	.313	.352	.409	.490

Factorial Validity

To assess the unidimensionality and basic factorial structure of the BSMAS data, the suitability of the correlation matrix was examined. Bartlett's test of sphericity indicated that the data were appropriate for factor analysis ($\chi^2 = 723$, $df = 15$, $p < .001$), and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .814. Factor loadings for the BSMAS items ranged from .539 to .664.

A confirmatory factor analysis (CFA) using the least squares method was performed on a single latent factor model (Model 1). Model fit was considered acceptable according to established guidelines (Hooper et al., 2008), although the RMSEA value (.084) slightly exceeded the recommended threshold. A model with an added error covariance between Items 2 and 6 (Model 2) yielded substantially improved fit indices, as summarized in Table 3.

Table 3
Model Fit Indices for Two Models

Models	χ^2	f	*p*-value	CFI	TLI	RMSEA	SRMR	Overall Evaluation
Hooper et	-	-	>.05	>.90	>.90	<.10	<.10	Acceptable fit
al. (2008)	-	-	>.05	>.95	>.95	<.08	<.08	Good fit
– guide-								
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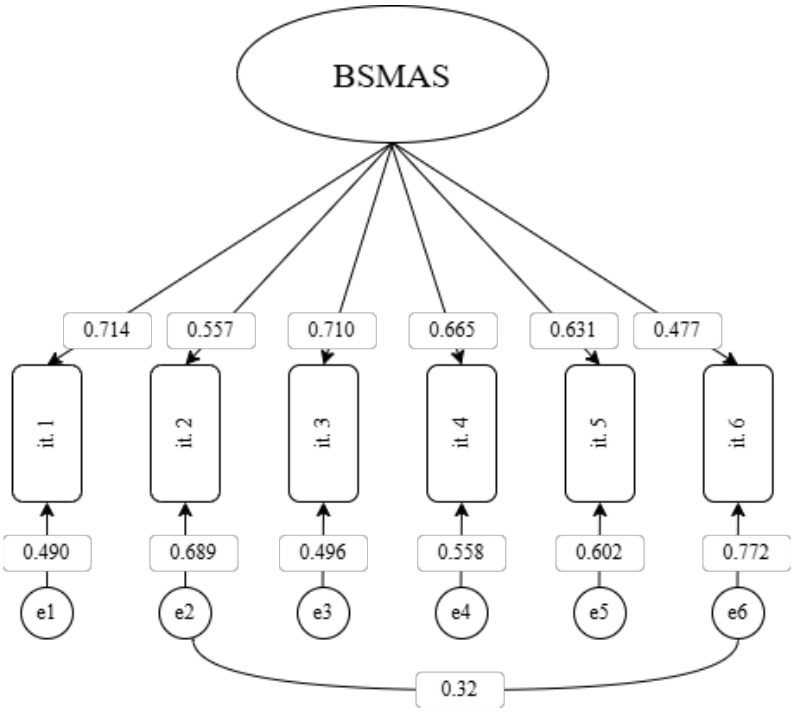
Model 1	5	9	<.001	.949	.914	.084	.034	Acceptable fit
Model 2	22.4	8	.004	.980	.962	.026	.026	Good fit

Note: CFI – Comparative Fit Index; TLI – Tucker-Lewis Index; RMSEA – Root Mean Square Error of Approximation; SRMR – Standardized Root Mean Square Residual.

The standardized factor loadings, depicted in the path diagram (see Figure 2), ranged from .477 to .714 and were statistically significant ($p < .001$).

Figure 2
Path Diagram of the One-Factor Model of the BSMAS



The confirmatory factor analysis indicated that the overall fit of the unidimensional model was good.

Construct Validity

Correlation coefficients between the variables are presented in Table 4. The strongest association was observed between social media addiction and Internet addiction (r = .65), whereas the weakest associations were found with non-acceptance of emotional responses and difficulties engaging in goal-directed behavior (r = .39).

