

Social Media Addiction and Attention-Related Cognitive Errors Among Adults in Kerala

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Abstract: *The present study examined the relationship between social media addiction-related symptoms and attention-related cognitive errors among adults with a Kerala/Malayali background. A quantitative, descriptive-correlational, cross-sectional design was used. Convenience sampling was used to recruit Malayali adults aged 18–60 years who were currently using social media. Of 157 responses received through an online Google Forms questionnaire, 151 eligible responses were retained for the final analysis. Social media addiction-related symptoms were assessed using the six-item Bergen Social Media Addiction Scale (BSMAS), and everyday attention-related cognitive errors were assessed using the 12-item Attention-Related Cognitive Errors Scale (ARCES). Descriptive statistics, Cronbach's alpha, Spearman's rank-order correlation, Mann–Whitney U tests, and Kruskal–Wallis H tests were used as appropriate. The BSMAS demonstrated high internal consistency ($\alpha = .91$), while the ARCES demonstrated very high internal consistency ($\alpha = .97$). A strong positive and statistically significant association was found between BSMAS and ARCES scores (Spearman's $\rho = .730, p < .001$). Age was negatively associated with BSMAS scores ($\rho = -.359, p < .001$) and ARCES scores ($\rho = -.306, p < .001$). Women reported higher ARCES scores than men, whereas the gender difference in BSMAS scores was not significant. Daily social media use and duration of social media use showed significant differences in both outcomes. Current residence was not significantly associated with either major variable. The findings indicate an association between social media addiction-related symptoms and everyday attention-related cognitive errors in this sample; the cross-sectional design does not permit causal conclusions.*

Keywords: social media addiction-related symptoms, attention-related cognitive errors, adults, Kerala, BSMAS, ARCES

1. Introduction

Social media has become an important part of everyday communication, information seeking, education, entertainment, and professional networking. Alongside these benefits, researchers have examined patterns of social media engagement that become difficult to control and are accompanied by psychological or functional difficulties. Problematic or addictive patterns have been described in terms of features such as salience, mood modification, tolerance, withdrawal, conflict, and relapse (Andreassen, 2015; Andreassen et al., 2012). The Bergen Social Media Addiction Scale (BSMAS) provides a brief measure of addiction-related symptoms associated with problematic social media use (Andreassen et al., 2016).

Attention is relevant to learning, occupational functioning, decision making, and routine activities. Everyday attentional functioning can be expressed through recurrent lapses such as forgetting, overlooking information, or making mistakes because attention was briefly diverted. The Attention-Related Cognitive Errors Scale (ARCES) was developed to assess everyday cognitive errors and lapses (Cheyne et al., 2006). Importantly, ARCES assesses everyday cognitive errors rather than sustained-attention duration or a clinical attention disorder.

Research on media multitasking has linked frequent switching among media activities with failures of attention in everyday life (Ophir et al., 2009; Ralph et al., 2014). Technology interruptions and task switching have also been associated with poorer concentration and attentional regulation (Rosen et al., 2013). Reviews of smartphone and digital-media use have reported associations with attention, cognitive functioning, and related outcomes (Wilmer et al., 2017). Indian research has also examined associations

between social networking or smartphone use and attentional or functional outcomes (Chaudhuri & Imran, 2023; Nayak, 2018).

Despite this growing literature, relatively limited evidence has focused specifically on everyday attention-related cognitive errors among adults with a Kerala background. The present study therefore examined the relationship between social media addiction-related symptoms and attention-related cognitive errors among adults aged 18–60 years. It also examined whether the two constructs differed according to selected demographic and social-media-use characteristics.

2. Method

Design and Participants

A quantitative, descriptive-correlational, cross-sectional research design was used. The target population comprised Malayali adults aged 18–60 years who were currently using social media. Convenience sampling was used through an online Google Forms questionnaire. Of 157 responses received, 151 eligible responses were retained. The final sample included 91 women (60.3%) and 60 men (39.7%), with a mean age of 34.70 years ($SD = 9.80$; range = 18–60).

Eligibility and Procedure

Participants were eligible if they were aged 18–60 years, identified as Malayali/from Kerala, currently used social media, voluntarily consented to participate, and completed the required questionnaire items. Responses that did not meet the eligibility criteria or lacked sufficient information for the study measures were excluded. Data were collected online using Google Forms. The questionnaire provided study information, eligibility criteria, voluntary-participation information, confidentiality information, and informed consent. No name, telephone number, or email address was

required. The questionnaire was administered in English with Malayalam translations alongside the items for participant comprehension; the dissertation does not describe these translations as a separately validated Malayalam version of the instruments.

Measures

The Bergen Social Media Addiction Scale (BSMAS) was used to assess social media addiction-related symptoms. The scale contains six items rated on a five-point frequency format from Very rarely to Very often, with higher total scores indicating greater addiction-related symptoms. In the present sample, internal consistency was high (Cronbach's $\alpha = .91$).

The Attention-Related Cognitive Errors Scale (ARCES) was used to assess everyday attention-related cognitive errors and lapses. The scale contains 12 items rated on a five-point response format from Never to Very often, with higher scores indicating more frequent attention-related cognitive errors. In the present sample, internal consistency was very high (Cronbach's $\alpha = .97$).

Statistical Analysis

Responses were screened according to the eligibility criteria and entered into the analytical dataset. Descriptive statistics included frequency, percentage, mean, standard deviation, median, minimum, and maximum. Cronbach's alpha was used to assess internal consistency. Spearman's rank-order correlation was used as the primary correlation test. Mann–Whitney U tests were used for two-group comparisons, and Kruskal–Wallis H tests were used for comparisons involving more than two groups. Statistical significance was set at $p < .05$.

Ethical Considerations

Participation was voluntary and informed consent was obtained. Participants were informed about the purpose of the study and could decline participation. Responses were treated confidentially and analysed in aggregate form for academic research purposes.

3. Results

The final analytical sample consisted of 151 participants. The mean BSMAS score was 16.75 (SD = 7.07; range = 6–30), and the mean ARCES score was 35.70 (SD = 14.51; range = 12–60). The BSMAS demonstrated high internal consistency ($\alpha = .91$), while the ARCES demonstrated very high internal consistency ($\alpha = .97$).

Analysis	Statistic	p
BSMAS $\times$ ARCES	Spearman's $\rho = .730$	$< .001$
Age $\times$ BSMAS	Spearman's $\rho = -.359$	$< .001$
Age $\times$ ARCES	Spearman's $\rho = -.306$	$< .001$
Gender difference in BSMAS	U = 2629.50	.703
Gender difference in ARCES	U = 3366.00	.016
Residence difference in BSMAS	H = 2.727	.256
Residence difference in ARCES	H = 4.166	.125
Daily use difference in BSMAS	H = 34.553	$< .001$
Daily use difference in ARCES	H = 41.963	$< .001$
Duration difference in BSMAS	H = 13.023	.011
Duration difference in ARCES	H = 13.533	.009

A strong positive and statistically significant association was found between BSMAS and ARCES scores ($p = .730$, $p <$

.001), indicating that participants with higher social media addiction-related symptoms tended to report more frequent everyday attention-related cognitive errors. Age was negatively associated with both BSMAS and ARCES scores. There was no statistically significant gender difference in BSMAS scores, whereas women reported higher ARCES scores than men. Current residence was not significantly associated with either BSMAS or ARCES. Significant differences were found across daily social-media-use categories for both BSMAS and ARCES, and across duration-of-social-media-use categories for both variables.

4. Discussion

The principal finding was a strong positive association between social media addiction-related symptoms and everyday attention-related cognitive errors. Participants with higher BSMAS scores tended to report more frequent attentional lapses on the ARCES. This finding is broadly consistent with literature linking problematic digital-media use, media multitasking, and attentional or cognitive-control outcomes (Ophir et al., 2009; Ralph et al., 2014; Wilmer et al., 2017). The present study, however, specifically concerns everyday cognitive errors rather than objective sustained-attention performance.

The finding should not be interpreted as evidence that social media addiction causes attention-related errors. The cross-sectional design does not establish temporal order, and both principal constructs were assessed using self-report instruments. Reverse causation, bidirectional effects, and unmeasured third variables remain possible explanations.

Age was negatively associated with both primary variables. Women reported higher ARCES scores than men, while the gender difference in BSMAS scores was not significant. These demographic findings should be interpreted cautiously because the study was not designed primarily to test demographic mechanisms and the convenience sample limits generalizability.

Daily social-media use was associated with both outcomes. However, duration of use should not be treated as equivalent to addiction. Addiction-related symptoms involve features such as impaired control and preoccupation, whereas duration is an exposure measure. The present findings therefore support distinguishing problematic-use severity from simple amount of use.

The study contributes region-specific evidence concerning adults with a Kerala/Malayali background and uses a measure of everyday attention-related errors rather than treating 'attention span' as a single undifferentiated construct.

5. Limitations

- 1) The cross-sectional design prevents causal or temporal conclusions.
- 2) Convenience sampling limits representativeness and generalizability.
- 3) Both principal constructs were assessed using self-report measures.

- 4) The Malayalam translations were not described as separately validated versions of the instruments.
- 5) No objective or performance-based attention task was included.
- 6) The online questionnaire may have limited participation to individuals with access to and familiarity with digital technology.

6. Conclusion

Greater social media addiction-related symptoms were strongly associated with more frequent everyday attention-related cognitive errors in the present sample. Age was negatively associated with both constructs, women reported higher ARCES scores than men, and daily social-media use and duration of use showed significant group differences for both outcomes. Current residence was not significantly associated with either major variable. The findings indicate association rather than causation and should be interpreted within the limitations of the cross-sectional, convenience-sample, self-report design.

7. Recommendations

- 1) Future research should use larger and more diverse samples and probability-based sampling where feasible.
- 2) Longitudinal research should examine temporal relationships between problematic social media use and attention-related cognitive errors.
- 3) Future studies should incorporate objective or performance-based attention measures alongside self-report scales.
- 4) Researchers should examine potential moderating or mediating factors such as sleep, stress, emotional well-being, multitasking behaviour, and patterns of digital engagement.
- 5) Future research involving Malayalam-speaking populations should consider formally validated Malayalam versions of psychological instruments where available or appropriate translation and validation procedures.

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