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Psychometric Evaluation of the English Language Version of the Instagram Addiction Scale-15 Among English-Speaking Indian Adults

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Abstract

Instagram's popularity has raised concern about its problematic use. However, no validated scales assessing Instagram addiction exist in the Indian context. The present study evaluated the psychometric properties of the 15-item Instagram Addiction Scale (IAS-15) among Indian adults. In total, 301 participants (M_{age} = 22.89 years) were recruited using a convenience sampling technique. Confirmatory factor analysis indicated that the two components of the IAS-15, social effect and compulsion, had suitable factor loadings: CMIN/DF (chi-square/degree of freedom) = 2.531, GFI (goodness of fit index) = 0.903, IFI (incremental fit index) = 0.965, TLI (Tucker-Lewis index) = 0.958, CFI (comparative fit index) = 0.965, and RMSEA (root mean square error of approximation) = 0.071. This was further improved by drawing covariances between theoretically linked items (CMIN/DF = 2.273, GFI = 0.916, IFI = 0.972, TLI = 0.965, CFI = 0.971, and RMSEA = 0.065). Strong convergent validity with a significant and positive correlation with social media addiction (r = 0.899), and strong concurrent validity with depression (r = 0.778), anxiety (r = 0.777), stress (r = 0.815), and negative correlations with self-esteem (r = −0.635) were observed. The IAS-15 demonstrated excellent internal consistency with Cronbach's alpha (α) and McDonald's omega (ω) coefficients of reliability for the overall scale (α = 0.962 and ω = 0.963) and its two subscales, social effect (α = 0.941 and ω = 0.942) and compulsion (α = 0.922 and ω = 0.922). Findings confirm that the IAS-15 is a valid and reliable instrument for assessing Instagram addiction among Indian adults.

Keywords: Instagram addiction, social media, psychometric validation, mental health, India

Over the past two decades, the proliferation of social networking sites (SNSs), such as Facebook, Twitter, and Instagram, has profoundly reshaped human interaction, information consumption, and even self-perception, creating dynamic opportunities while also presenting significant challenges for individuals and societies alike (Kircaburun & Griffiths, 2018; Ponnusamy et al., 2020). Social media has become an integral part of daily life, particularly for young adults and students, often replacing traditional leisure activities (Zhao & Zhou, 2020). Studies have demonstrated that social media can enhance human interaction, psychological well-being, and the learning experience (Bhatiasevi, 2024). However, in some cases, excessive social media use can lead to negative outcomes, such as lower self-esteem, increased depressive symptoms, and heightened social comparisons (Lin et al., 2016). The fear of missing out (FoMO) can worsen these issues by compelling individuals to remain constantly connected (Prabowo & Dewi, 2021). Such use can result in problematic social media use (PSMU), and in

its most extreme form has been termed ‘social media addiction’ (Kuss & Griffiths, 2017). PSMU is characterized by excessive, compulsive, and uncontrollable use, resulting in negative consequences for mental health and well-being (Kuss & Griffiths, 2017).

Among SNS platforms, Instagram has become very popular worldwide due to its focus on visual content and social networking features (Kircaburun & Griffiths, 2018). With over one billion monthly active users, Instagram is one of the fastest-growing social media platforms (León-Alberca et al., 2024). In global rankings, India remains among the top countries in terms of Instagram use, with 229.6 million active users, approximately 17% of the Indian population (Statista, 2023). The success and popularity of Instagram among young adults can be attributed to its features, which enable users to gain instant popularity and co-create value with opinion leaders (Casaló et al., 2020).

Additionally, Instagram offers instant gratification through ‘likes’ and comments. This, combined with meticulously curated portrayals of seemingly perfect lifestyles and an endless influx of fresh content, amplifies the platform’s potentially addictive nature, raising concerns about its detrimental effects on mental health, well-being, and real-life functioning (Nasser et al., 2020). Studies have associated high Instagram use with increased instances of anxiety, depression, and body image concerns (Mackson et al., 2019) and self-objectification among young women, fostering negative self-perception and mental distress (Fardouly et al., 2018). Moreover, Instagram facilitates social comparison, which can exacerbate feelings of inadequacy (Shaohai & Ngien, 2020) and interpersonal disconnection (Sherlock & Wagstaff, 2019). Despite these challenges, Instagram has potential benefits, such as providing mental health support and fostering community-building. Access to mental health-related resources can offer solace and connection for individuals dealing with similar issues (Thomas et al., 2020). This demonstrates the platform’s dual-edged nature (Lekgothoane & Kaminer, 2024), providing spaces for positive engagement if navigated carefully (Gaol et al., 2018).

Theoretical frameworks offer valuable insights into critical aspects of PSMU. The Uses and Gratifications Theory (Katz et al., 1973) was originally formulated in the context of traditional mass media such as television, radio, and newspapers. It has now been applied to social media use and posits that users actively seek out media to satisfy specific psychological needs and motivations (Wang et al., 2015). Although this theory originated before the advent of the internet and social media platforms (e.g., Instagram), its principles meaningfully extend to digital platforms (Phua et al., 2017). In the context of Instagram, users may seek gratifications such as social media validation through likes and comments, identity expressions through curated posts and stories, and belongingness by engaging with peers or influencer communities (Ko & Yu, 2019; Menon, 2022).

The Cognitive-Behavioral Model (Davis, 2001) emphasizes the interplay between cognitive processes and behavioral reinforcement in the development and persistence of addictive behaviors, particularly in the context of social media. This model explains how dysfunctional thoughts about social media interactions—such as a constant need for approval or validation—can lead to compulsive use patterns (Hawi & Samaha, 2017).

Another comprehensive framework is the I-PACE Model (Interaction of Person-Affect-Cognition-Execution), which integrates personal, emotional, cognitive, and executive factors that impact addictive behaviors. This model emphasizes the interaction between individual differences, emotional factors, cognitive appraisals, and decision-making processes (Brand et al., 2016). The I-PACE model provides an explanation as to why some users develop problematic Instagram use (due to personal vulnerabilities, emotional triggers, cognitive biases, and weakened impulse control).

Despite Instagram's popularity, only a few studies have examined problematic Instagram use (PIU) in India (D'Souza & Hemamalini, 2018; Sasikala, 2023). One contributing factor is the lack of validated instruments, developed using international guidelines, to assess

PIU in India. In the international literature, a few psychometric tools exist, such as the 15-item Instagram Addiction Scale (Kircaburun & Griffiths, 2018) and the 20-item The Instagram Addiction Scale (Sholeh & Rusdi, 2019). However, neither has been validated in India. In selecting the appropriate scale to validate in the Indian context, the present authors required the scale to demonstrate (i) a good factorial structure, (ii) good validity and reliability, (iii) a good balance between the number of items and the dimensions assessed, (iv) previous validation in other countries, and (v) a good theoretical basis featuring the core features of addiction (Griffiths 2005). Consequently, the 15-item IAS was chosen as best fitting these requirements.

The IAS-15 was developed among Turkish adults using a modified version of the Internet Addiction Test (Young, 1998) and was found to be a valid and psychometrically robust instrument (Kircaburun & Griffiths, 2018). The IAS-15 consists of a higher-order factor, which assesses PIU. In addition, there are two sub-factors: social effects and compulsion. In addition to the original study, the psychometric properties of the IAS-15 have been evaluated in a couple of languages. For example, among a sample of Greek youth aged between 18 and 24 years, the IAS-15 demonstrated satisfactory reliability indices (Zarenti et al., 2021). Similarly, Sharifi Fard et al. (2022) investigated the factor structure and psychometric properties of the Persian version of the IAS-15 among Iranian university students and reported adequate validity and reliability. Lastly, Soraci et al. (2022) translated the IAS-15 into the Italian language and tested its reliability and validity among Italians. The authors found the IAS-15 to be a valid and reliable instrument to assess Instagram addiction among Italian adults (Soraci et al., 2022).

The IAS-15 was developed to assess addiction tendencies specifically for Instagram users, but its validation in diverse cultural settings is critical. Existing studies on the IAS in different cultural contexts demonstrate its efficacy in capturing behavioral and cognitive dimensions of Instagram addiction (Zarenti et al., 2021). However, no published research has

yet tested the psychometric properties of the IAS-15 among Indian youth, leaving a significant gap in understanding and addressing PIU among this demographic. Cultural norms and societal expectations influence how individuals interact with such platforms, necessitating the adaptation and validation of existing tools.

In the Indian context, while Hindi and other regional languages are widely spoken, English remains a dominant language for online engagement. According to a 2024 report, of the 870 million internet users in India, approximately 43% prefer English to access the internet, and around 655 million individuals use the internet for social media (Internet and Mobile Association of India, 2024). This widespread use of English in Indian online contexts justifies the adaptation and validation of the IAS-15 in English.

Therefore, the present study aimed to validate the English version of the IAS-15 (which has never previously been done) and test its psychometric properties among Indian adults. In addition to assessing the psychometric properties of the IAS-15, it was hypothesized (based on past literature) that PIU would be (i) positively associated with social media addiction and psychological distress (i.e., depression, stress, and anxiety symptoms) (Foroughi et al., 2021) and (ii) negatively associated with self-esteem (Ardiana & Tumanggor, 2020; Woods & Scott, 2016).