Table 4
Correlations Between BSMAS Scores and Mental Health Factors

Mental Health Factors	**Social Media Addiction**	
	r	p
Internet Addiction	.65	<.0001
Total Difficulties in Emotion Regulation	.50	<.0001
Non-Acceptance of Emotional Responses	.39	<.0001

Difficulties Engaging in Goal-Directed Behavior	.39	<.0001
Impulse Control Difficulties	.42	<.0001
Lack of Emotional Awareness	.04	>.05
Limited Access to Emotion Regulation Strategies	.50	<.0001
Lack of Emotional Clarity	.44	<.0001
Depression	.52	<.0001
Anxiety	.48	<.0001
Stress	.46	<.0001

All correlations were statistically significant at the $p < .0001$ level. No significant association was found with "Lack of Emotional Awareness" ($p > .05$). These findings indicate good construct validity of the BSMAS (Clark & Watson, 2019).

Discussion

The aim of this study was to evaluate the psychometric properties of the Bergen Social Media Addiction Scale (BSMAS) in a Ukrainian sample, which included both adolescent and adult respondents. Assessment of the construct validity and reliability of the Ukrainian version of the BSMAS demonstrated acceptable internal consistency ($\alpha = .77$; $\omega = .77$; split-half = .82), which is generally consistent with findings from other language adaptations. For instance, the Jordanian version of the BSMAS reported $\alpha = .79$, $\omega = .79$ (Al-Dassean & Murad, 2025), and studies on the Arabic version indicated reliability coefficients of $\alpha = .74$, $\omega = .78$ (Abiddine et al., 2025). Higher reliability values were observed in studies using the Spanish sample, where $\alpha = .863$, $\omega = .864$ (Copez-Lonzoy et al., 2023) and the Korean sample ($\alpha = .86$) (Shin, 2022). According to a meta-analysis of 28 studies ($n = 62{,}406$), the pooled reliability coefficient was $\alpha = .83$, ranging from .73 to .91 across different subgroups (Bottaro et al., 2025). Thus, although the reliability estimates obtained in the present study are slightly lower than the overall pooled coefficient, they are fully adequate and indicate good reliability of the instrument.

The findings of the confirmatory factor analysis confirmed the one-factor structure of the questionnaire, with CFI, TLI, RMSEA and SRMR indices indicating acceptable model fit. The lowest factor loadings were observed for Item 2 (Tolerance; 0.557) and Item 6 (Conflict; 0.477), which also exhibited the largest error variances (0.689 and 0.772, respectively). Accordingly, an error covariance between these items was incorporated, which substantially improved model fit. Specifically, RMSEA decreased from 0.084 in Model 1 to 0.026 in Model 2. This covariance has a theoretical justification: tolerance, reflected in habituation to social media use and an increased desire to engage, may be associated with conflict arising from frequent social media use, which negatively

affects work/study performance. In the current Ukrainian context, the frequency of social media use is directly related to personal safety during the war, as citizens rely on social media channels for timely notifications of air raid alerts and other rapidly changing security information. Although in most BSMAS studies the model fit was acceptable without modifications, the Italian validation also incorporated an error covariance between Item 1 (Salience) and Item 2 (Tolerance), which improved the model, reducing RMSEA from 0.094 in Model 1 to 0.055 in Model 2. The authors attributed this improvement to the relationship between the need for salience and the necessity to increase activity to achieve desired outcomes, as captured by tolerance (Monacis et al., 2017). Thus, the modification applied to the Ukrainian version of the BSMAS resulted in an excellent model fit.

The hypothesis of good convergent validity of the Ukrainian BSMAS was supported, as correlations between BSMAS scores and CIUS scores were strong and statistically significant. The analysis also revealed a strong association with depression and moderate associations with anxiety and stress. Consistent with previous studies using the DASS-21, higher BSMAS scores were associated with higher levels of depression, anxiety and stress, which aligns with the theoretical assumption that problematic social media use is linked to psychological distress (Dadiotis et al., 2021; Sadeghi et al., 2025).

