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Impact of Digital Intoxication on Social Conduct of Gen-Z: A Logistic Regression Approach

Biplab Biswas¹, Sanjib Biswas^{2,*}

¹ Research Scholar, ICFAI University Jharkhand, India, Amity Business School, Amity University Kolkata, AA-II, New Town, Kolkata-700135, India

² Amity Business School, Amity University Kolkata, AA-II, New Town, Kolkata-700135, India

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ABSTRACT

The massive technological advancements and rapid internet penetration have significantly changed social life. The Internet is an invincible aspect of daily life, as is social media. