



Beyond Screen Time: Behavioural and Attitudinal Factors Associated with Digital Device Usage among Young Adults

Dr.D.Divya

Assistant Professor

Department of B.Com Finance,
NGM College, Pollachi, India

Abstract : Digital devices have become integral to the educational, professional, social, and personal lives of young adults, making it important to understand their impact beyond the amount of time spent on screens. The present study examines the behavioural and attitudinal factors associated with the overall impact of digital device usage on the health, lifestyle, and personal relationships of young adults. A quantitative, cross-sectional research design was adopted, and primary data were collected from 500 young adults in Coimbatore district, Tamil Nadu, using a structured questionnaire and stratified sampling technique. Multiple linear regression analysis was employed to determine the independent contribution of digital usage behaviours and attitudinal dimensions to overall digital-device impact. The regression model was statistically significant ($F = 29.671$, $p < 0.001$) and explained 32.6% of the variance in overall impact ($R^2 = 0.326$; Adjusted $R^2 = 0.315$). Among the predictors, emotional attitude emerged as the strongest significant factor ($\beta = 0.375$, $p < 0.001$), followed by job-driven attitude ($\beta = 0.164$, $p < 0.001$), primary digital device used ($\beta = 0.115$, $p = 0.004$), and perceived attitude ($\beta = 0.092$, $p = 0.042$). In contrast, years of device usage, average daily screen hours, highest usage time, and compulsive usage attitude were not significant predictors. The findings indicate that the impact of digital-device usage is shaped more strongly by emotional and functional patterns of engagement than by screen time alone. The study therefore highlights the need for digital well-being initiatives that address users' attitudes, motivations, and engagement patterns rather than focusing exclusively on reducing screen duration.

Keywords: Digital device usage; Young adults; Behavioural factors; Attitudinal factors; Emotional attitude; Digital well-being; Screen time; Health; Lifestyle; Personal relationships.

I. BACKGROUND OF THE STUDY

Digital devices have become an essential part of young adults' daily lives, supporting education, employment, communication, entertainment, and information access. As dependence on these technologies increases, concerns have emerged regarding their influence on academic activities, health, lifestyle, and interpersonal relationships. However, the impact of digital-device usage may not be determined by screen time alone, as the purpose and manner of usage can also shape user outcomes. Evidence from Indian higher-education students indicates that excessive smartphone use does not necessarily have a direct effect on academic performance, suggesting that intervening factors may influence its consequences (Ammunje et al., 2023). Similarly, smartphone usage and addiction have been associated with academic performance among Indian higher-education students, demonstrating the importance of understanding patterns of digital engagement (Nayak, 2018). More recent evidence from Karnataka further indicates that frequent smartphone checking, mobile gaming, social-media-related motivations, and preference for smartphones are associated with problematic smartphone use among undergraduate students (Zeerak et al., 2024). These findings collectively suggest that understanding digital-device impact requires consideration of both how devices are used and how users perceive, experience, and respond to them. Nevertheless, limited research has jointly examined behavioural and attitudinal factors in relation to the broader impact of digital-device usage on health, lifestyle, and personal relationships among young adults. Therefore, the present study adopts a "Beyond Screen Time" perspective to examine the behavioural and attitudinal factors associated with the overall impact of digital-device usage among young adults in Coimbatore district, Tamil Nadu.

REVIEW OF LITERATURE

Gong and Liu (2023) investigated mobile phone addiction and sleep quality among college students, with particular attention to anxiety and emotion regulation. Their findings indicated that excessive mobile-phone use can adversely affect sleep quality and highlighted the importance of emotional processes in understanding this relationship. The study therefore supports the view that digital-device consequences may operate through psychological and behavioural mechanisms rather than through usage duration alone. Joshi (2023) examined internet addiction, loneliness, social isolation, and psychological well-being among 150 young adults. The findings showed that internet addiction was positively associated with loneliness and negatively associated with psychological well-being. The study indicated that problematic internet use may adversely influence the social and psychological well-being of young adults. Kokkaparambil and James (2023) studied smartphone addiction, sleep quality, and psychological well-being among 180 young adults aged 18–40 years. The findings revealed significant relationships between smartphone addiction, sleep quality, and psychological well-being. The study highlighted problematic smartphone use as an important behavioural factor influencing