The convergent validity of the BSMAS was confirmed by a positive and strong association with the total score of the Difficulties in Emotion Regulation Scale (DERS) ($r = .504$, $p < .0001$). Higher levels of problematic social media use were associated with greater emotional dysregulation, with the exception of the "Lack of Emotional Awareness" subscale. These findings are consistent with those of Hew & Chew (2025), where BSMAS demonstrated positive correlations with the total DERS-36 score and all subscales, except for "Lack of Emotional Awareness", which was not statistically significant. Similarly, another study reported a moderate positive correlation between BSMAS and DERS-36 ($r = .380$, $p < .01$), further supporting the scale's convergent validity through its association with the related construct of emotional dysregulation (Quaglieri et al., 2021). Moreover, higher DERS scores were shown to correlate significantly with higher BSMAS scores (Varallo et al., 2022; Hutcheson et al., 2025). Consistent results have also been reported for the short-form DERS-16, with BSMAS positively associated with both the total score and its subscales, supporting the validity of the scale through its relationship with problematic social media use and difficulties in emotion regulation (Hussain et al., 2021; Özmen & Güzel, 2022).

In the present study, the prevalence of problematic social media use with BSMAS ≥19 was 9.54%, which is slightly higher than rates reported in the literature. Among adolescents, the proportion of individuals at risk was 4.5 %

(Bányai et al., 2017), while among adults, prevalence ranged from 2 % to 7 %, depending on the sample and study design. In Denmark, based on a national longitudinal survey of adults (n = 1,958; 16–64 years), the proportion of participants with BSMAS ≥19 was 2.3 % (Santini et al., 2024). At the same time, the prevalence of social media addiction (BSMAS ≥24) was lower in our study (1.94 %) compared with other reports. For example, in Romania, among the adult population (n = 705; 18–54 years), 4.25 % of participants exceeded the clinical threshold (Stănculescu, 2022). Additionally, in a large adolescent sample, clinically significant use with the threshold of ≥24 was reported in 3.5 % of participants (Luo et al., 2021).

According to a nationally representative survey in Germany (n = 3,091; 18–74 years), examining the relationship between social media addiction and fear of war, 7.0 % of respondents met the criteria for problematic use, and 2.0 % met the threshold for addiction (Hajek et al., 2022), which broadly aligns with our findings. Considering that data from the Ukrainian sample were collected during the full-scale war, whereas the German study was conducted in peacetime, albeit against a backdrop of heightened fear of conflict, the relationship between problematic social media use and war-related stressors warrants further investigation.

Limitations of the Study

Several limitations of this study should be noted. Our sample included 566 participants aged 14–74 years, with women comprising 88.7 % of the respondents, highlighting the need for further randomized studies to clarify the psychometric properties of the BSMAS across different age groups and considering sex differences. To enhance the external validity of the findings, additional research on clinical samples using objective assessment methods would be beneficial. Moreover, the current study did not examine the temporal stability of the BSMAS scores. Although previous research has demonstrated stability over a three-month period (Chen et al., 2020), further studies are required to confirm the long-term reliability of the Ukrainian version of the BSMAS.

Conclusion

The evaluation of the *Bergen Social Media Addiction Scale* in the Ukrainian sample allowed for the determination of the scale's psychometric properties. The study confirmed the one-factor structural, content, factorial and convergent validity of the BSMAS, as well as good reliability and internal consistency of its subscales. The use of this simple and practical instrument with adequate

psychometric characteristics can be valuable for mental health professionals, as well as for researchers conducting screening and studies on social media addiction in Ukraine, and in cross-cultural research.

CRediT Statement

Liliia Zhyvotovska: Conceptualization, Formal Analysis, Investigation, Resources, Data Curation, Writing – Review & Editing, Supervision, Project Administration; **Svitlana Lukova:** Methodology, Software, Validation, Investigation, Data Curation, Writing – Original Draft, Visualization.

Disclosure Statement

The authors reported no potential conflicts of interest.

Generative AI Statement

During the preparation of this work the authors did not use any GenAI tools.

References

Andreassen, C., Billieux, J., Griffiths, M. D., Kuss, D. J., Demetrovics, Z., Mazzoni, E., & Pallesen, S. (2016). The relationship between addictive use of social media and video games and symptoms of psychiatric disorders: A large-scale cross-sectional study. *Psychology of addictive behaviors : journal of the Society of Psychologists in Addictive Behaviors*, *30*(2), 252-262. https://doi.org/10.1037/adb0000160

Abiddine, F. Z. E., Aljaberi, M. A., Alduais, A., et al. (2025). The psychometric properties of the Arabic Bergen Social Media Addiction Scale. *International Journal of Mental Health and Addiction, 23*, 3395-3415. https://doi.org/10.1007/s11469-024-01297-x