Methods

Participants and Procedure

The present study employed a cross-sectional survey using a convenience sampling technique to recruit participants from the general Indian population. Inclusion criteria were (i) being an Indian citizen, (ii) being able to read and write in the English language, (iii) being aged 18 years or above, (iv) having an active Instagram account, and (v) having access to the internet. Participants were recruited through the wide circulation of a survey link (hosted on Google Forms) on social media platforms, instant messaging applications, and listservs. More

specifically, the link was disseminated via WhatsApp groups/stories, university mailing lists, and Instagram stories. A multi-platform strategy was chosen to maximize reach and diversity of participants and because social media users typically have multiple social media accounts.

Data collection took place in March 2025. The average time to answer the survey items was approximately 15 minutes. A total of 320 participants completed the survey. Of these, 16 participants did not consent to participate in the survey. Moreover, three participants were aged under 18 years. Therefore, the final sample size included in the analysis was 301. This sample size exceeds commonly recommended minimums for confirmatory factor analysis (CFA), which suggests at least 200 participants or a ratio of at least 10 participants per estimated parameter (MacCallum et al., 1999).

Measures

Socio-Demographic Characteristics*:* Information regarding socio-demographic characteristics was collected, including age, gender, current state of residence, highest education qualification, current employment status, relationship status, and daily average number of hours spent on Instagram.

Instagram Addiction Scale (IAS-15): The IAS-15 (Kircaburun & Griffiths, 2018) comprises 15 items that assess the risk of Instagram addiction. The IAS-15 contains two subscales: social effect (8 items) and compulsion (7 items). An example item of the social effect component is *"How often do you snap, yell, or act annoyed if someone bothers you while you are on Instagram?"* An example item of the compulsion component is *"How often do you fear that life without Instagram would be boring, empty, and joyless?"* Each item is scored on a six-point Likert scale ranging from 1 (*never*) to 6 (*always*). The total score is obtained by summing the scores of each item and ranges from 15 to 90. Scores ranging from 15 to 37, 37 to 58, 59 to73, and over 73 indicate non-addiction, mild addiction, moderate addiction, and severe addiction, respectively (Kircaburun & Griffiths, 2018).

Rosenberg Self-Esteem Scale (RSES): The 10-item RSES (Rosenberg, 1965) was used to assess self-esteem. The scale assesses the self-worth of participants by evaluating positive and negative feelings about the self. An example item of the RSES is *"On the whole, I am satisfied with myself."* Each item is scored on a four-point Likert scale ranging from 0 (*strongly disagree*) to 3 (*strongly agree*). Five items are negatively worded and reverse coded. The total score is obtained by summing the scores of each item and ranges from 0 to 30. Scores between 15 and 25 are considered within the normal range, while scores below 15 indicate low self-esteem (Rosenberg, 1965). The Cronbach's alpha (α) and McDonald's omega (ω) coefficients for RSES in the present study were 0.846 and 0.855, respectively.

Bergen Social Media Addiction Scale (BSMAS): The six-item BSMAS (Andreassen et al., 2017) was used to assess the risk of social media addiction. An example item is *"You feel the urge to use social media more and more."* Each item is scored on a five-point Likert scale ranging from 1 (*very rarely*) to 5 (*very often*). The total score is obtained by summing the scores of each item and ranges from 6 to 30. Higher scores indicate greater risk of social media addiction. The Cronbach's alpha (α) and McDonald's omega (ω) coefficients for BSMAS in the present study were 0.921 and 0.922, respectively.

Depression, Anxiety, and Stress Scale (DASS-21): The 21-item DASS-21 (Lovibond & Lovibond, 1995) was used to assess depression, anxiety, and stress. The three subscales comprise seven items each. Example items include *"I was unable to become enthusiastic about anything"* (depression), *"I was aware of dryness of my mouth"* (anxiety), and *"I found it difficult to relax"* (stress). Each item is scored on a four-point Likert scale from 0 (*did not apply to me at all*) to 3 (*applied to me very much or most of the time*). The total score for each subscale is obtained by summing the scores of each item, multiplied by 2, and ranges from 0 to 42. The Cronbach's alpha (α) and McDonald's omega (ω) coefficients for depression, anxiety, and

stress sub-scales in the present study were 0.920 and 0.920, 0.898 and 0.900, and 0.895 and 0.895, respectively.