young adults’ well-being. Zeerak et al. (2024) investigated smartphone addiction and academic performance among 481 undergraduate medical students in Karnataka. Smartphone addiction was associated with poorer academic performance, while frequent checking, gaming, social-media recognition, and preference for smartphones were important behavioural factors. The study emphasised the role of usage patterns and motivations in understanding digital-device impact. Paterna et al. (2024) conducted a systematic review and meta-analysis involving 29 studies and 48,490 participants to examine the relationship between problematic smartphone use and academic achievement. The findings revealed a small negative relationship between problematic smartphone use and academic achievement ($r = -0.110$). The study demonstrates that problematic smartphone use may have educational consequences, although the relatively small effect also suggests that other behavioural, psychological, and contextual factors should be considered. Ameyaw et al. (2025) examined mobile phone usage and academic performance among 122 students at Asantekwaa SDA Junior High School. The findings showed that some students used mobile phones for four to five hours or more daily and perceived mobile phone usage as negatively affecting academic performance. The study recommended appropriate regulations and cooperation among schools, parents, and policymakers to promote responsible usage.

II. RESEARCH GAP

The existing literature has mainly examined digital-device usage in relation to specific outcomes such as academic performance, sleep quality, loneliness, and psychological well-being. Previous studies have also given considerable attention to excessive use and smartphone or internet addiction, with limited emphasis on how different behavioural patterns and user attitudes shape the overall impact of digital-device usage. Further, most studies have focused on a single outcome or specific population, such as school students or medical students. There is limited empirical evidence that simultaneously considers behavioural factors and attitudinal dimensions of digital-device usage and their combined association with health, lifestyle, and personal relationships among young adults. Therefore, the present study addresses this gap by moving beyond screen-time measurement and examining how device-use behaviour and attitudes are associated with the overall impact of digital-device usage among young adults.

III. OBJECTIVE OF THE STUDY

The study examines the behavioural and attitudinal factors associated with the overall impact of digital device usage on the health, lifestyle, and personal relationships of young adults.

IV. RESEARCH METHODOLOGY

5.1 RESEARCH DESIGN AND SAMPLING

The study adopted a quantitative, cross-sectional research design to examine the behavioural and attitudinal factors associated with the overall impact of digital device usage among young adults.

5.2 STUDY AREA AND POPULATION

The study was conducted among young adults in Coimbatore district, Tamil Nadu, India. The study population comprised young adults who regularly used digital devices such as smartphones, computers, tablets, and other digital devices for personal, educational, professional, or entertainment purposes. A sample of 500 young adults was selected using a stratified sampling technique, with representation across educational qualification, occupation, and field of study.

5.3 DATA COLLECTION AND VARIABLES

Primary data were collected through a structured questionnaire covering digital device usage behaviour, attitudes towards digital devices, and their perceived impact on health, lifestyle, and personal relationships. The behavioural variables comprised the primary digital device used, years of digital device usage, average daily screen hours, and highest time of device usage. The attitudinal variables included perceived attitude, emotional attitude, compulsive usage attitude, and job-driven attitude. The overall impact of digital device usage was considered the dependent variable.

5.4 STATISTICAL ANALYSIS

Multiple linear regression analysis was employed to determine the extent to which behavioural and attitudinal factors were associated with the overall impact of digital device usage.

5.5 ETHICAL CONSIDERATIONS

Participation was voluntary, and respondents were informed of the academic purpose of the study. Anonymity, confidentiality, and responsible use of the collected information were maintained throughout the research process.

V. RESULT AND DISCUSSION

6.1 MULTIPLE REGRESSION ANALYSIS

Multiple regression analysis was conducted to examine the influence of digital usage behaviours and attitudinal dimensions on the Overall Impact of digital device usage, comprising health, lifestyle, and personal relationship impacts among young adults.