Ahmed, O., Walsh, E. I., Dawel, A., Alateeq, K., Espinoza Oyarce, D. A., & Cherbuin, N. (2024). Social media use, mental health and sleep: A systematic review with meta-analyses. *Journal of Affective Disorders*, *367*, 701-712. https://doi.org/10.1016/j.jad.2024.08.193

Al-Dassean, K. A., & Murad, O. S. (2025). Psychometric validation of the Jordanian version of the Bergen Social Media Addiction Scale (BSMAS). *Cogent Psychology*, *12*(1). https://doi.org/10.1080/23311908.2025.2504763

Alonzo, R., Hussain, J., Stranges, S., & Anderson, K. K. (2021). Interplay between social media use, sleep quality, and mental health in youth: A systematic review. *Sleep Medicine Reviews*, *56*, 101414. https://doi.org/10.1016/j.smrv.2020.101414

Andreassen, C. S., Torsheim, T., Brunborg, G. S., & Pallesen, S. (2012). Development of a Facebook Addiction Scale. *Psychological Reports*, *110*(2), 501-517. https://doi.org/10.2466/02.09.18.PR0.110.2.501-517

Bányai, F., Zsila, Á., Király, O., Maraz, A., Elekes, Z., Griffiths, M. D., Andreassen, C. S., & Demetrovics, Z. (2017). Problematic Social Media Use: Results from a Large-Scale

Nationally Representative Adolescent Sample. *PloS One*, *12*(1), e0169839. https://doi.org/10.1371/journal.pone.0169839

Boiko, D. I., Shyrai, P. O., Mats, O. V., Karpik, Z. I., Rahman, M. H., Khan, A. A., Alanazi, A. M., & Skrypnikov, A. M. (2024). Mental health and sleep disturbances among Ukrainian refugees in the context of Russian-Ukrainian war: A preliminary result from online-survey. *Sleep Medicine*, *113*, 342-348. https://doi.org/10.1016/j.sleep.2023.12.004

Bottaro, R., Griffiths, M. D., & Faraci, P. (2025). Meta-analysis of reliability and validity of the bergen social media addiction scale (bsmas). *International Journal of Mental Health and Addiction.* Advance online publication. https://doi.org/10.1007/s11469-025-01461-x

Brown, T. A. (2015). *Confirmatory factor analysis for applied research* (2nd ed.). Guilford Press.

Chen, I. H., Strong, C., Lin, Y. C., Tsai, M. C., Leung, H., Lin, C. Y., Pakpour, A. H., & Griffiths, M. D. (2020). Time invariance of three ultra-brief internet-related instruments: Smartphone Application-Based Addiction Scale (SABAS), Bergen Social Media Addiction Scale (BSMAS), and the nine-item Internet Gaming Disorder Scale- Short Form (IGDS-SF9) (Study Part B). *Addictive Behaviors*, *101*, 105960. https://doi.org/10.1016/j.addbeh.2019.04.018

Clark, L. A., & Watson, D. (2019). Constructing validity: New developments in creating objective measuring instruments. *Psychological Assessment*, *31*(12), 1412-1427. https://doi.org/10.1037/pas0000626

Copez-Lonzoy, A., Vallejos-Flores, M., Capa-Luque, W., Salas-Blas, E., Montero Doig, A. M., Dias, P. C., & Bazo-Alvarez, J. C. (2023). Adaptation of the Bergen Social Media Addiction Scale (BSMAS) in Spanish. *Acta Psychologica*, *241*, 104072. Advance online publication. https://doi.org/10.1016/j.actpsy.2023.104072

Dadiotis, A., Bacopoulou, F., Kokka, I., Vlachakis, D., Chrousos, G. P., Darviri, C., & Roussos, P. (2021). Validation of the Greek version of the Bergen Social Media Addiction Scale in Undergraduate Students. *EMBnet.journal*, *26*, e975. https://doi.org/10.14806/ej.26.1.975

Gmel, G., Khazaal, Y., Studer, J., Baggio, S., & Marmet, S. (2019). Development of a short form of the compulsive internet use scale in Switzerland. *International Journal of Methods in Psychiatric Research*, *28*(1), e1765. https://doi.org/10.1002/mpr.1765