Data Analysis

Descriptive statistics were used to summarize the socio-demographic characteristics of the study participants. This included measures such as means, standard deviations, frequencies, and percentages to describe the sample. The factorial structure of the IAS-15 was tested using confirmatory factor analysis (CFA). The following indices for the CFA were used to evaluate the model: (i) CMIN/DF (Chi-square Minimum divided by Degrees of Freedom; χ^2/df) values less than 3 were considered acceptable; (ii) GFI (goodness of fit) values greater than 0.90 were considered a good fit; (iii) IFI (incremental fit index) values greater than 0.95 were considered excellent; (iv) TLI (Tucker-Lewis index) values greater than 0.95 were considered excellent; (v) CFI (comparative fit index) values greater than 0.95 were considered excellent; and (vi) RMSEA (root mean error of approximation) values less than or equal to 0.08 were considered acceptable, with values closer to 0.06 indicating a better fit for a two-factor model. The convergent validity of the IAS-15 was assessed using Pearson's correlation coefficients between the IAS-15 and RSES, BSMAS, and three subscales of DASS-21. The internal consistency of the IAS-15 was examined using Cronbach's alpha (α) and McDonald's omega (ω) coefficients of reliability, with values greater than 0.70 considered acceptable (Cronbach, 1951; Hayes & Coutts, 2020).

The Kaiser-Meyer-Olkin (KMO) measure was used to establish sample adequacy, and Bartlett's test of sphericity was conducted to check if variables were suitable for factor structure. Factor loadings were used to compute composite reliability (CR) for both subscales and the overall scale. Additionally, differences in IAS-15 scores were examined across demographic groups. Independent sample *t*-tests were conducted for binary variables (for example, gender), and one-way ANOVAs were performed for categorical variables with more

than two categories (for example, education level, employment status, and relationship status). Post-hoc comparisons were conducted using the Tukey HSD test to identify specific group differences for significant ANOVA results. The level of significance for all statistical analyses was set to $p \leq 0.05$. All analyses for descriptive statistics, reliability analysis, and correlation analysis were performed using IBM SPSS 23.0, and CFA using AMOS 23.0.

Ethics

Participation in the study was voluntary, and informed consent was obtained from the study participants prior to their participation. Participants had the right to skip any question they did not wish to answer or leave the survey without citing any reason. They were also informed about potential risks and benefits of participation. No monetary compensation or rewards were offered to the participants. The study protocol was approved by the Institutional Review Board (IRB) of the principal investigator's university in North India.

Results

Descriptive Statistics of the Study Participants

The mean age of the study participants was 22.89 years (range=18-38 years; SD=4.147 years). The majority of the participants were females (n=177, 58.8%), were students (n=227, 75.4%), were undergraduates (n=116, 38.5%), resided in Haryana (n=71, 23.6%), were single (n=207, 68.8%), and had daily average Instagram use of less than 2 hours (n=114, 37.9%). The descriptive statistics of the study participants are presented in Table 1.

Table 1 about here

Confirmatory Factor Analysis

The KMO measure of sample adequacy for the 15-item IAS was 0.964, highlighting a sufficiently large sample size for factor analysis (Field, 2005). Moreover, Bartlett's test of sphericity showed that variables were related and suitable for structure detection (χ^2=3813.76, df=105, p<0.01) and that factor analysis may be useful (Bartlett, 1950). The CFA showed the

two components of the IAS-15 (i.e., social effect and compulsion) had suitable factor loadings. The initial model demonstrated an acceptable fit to the data, as indicated by the following fit indices: CMIN/DF (χ^2/df)=2.531, GFI=0.903, IFI=0.965, TLI=0.958, CFI=0.965, and RMSEA=0.071. To improve model fit, modification indices suggested allowing covariances between Item 1 and Item 6, Item 9 and Item 10, Item 14 and Item 15, and Item 15 and Item 10. After making these modifications, the revised model demonstrated an improved fit, as indicated by the following fit indices: CMIN/DF (χ^2/df) =2.273, GFI=0.916, IFI=0.972, TLI=0.965, CFI=0.971, and RMSEA=0.065.

Overall, the CFA results supported the two-factor structure of the IAS-15 because the fit indices indicated that the model fit the data well. This suggests that the scale is structurally valid for assessing the risk of Instagram addiction in the Indian adult population. Results of CFA are presented in Table 2 and Figure 1.

Table 2 and Figure 1 about here

Convergent Validity

The convergent validity of the IAS-15 was assessed using Pearson's correlation coefficients between the IAS-15 and RSES, BSMAS, and the three subscales of DASS-21. Findings highlighted that the scores on IAS-15 were negatively and significantly associated with the scores on RSES (r=-0.635, p<0.01). Moreover, the scores on IAS-15 were positively and significantly associated with the scores on BSMAS (r=0.899, p<0.01), the depression subscale (r=0.778, p<0.01), the anxiety subscale (r=0.777, p<0.01), and the stress subscale of DASS-21 (r=0.815, p<0.01). Correlations for the IAS-15 social effect and compulsion subscales showed similar patterns. The results of Pearson's correlation coefficients along with means and standard deviations for each variable are presented in Table 3.

Table 3 about here

Reliability

The reliability analysis showed that the IAS-15 demonstrated excellent internal consistency. More specifically, the Cronbach's alpha (α) and McDonald's omega (ω) coefficients of reliability for the overall IAS-15 scale were 0.962 and 0.963, respectively. For the two subscales, the social effect dimension had reliability coefficients of 0.941 (α) and 0.942 (ω), while the compulsion dimension had coefficients of 0.922 (α) and 0.922 (ω). Moreover, item-total statistics suggested that the reliability of the IAS-15 could not be improved further by deleting any item. The composite reliability values for the overall scale and its two subscales were 0.920, 0.880, and 0.812, respectively, indicating strong reliability across the overall scale and its subscales.

Prevalence of Instagram Addiction

The majority of the participants were found to be non-addicted to Instagram (n=127, 42.19%), followed by those who were mildly addicted (n=86, 28.57%), severely addicted (n=45, 14.95%), and moderately addicted (n=43, 14.28%).

Group Differences in IAS-15 Scores

An independent samples *t*-test showed that males (n=124) scored significantly higher on the IAS-15 (M=50.65, SD=20.57) compared to females (M=43.20, SD=18.83), indicating greater risk of Instagram addiction among males ($t[299]=3.25$, $p<0.01$). One-way ANOVA showed a significant difference in IAS-15 scores by education level ($F[2, 298]=5.11$, $p<0.01$). Post-hoc Tukey HSD tests indicated that participants with below-graduation education (M=50.71, SD=21.38) had significantly higher IAS-15 scores than postgraduates (M=41.50, SD=18.25; mean difference=9.21, $p<0.01$). No significant differences were observed between graduates (M=46.50, SD=19.17) and either below graduates or postgraduates.

Similarly, one-way ANOVA showed a significant effect of employment status on IAS-15 scores ($F[2, 298]=7.80$, $p<0.01$). Post-hoc Tukey HSD tests indicated that unemployed participants (M=62.00, SD=20.59) scored significantly higher than both students (M=46.95,

SD=19.83, mean difference=15.04, $p<0.05$) and employed/self-employed participants (M=40.03, SD=17.59, mean difference=21.96, $p<0.01$). Additionally, students scored significantly higher than employed/self-employed participants (mean difference=6.91, $p<0.05$). Lastly, one-way ANOVA showed a significant effect of relationship status on IAS-15 scores ($F[2, 298]=5.86$, $p<0.01$). Post-hoc Tukey HSD tests indicated that participants in a relationship (M=54.60, SD=19.01) scored significantly higher than single (M=44.87, SD=19.98, mean difference=9.727, $p<0.01$) and married participants (M=42.88, SD=18.04, mean difference=11.71, $p<0.05$). No significant differences were found between single and married participants.

Discussion

Given the emerging evidence that PIU can potentially lead to addiction among a minority of individuals, the 15-item Instagram Addiction Scale (IAS-15; Kircaburun & Griffiths, 2018) was developed to assess individuals' risk of addiction to Instagram. The present study aimed to validate and evaluate psychometric properties of the IAS-15 among young Indian adults. The results indicated a stable factorial structure (all fit indices were adequate), confirming the findings of the original validation study by Kircaburun and Griffiths (2018).

The reliability and validity coefficients showed good and consistent psychometric properties in assessing adults' addiction risk to Instagram. More specifically, the Cronbach's alpha (α) in the present study (0.962) was excellent, as in the original scale validation (0.90; Kircaburun & Griffiths, 2018), and McDonald's omega (ω) in the present study (and not reported in the original validation study) was (0.963). The reliability coefficients for the two IAS-15 subscales were also high: 0.941 (α) and 0.942 (ω) for social effect, and 0.922 (α) and 0.922 (ω) for compulsion.

These values are somewhat higher than those reported in previous studies. More specifically, Kircaburun and Griffiths (2018) reported α=0.85-0.90 for the total scale and

subscales; Sharifi Fard et al. (2022) reported α=0.74-0.87; and Zarenti et al. (2021) reported α=0.76-0.88. Notably, Soraci et al. (2022) reported ω=0.96-0.98, similar to the present study, which also exceeds the commonly cited 0.95 threshold at which item redundancy may be a concern (Tavakol & Dennick, 2011). The present study's findings are consistent with Soraci et al. (2022), suggesting the scale's high internal consistency likely arises from the cohesive nature of the item set rather than problematic redundancy. However, future research could explore whether IAS-15 maintains psychometric robustness while reducing potential item redundancy in the Indian context. Moreover, a higher magnitude of convergence between IAS-15 and BSMAS scores suggests substantial overlap in the constructs, which warrants consideration when interpreting their comparative utility in detecting PIU.

In addition to aligning with the original validation study, the present findings are comparable to other cultural adaptations of the IAS-15. For example, Soraci et al. (2022) validated the Italian version and reported excellent internal consistency (ω=0.982) alongside positive associations with measures of problematic social media use and psychological distress. Similarly, Sharifi Fard et al. (2022) adapted the IAS-15 for Persian-speaking university students and reported very good internal consistency (α=0.87). Zarenti et al. (2021) validated the Greek version and observed good psychometric properties alongside positive associations with perceived stress. These converging results across linguistic and cultural contexts suggest that IAS-15 has robust cross-cultural applicability in assessing the risk of Instagram addiction.

A significant and negative correlation between the total IAS-15 scores and self-esteem in the present study supports the convergent validity of the IAS-15. This correlation is notably stronger than those reported in previous studies, such as the IAS-15 correlation with 'self-liking' (-0.17) in the original validation study (Kircaburun & Griffiths, 2018), with RSES (-0.41) in Soraci et al. (2022), Zarenti et al. (2021; -0.24), and Ardiana and Tumanggor (2020; -0.234). Moreover, a recent BSMAS meta-analysis by Bottaro et al. (2025) found RSES

correlations ranging from -0.18 to -0.29, which are lower than the present study. Furthermore, Zarenti et al. (2021) reported no significant subscale-RSES associations. These stronger associations may reflect cultural or demographic differences in the relationship between Instagram use and self-esteem. Moreover, there is a possibility that Instagram plays a role in social comparison and self-worth among young adults in the Indian context.

Prior literature suggests that individuals with low self-esteem may engage in the frequent posting of their images on social media as a means to enhance their self-esteem, and the motivation is often the pursuit of positive feedback, such as likes and comments, which can lead to a temporary increase in self-esteem (Błachnio et al., 2016). Additionally, another study reported that a higher number of hours of social media use correlated with lower self-esteem among college students, suggesting that addiction leads to more social comparisons and diminished self-worth (Pawar & Shah, 2019). Similarly, the negative impact of social media use on self-esteem emphasizes that engaging in upward social comparisons through SNSs can undermine self-esteem (Woods & Scott, 2016). Low self-esteem is associated with behavioral addictions, and the present study's findings concurred with this in relation to the risk of Instagram addiction. Individuals with low self-esteem frequently perceive social media as a more secure environment for self-expression compared to their counterparts with high self-esteem (Ardiana & Tumanggor, 2020).

The present study also found a significant and positive association between Instagram addiction and social media addiction, supporting the convergent validity of the IAS-15. This finding was expected because Instagram addiction is a specific subtype of social media addiction. While both constructs are strongly related, the IAS-15 provides a more targeted assessment of PIU, distinguishing it from general social media addiction assessed by tools such as the BSMAS. However, the high convergence between IAS-15 and BSMAS scores in this study suggests substantial overlap in the constructs, which warrants caution when interpreting

their comparative utility in detecting PIU. Moreover, it may be that the participants in the present study primarily used Instagram rather than other social media platforms, and that social media use was synonymous with Instagram use. Prior research suggests that different social media platforms may have unique addictive patterns due to their distinct features and user engagement mechanisms (Kuss & Griffiths, 2017). This suggests that the IAS-15 can be used to assess the risk of Instagram addiction more accurately than other more generic tools (such as the BSMAS).

A significant and positive correlation was found between Instagram addiction and levels of anxiety, depression, and stress among study participants. In the present study, the IAS-15 correlation with the three subscales of DASS-21 ranged from 0.777 to 0.815, which was higher than the corresponding IAS-15 correlations of 0.39-0.46 reported by Soraci et al. (2022). Moreover, Zarenti et al. (2021) reported a correlation of only 0.10 with the Perceived Stress Scale. The correlations in the present study also closely matched those observed with BSMAS (0.778-0.818). However, a meta-analysis by Bottaro et al. (2025) reported that BSMAS correlations with depression, anxiety, and stress typically fall in the range of 0.32-0.34. The higher magnitudes observed in the present study may reflect cultural or contextual factors or sample-specific characteristics.

These findings concur with broader literature and support the notion that behavioral addictions are associated with poorer mental health outcomes. Studies have highlighted a strong association between social media and other mental health issues. For example, Güldal et al. (2022) reported that intensive social media use correlated positively with depressive symptoms. Moreover, studies focusing on specific demographics, such as university students, underscore that Instagram addiction is closely associated with adverse emotional states, wherein elevated addiction levels correlate significantly with increases in anxiety and stress (Foroughi et al., 2021).

Another study reported that Instagram addiction was negatively associated with students' academic performance, as well as correlating with heightened feelings of anxiety and depression (Sharifi Fard et al., 2022). A question, therefore, arises regarding the mechanism that underlies the association between psychological distress and Instagram use. Landa-Blanco et al. (2024) found that the constant social pressure to gain followers and likes was associated with (i) increased stress and anxiety and (ii) higher levels of Instagram addiction. Elevated scores on the anxiety subscale might be caused by several intrinsic elements of Instagram use, such as the fear of losing followers and FoMO (Prabowo & Dewi, 2021), as well as the preoccupation with physical appearance. Finally, the high rates of depression may be explained by multiple factors regarding individuals' quality of life and relationships (Błachnio et al., 2016). As new technologies evolve and incoming information increases, individuals may feel unable to absorb all the information and subsequently experience higher stress (Ragu-Nathan et al., 2008).

Lastly, the findings showed that 14.95% of participants exhibited severe Instagram addiction, 14.28% displayed moderate addiction, and 28.57% were mildly addicted. However, these prevalence rates contrast sharply with prior research. For example, Kircaburun and Griffiths (2018) reported that only 0.9% experienced severe addiction, while Sharifi Fard et al. (2022) reported 21.7% as having severe Instagram addiction but cautioned that the IAS-15 cutoff may be too low and not differentiating addicted and non-addicted Instagram users. This could partly explain the higher prevalence found in the present study. In addition, the mean IAS-15 total score (M=46.27, SD=19.88) and subscale scores were generally higher than those reported by Kircaburun and Griffiths (2018), Soraci et al. (2022), and Zarenti et al. (2021) and were closer to the values reported by Sharifi Fard et al. (2022), further suggesting that scoring thresholds and sample characteristics together may have contributed to the higher prevalence rates. Another possibility is that Indian participants interpret items in the IAS-15 differently

than other populations and that the scale more assesses preoccupation rather than addiction among Indian Instagram users.

For the BSMAS, 37.2% (n=112) of the participants scored ≥18 and 19.9% (n=60) scored ≥24, compared to pooled prevalences of approximately 26% and 8% reported in the meta-analysis by Cheng et al. (2021). The considerably higher IAS-15 prevalence compared to these BSMAS-based estimates suggests that either Instagram-specific risk is disproportionately high in the present sample or that measurement-related factors, such as cutoff sensitivity, may be inflating rates.

The higher prevalence in the present study may also reflect India's collectivistic culture, where social connection strongly influences Instagram use. For example, a meta-analysis of 63 studies from 32 countries examining social media addiction reported a prevalence rate of 5% using the strictest monothetic criteria (Cheng et al., 2021). This meta-analytic study also noted that social media addiction prevalence was significantly higher in collectivistic societies than in individualistic ones (Cheng et al., 2021). Moreover, a study on Instagram addiction among Indian college students reported that 3.9% of participants showed clear signs of Instagram addiction. The variations may be due to small sample size, limited geographical focus, and the different instrument used to assess Instagram addiction (D'Souza & Hemamalini, 2018).

It should also be noted that the majority of the participants in the present study were university students who were single. This may partly account for the elevated prevalence rate of Instagram addiction observed. More specifically, 75.4% of participants were university students, while 68.8% were single. Previous research has identified these groups as more susceptible to problematic social media use due to excessive mobile phone use, psychological distress, and FoMO (Sánchez-Fernández & Borda-Mas, 2023). Therefore, this demographic profile may have amplified Instagram use and contributed to higher addiction scores in the present sample.

Limitations

The present study has specific limitations that should be noted when interpreting the findings. First, the study participants were recruited using a convenience sampling technique, which means the sample was not representative of the Indian population and which might limit the generalizability of the findings. Second, while the study focused on the Indian context, the cultural diversity might have further limited the generalizability of the findings due to significant regional, cultural, and socioeconomic variations. Third, although having an Instagram account was an inclusion criterion, this did not necessarily indicate long-term or consistent active use. While average daily Instagram use was recorded and analyzed, both account ownership and usage were based on self-reports with no independent verification. It is possible that some participants with accounts may have engaged with the platform minimally. Fourth, the present study relied on self-report data to assess key constructs, which may have introduced social desirability and recall biases. Fifth, only the English version of the IAS-15 was evaluated (although no English version of the IAS-15 has previously been validated) rather than many of the other languages that are spoken in India (i.e., there are 22 different languages used in India). Sixth, although the present study's sample was adequate for the analysis used, the number of participants was small, which may limit the generalizability of the findings, particularly given India's diverse demographic and regional populations. Finally, given the very high prevalence estimate of PIU, the IAS-15 in the present study may be inflating the risk of Instagram addiction.