Table 6.1
Multiple Regression Analysis of Digital Usage Behaviours and Attitudes on Overall Impact

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.571 ^a	.326	.315	.58301	.326	29.671	8	491	.000*
a. Predictors: (Constant), Digital usage Behaviours, Attitude									

ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	80.681	8	10.085	29.671	.000 ^a
	Residual	166.890	491	.340		
	Total	247.571	499			
a. Predictors: (Constant): Digital usage Behaviours, Attitude						
b. Dependent Variable: Impact on health, lifestyle, and personal relationships						

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.553	.234		2.369	.018		
	Most Primary Device used	.203	.070	.115	2.889	.004*	.865	1.156
	Number of Years Using Digital Devices	.047	.037	.051	1.250	.212	.815	1.227
	Average Daily Screen Hours	-.005	.033	-.007	-.157	.876	.783	1.277
	Highest Time of Digital Device Usage	.050	.031	.063	1.593	.112	.888	1.126
	Perceived Attitude	.096	.047	.092	2.035	.042*	.671	1.491
	Emotional Attitude	.370	.045	.375	8.250	.000*	.666	1.503
	Compulsive Usage Attitude	.072	.044	.076	1.615	.107	.614	1.628
	Job driven Attitude	.168	.045	.164	3.755	.000*	.721	1.386
a. Dependent Variable: Impact on health, lifestyle, and personal relationships								

*Indicates Significance @5% Level

6.2 Model Summary: The model summary indicates that the multiple correlation coefficient (R) is 0.571, suggesting a moderate positive relationship between the independent variables and the Overall Impact of digital device usage. The coefficient of determination (R²) is 0.326, indicating that 32.6% of the variance in Overall Impact is explained by the eight predictors included in the model. The adjusted R² is 0.315, indicating that approximately 31.5% of the variance remains explained after adjusting for the number of predictors. The remaining 67.4% of the variance may be attributed to other factors not included in the present study.

6.3 ANOVA (Model Fitness): The ANOVA results demonstrate that the regression model is statistically significant (F = 29.671, p < 0.001). This indicates that the independent variables collectively make a significant contribution to explaining the Overall Impact of digital device usage. Therefore, the regression model is statistically significant and suitable for examining the factors associated with the overall consequences of digital device usage among young adults.

6.4 Regression Equation:

Overall Impact = 0.553 + 0.203 (Primary Digital Device Used) + 0.047 (Years of Digital Device Usage) – 0.005 (Daily Screen Hours) + 0.050 (Highest Usage Time) + 0.096 (Perceived Attitude) + 0.370 (Emotional Attitude) + 0.072 (Compulsive Usage Attitude) + 0.168 (Job-Driven Attitude)

6.5 Most Primary Digital Device Used: The coefficient of the primary digital device used (B = 0.203) indicates that a one-unit increase in this variable is associated with a 0.203-unit increase in Overall Impact, holding the other variables constant. This predictor is statistically significant ($\beta = 0.115$, p = 0.004), indicating that the type of primary digital device used has a significant positive influence on the Overall Impact.

6.6 Number of Years Using Digital Devices: The coefficient for years of digital device usage (B = 0.047) indicates a positive association with Overall Impact. However, this variable is not statistically significant ($\beta = 0.051$, p = 0.212). Therefore, the number of years respondents have been using digital devices does not make a statistically significant independent contribution to Overall Impact when the other predictors are controlled.

6.7 Average Daily Screen Hours: The coefficient for average daily screen hours (B = –0.005) indicates a very small negative association with Overall Impact. However, the relationship is not statistically significant ($\beta = –0.007$, p = 0.876). Thus, daily screen time does not have a statistically significant independent influence on Overall Impact within the present regression model.

6.8 Highest Time of Digital Device Usage: The coefficient for the time of day when digital device usage is highest ($B = 0.050$) indicates a positive association with Overall Impact. However, this relationship is not statistically significant ($\beta = 0.063$, $p = 0.112$). Hence, the timing of peak digital device usage does not make a significant independent contribution to Overall Impact.

6.9 Perceived Attitude: The coefficient of perceived attitude ($B = 0.096$) indicates that a one-unit increase in perceived attitude is associated with a 0.096-unit increase in Overall Impact, holding other variables constant. This variable is statistically significant ($\beta = 0.092$, $p = 0.042$), indicating that perceived attitudes toward digital device usage significantly influence the Overall Impact.