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment, 26*(1), 41-54. https://doi.org/10.1023/B:JOBA.0000007455.08539.94

Griffiths, M. (2005). A "components" model of addiction within a biopsychosocial framework. *Journal of Substance Use*, *10*(4), 191-197. https://doi.org/10.1080/14659890500114359

Hajek, A., Kretzler, B., & König, H.-H. (2022). Social Media Addiction and Fear of War in Germany. *Psychiatry International*, *3*(4), 313-319. https://doi.org/10.3390/psychiatryint3040025

Hew, Y. C., & Chew, P. K. H. (2025). Distress tolerance as a risk factor for specific internet-use disorders. *Journal of Technology in Behavioral Science*. https://doi.org/10.1007/s41347-025-00489-z

Hooper, D., Coughlan, J., & Mullen, M. R. (2008). *Structural equation modelling: Guidelines for determining model fit*. *The Electronic Journal of Business Research Methods, 6*(1), 53-60. https://doi.org/10.21427/D79B73

Hudimova, A., Popovych, I., Savchuk, O., Liashko, V., Pyslar, A., & Hrys, A. (2021). Research on the relationship between excessive use of social media and young athletes' physical activity. *Journal of Physical Education and Sport, 21*(6), 3364-3373. https://doi.org/10.7752/jpes.2021.06456

Hussain, Z., Wegmann, E., & Griffiths, M. D. (2021). The association between problematic social networking site use, dark triad traits, and emotion dysregulation. *BMC Psychology*, *9*(1), 160. https://doi.org/10.1186/s40359-021-00668-6

Hutcheson, E., Montag, C., & Elhai, J. (2025). Intolerance of uncertainty and emotion dysregulation mediate relations between fear of negative evaluation and problematic social media use severity. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, *19*(5), Article 7. https://doi.org/10.5817/CP2025-5-7

Karim, F., Oyewande, A. A., Abdalla, L. F., Chaudhry Ehsanullah, R., & Khan, S. (2020). Social Media Use and Its Connection to Mental Health: A Systematic Review. *Cureus*, *12*(6), e8627. https://doi.org/10.7759/cureus.8627

Kelly, Y., Zilanawala, A., Booker, C., & Sacker, A. (2019). Social Media Use and Adolescent Mental Health: Findings From the UK Millennium Cohort Study. *EClinicalMedicine*, *6*, 59-68. https://doi.org/10.1016/j.eclinm.2018.12.005

Levenson, J. C., Shensa, A., Sidani, J. E., Colditz, J. B., & Primack, B. A. (2016). The association between social media use and sleep disturbance among young adults. *Preventive Medicine*, *85*, 36-41. https://doi.org/10.1016/j.ypmed.2016.01.001

Li, W., O'Brien, J. E., Snyder, S. M., & Howard, M. O. (2015). Characteristics of internet addiction/pathological internet use in U.S. university students: a qualitative-method investigation. *PloS One*, *10*(2), e0117372. https://doi.org/10.1371/journal.pone.0117372

Lopes, L. S., Valentini, J. P., Monteiro, T. H., Costacurta, M. C. F., Soares, L. O. N., Telfar-Barnard, L., & Nunes, P. V. (2022). Problematic Social Media Use and Its Relationship with Depression or Anxiety: A Systematic Review. *Cyberpsychology, Behavior and Social Networking*, *25*(11), 691-702. https://doi.org/10.1089/cyber.2021.0300

Lovibond, P. F., & Lovibond, S. H. (1995). 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. https://doi.org/10.1016/0005-7967(94)00075-u

Lukova, S. V., Zhyvotovska, L. V., Kolomiytsev, H. A., Fomenko, K. I., & Beseda, N. A. (2022). Empirical research on the features of psychoemotional states of adolescent athletes during quarantine restrictions. Wiadomosci Lekarskie, 75(5, Pt. 2), 1347–1351. https://doi.org/10.36740/WLek202205222

Luo, T., Qin, L., Cheng, L., Wang, S., Zhu, Z., Xu, J., Chen, H., Liu, Q., Hu, M., Tong, J., Hao, W., Wei, B., & Liao, Y. (2021). Determination the cut-off point for the Bergen social media addiction (BSMAS): Diagnostic contribution of the six criteria of the components model of addiction for social media disorder. *Journal of behavioral addictions*, *10*(2), 281-290. https://doi.org/10.1556/2006.2021.00025

Monacis, L., de Palo, V., Griffiths, M. D., & Sinatra, M. (2017). Social networking addiction, attachment style, and validation of the Italian version of the Bergen Social Media Addiction Scale. *Journal of behavioral addictions*, *6*(2), 178-186. https://doi.org/10.1556/2006.6.2017.023

Naher, L., Hiramoni, F. A., Alam, N., & Ahmed, O. (2022). Psychometric assessment of the Bangla version of the Bergen Social Media Addiction Scale. *Heliyon*, *8*(7), e09929. https://doi.org/10.1016/j.heliyon.2022.e09929

Ohorenko, V., Tymofyeyev, R., Haribova, L., Kramarchuk, D., & Shornikov, A. (2024). Vykorystannya sotsial'nykh merezh pidlitkamy: potentsiynyy vplyv na psykhiku i povedinku. *Psykhosomatychna medytsyna ta zahal'na praktyka, 9*(2). https://doi.org/10.26766/pmgp.v9i2.473

Özmen, E., & Güzel, H. Ş. (2022). The relationship between attachment style, eating behavior, emotion regulation, and social media addiction during COVID-19 pandemic. *Neuropsychiatric Investigation, 60*(3), 78-84. https://doi.org/10.5152/Neuropsychiatric-Invest.2022.22011

Pavlov, G., Maydeu-Olivares, A., & Shi, D. (2021). Using the Standardized Root Mean Squared Residual (SRMR) to Assess Exact Fit in Structural Equation Models. *Educational and psychological measurement*, *81*(1), 110-130. https://doi.org/10.1177/0013164420926231

Primack, B. A., Shensa, A., Sidani, J. E., Whaite, E. O., Lin, L. Y., Rosen, D., Colditz, J. B., Radovic, A., & Miller, E. (2017). Social Media Use and Perceived Social Isolation Among Young Adults in the U.S. *American journal of preventive medicine*, *53*(1), 1-8. https://doi.org/10.1016/j.amepre.2017.01.010

Quaglieri, A., Biondi, S., Roma, P., Varchetta, M., Fraschetti, A., Burrai, J., Lausi, G., Martí-Vilar, M., González-Sala, F., Di Domenico, A., Giannini, A. M., & Mari, E. (2021). From Emotional (Dys)Regulation to Internet Addiction: A Mediation Model of Problematic Social Media Use among Italian Young Adults. *Journal of Clinical Medicine*, *11*(1), 188. https://doi.org/10.3390/jcm11010188

Rouleau, R. D., Beauregard, C., & Beaudry, V. (2023). A rise in social media use in adolescents during the COVID-19 pandemic: the French validation of the Bergen Social Media Addiction Scale in a Canadian cohort. *BMC Psychology*, *11*(1), 92. https://doi.org/10.1186/s40359-023-01141-2

Sak, L. V. & Fedotova, Z.V. (2023). KROS-kul'turna adaptatsiya ta validyzatsiya ukrayinomovnoyi versiyi shkaly trudnoshchiv emotsiynoyi rehulyatsiyi DERS: aprobatsiya u khvorykh pidlitkiv na nervovu anoreksiyu ta yikh bat'kiv/opikuniv. *Psykhiatriya, Nevrolohiya ta Medychna Psykholohiya*, (21), 38-45. https://doi.org/10.26565/2312-5675-2023-21-05

Santini, Z. I., Thygesen, L. C., Andersen, S., Tolstrup, J. S., Koyanagi, A., Nielsen, L., Meilstrup, C., Koushede, V., & Ekholm, O. (2024). Social media addiction predicts compromised mental health as well as perceived and objective social isolation in Denmark: A longitudinal analysis of a nationwide survey linked to register data. *International Journal of Mental Health and Addiction, 23*, 3136-3153. https://doi.org/10.1007/s11469-024-01283-3

Shin N. Y. (2022). Psychometric Properties of the Bergen Social Media Addiction Scale in Korean Young Adults. *Psychiatry Investigation*, *19*(5), 356-361. https://doi.org/10.30773/pi.2021.0294