Conclusion

The present study provided evidence that the two-factor structure of the IAS-15 yielded good psychometric properties in an Indian context. The IAS-15 is a valuable tool for academicians, researchers, and clinical practitioners to assess Instagram addiction among

Indian adults. Moreover, the high prevalence estimate of the risk of Instagram addiction highlights the need for prevention, intervention, and treatment for reducing Instagram addiction and its associated psychological outcomes.

Declarations

Data Availability Statement

Data will be made available on a reasonable request from the corresponding author.

Disclosure of Interest

The authors declare that they have no conflict of interest to report.

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List of Tables

Table 1.

Descriptive Statistics of the Study Participants (n=301)

Variables	n (%)
Mean age (in years)	22.89 (SD=4.141)
Gender	
Male	124 (41.2)
Female	177 (58.8)
Education level	
Below graduate	93 (30.9)
Graduate	116 (38.5)
Post-graduate and above	92 (30.6)
Employment status	
Unemployed	14 (4.7)
Student	227 (75.4)
Employed or self-employed	60 (19.9)
State of Residence	
Andhra Pradesh	1 (0.3)
Assam	4 (1.3)
Bihar	1 (.3)
Delhi	61 (20.3)
Haryana	71 (23.6)
Jammu & Kashmir	1 (0.3)
Karnataka	9 (3.0)
Kerala	7 (2.3)

Madhya Pradesh	12 (4.0)
Maharashtra	24 (8.0)
Odisha	1 (0.3)
Punjab	28 (9.3)
Rajasthan	13 (4.3)
Tamil Nadu	1 (0.3)
Telangana	16 (5.30)
Uttar Pradesh	40 (13.3)
Uttarakhand	4 (1.3)
West Bengal	7 (2.3)
Relationship status	
Single	207 (68.8)
In a relationship	52 (17.2)
Married	42 (14.0)
Average daily Instagram use	
Less than 2 hours	114 (37.9)
2 to 3 hours	94 (31.2)
4 to 5 hours	55 (18.3)
More than 5 hours	38 (12.6)

Table 2.

Model Fit Indices for Confirmatory Factor Analysis of the IAS-15 (n=301)

Fit Index	Initial Model	Modified Model
CMIN/DF (χ^2/df)	2.531	2.273
GFI	0.903	0.916
IFI	0.965	0.972
TLI	0.958	0.965
CFI	0.965	0.971
RMSEA	0.071	0.065

Note: CMIN/DF (χ^2/df) - Chi-square Minimum divided by Degrees of Freedom, GFI - Goodness of Fit, IFI - Incremental Fit Index, TLI - Tucker-Lewis Index, CFI - Comparative Fit Index, and RMSEA - Root Mean Error of Approximation.

Table 3.

Pearson's Correlation Coefficients between the IAS-15 and Main Scales Used (n = 301)

	IAS-15	IAS-15 Social Effect	IAS-15 Compulsion	BSMAS	RSES	Depression subscale	Anxiety subscale	Stress subscale
IAS-15	-							
IAS-15 Social Effect	0.975**	-						
IAS-15 Compulsion	0.964**	0.881**	-					
BSMAS	0.899**	0.864**	0.882**	-				
RSES	-0.635**	-0.626**	-0.603**	-0.637**	-			
Depression subscale	0.788**	0.764**	0.744**	0.780**	-0.741**	-		
Anxiety subscale	0.777**	0.769**	0.735**	0.774**	-0.636**	0.853**	-	
Stress subscale	0.815**	0.809**	0.767**	0.818**	-0.681**	0.886**	0.883**	-
M	46.27	23.16	23.10	16.61	25.68	16.73	16.85	17.51
SD	19.88	11.1	9.39	6.60	2.32	11.72	11.39	10.99

*Note: **$p < 0.01$, IAS-15 – Instagram Addiction Scale, BSMAS – Bergen Social Media Scale, RSES – Rosenberg Self Esteem Scale, M – Mean, SD – Standard Deviation.*

List of Figures

Figure 1.

Confirmatory Factor Analysis of the IAS-15 among Indian Adults (n=301)