6.10 Emotional Attitude: The coefficient of emotional attitude ($B = 0.370$) indicates that a one-unit increase in emotional attitude is associated with a 0.370-unit increase in Overall Impact, assuming other variables remain constant. Emotional Attitude ($\beta = 0.375$, $p < 0.001$) has the strongest and most statistically significant positive influence among all the predictors. This suggests that the emotional dimension of digital device usage plays a crucial role in determining the overall health, lifestyle, and personal relationship consequences among young adults.

6.11 Compulsive Usage Attitude: The coefficient of compulsive usage attitude ($B = 0.072$) indicates a positive association with Overall Impact. However, this variable is not statistically significant ($\beta = 0.076$, $p = 0.107$). Therefore, compulsive usage attitude does not make a statistically significant independent contribution to Overall Impact in the present model.

6.12 Job-Driven Attitude: The coefficient of job-driven attitude ($B = 0.168$) indicates that a one-unit increase in job-driven attitude is associated with a 0.168-unit increase in Overall Impact, controlling for the other predictors. This variable is statistically significant ($\beta = 0.164$, $p < 0.001$), indicating that job-driven digital device usage significantly contributes to the overall impact.

The multiple regression analysis reveals that the eight predictors collectively have a significant influence on the Overall Impact of digital device usage among young adults. The model explains 32.6% of the variance in Overall Impact, indicating a moderate level of explanatory power. Among the predictors, Emotional Attitude emerges as the strongest determinant ($\beta = 0.375$), followed by Job-Driven Attitude ($\beta = 0.164$), Primary Digital Device Used ($\beta = 0.115$), and Perceived Attitude ($\beta = 0.092$). In contrast, years of digital device usage, average daily screen hours, highest usage time, and compulsive usage attitude were not statistically significant predictors. These findings suggest that the emotional and functional dimensions of digital device engagement may be more important in explaining the overall health, lifestyle, and personal relationship consequences than the duration or amount of device usage alone.

VI. RECOMMENDATIONS

- ⊙ Encourage young adults to develop healthy emotional coping strategies instead of relying excessively on digital devices.
- ⊙ Conduct digital well-being awareness programmes in colleges and educational institutions.
- ⊙ Promote purposeful and responsible use of smartphones, computers, and other digital devices.
- ⊙ Encourage young adults to establish clear boundaries between work-related and personal device usage.
- ⊙ Focus digital well-being interventions on emotional attitudes and motivations, as emotional attitude was the strongest predictor.
- ⊙ Encourage regular physical activity, hobbies, face-to-face interaction, and offline recreational activities.
- ⊙ Educate students and young professionals about maintaining a healthy balance between digital and non-digital activities.
- ⊙ Encourage users to monitor not only screen time but also the purpose, context, and emotional consequences of device usage.
- ⊙ Educational institutions and employers should provide guidance on responsible and balanced digital engagement.

VII. SCOPE FOR FUTURE RESEARCH

Future researchers should examine additional factors such as social media engagement, stress, sleep, personality, and social relationships to explain the remaining variation in digital-device impact.

VIII. CONCLUSION

The present study examined the behavioural and attitudinal factors associated with the overall impact of digital device usage on the health, lifestyle, and personal relationships of young adults. The findings demonstrate that digital-device impact cannot be explained by screen time alone, as the regression model revealed significant contributions from selected behavioural and attitudinal factors. The overall regression model was statistically significant and explained 32.6% of the variance in digital-device impact, indicating a moderate level of explanatory power. Among the predictors, emotional attitude emerged as the strongest significant factor, followed by job-driven attitude, primary digital device used, and perceived attitude. In contrast, years of digital device usage, average daily screen hours, highest usage time, and compulsive usage attitude did not show significant independent effects when the other variables were controlled. These findings indicate that the consequences of digital-device usage are influenced more by the nature, purpose, and emotional experience of engagement than by the duration of usage alone. Therefore, the study supports a shift from a simple “screen-time” perspective towards a broader understanding of behavioural and attitudinal dimensions of digital-device engagement. Promoting healthy digital behaviour among young adults should consequently focus on emotional regulation, purposeful usage, work-related dependence, and responsible device selection. Overall, the study contributes to a more comprehensive understanding of digital-device impact and highlights the importance of developing context-specific digital well-being strategies for young adults.

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