Shrestha, N. (2021). Factor Analysis as a Tool for Survey Analysis. *American Journal of Applied Mathematics and Statistics*, *9*(1), 4-11. https://doi.org/10.12691/ajams-9-1-2

Stănculescu E. (2022). The Bergen Social Media Addiction Scale Validity in a Romanian Sample Using Item Response Theory and Network Analysis. *International Journal of Mental Health and Addiction*, 1-18. Advance online publication. https://doi.org/10.1007/s11469-021-00732-7

Varallo, G., Musetti, A., D'Anselmo, A., Gori, A., Giusti, E. M., Pizza, F., Castelnuovo, G., Plazzi, G., & Franceschini, C. (2022). Exploring Addictive Online Behaviors in Patients with Narcolepsy Type 1. *Healthcare (Basel, Switzerland)*, *10*(11), 2169. https://doi.org/10.3390/healthcare10112169

Varchetta, M., González-Sala, F., Mari, E., Quaglieri, A., Fraschetti, A., Cricenti, C., Giannini, A. M., & Martí-Vilar, M. (2023). Psychosocial risk factors of technological addictions in a sample of Spanish University students: The influence of Emotional (Dys)Regulation, personality traits and Fear of Missing Out on internet addiction. *Psychiatry Research*, *329*, 115518. https://doi.org/10.1016/j.psychres.2023.115518

Verduyn, P., Ybarra, O., Résibois, M., Jonides, J., & Kross, E. (2017). Do social network sites enhance or undermine subjective well-being? A critical review. *Social Issues and Policy Review, 11*(1), 274-302. https://doi.org/10.1111/sipr.12033

World Medical Association. (2013). *Declaration of Helsinki: Ethical principles for medical research involving human subjects*. https://www.wma.net/what-we-do/medical-ethics/declaration-of-helsinki/

Wu, H., & Estabrook, R. (2016). Identification of Confirmatory Factor Analysis Models of Different Levels of Invariance for Ordered Categorical Outcomes. *Psychometrika*, *81*(4), 1014-1045. https://doi.org/10.1007/s11336-016-9506-0

Yue, H., Zhang, X., Cheng, X., Liu, B., & Bao, H. (2022). Measurement Invariance of the Bergen Social Media Addiction Scale Across Genders. *Frontiers in Psychology*, *13*, 879259. https://doi.org/10.3389/fpsyg.2022.879259

Zarate, D., Hobson, B. A., March, E., Griffiths, M. D., & Stavropoulos, V. (2022). Psychometric properties of the Bergen Social Media Addiction Scale: An analysis using item response theory. *Addictive Behaviors Reports, 17,* 100473. https://doi.org/10.1016/j.abrep.2022.100473

Zhyvotovska, A., Boiko, D., Bodnar, L., Kozar, Y., Martynenko, Y., & Isakov, R. (2024). The relationship between sleep disorders, level of psychological stress and state-trait anxiety in patients with anxiety disorders. *Acta Facultatis Medicae Naissensis, 41*, 344–354. https://doi.org/10.5937/afmnai41-47327

Sources

Kemp, S. (2026). Digital 2026: Global Overview Report. 2026. https://datareportal.com/reports/digital-2026-global-overview-report

Appendix

Bergen Social Media Addiction Scale (Ukrainian Version)

Бергенська шкала залежності від соціальних мереж (Українська версія)

Будь ласка, уважно прочитайте кожне з наведених тверджень та вкажіть наскільки протягом останнього року це вірно для вас, використовуючи шкалу оцінки, де:

1– дуже рідко

2 – рідко

3 – іноді

4 – част

5 – дуже часто

1. Ви витрачаєте багато часу на роздуми про соціальні мережі або планування того, як ними користуватися.
2. Ви відчуваєте бажання все частіше використовувати соціальні мережі.
3. Ви використовуєте соціальні мережі, щоб забути про особисті проблеми..
4. Ви безуспішно намагалися скоротити використання соціальних мереж.
5. Ви стаєте неспокійними або стурбованими, якщо вам забороняють користуватися соціальними мережами.
6. Ви так часто використовуєте соціальні мережі, що це негативно вплинуло на вашу роботу/навчання.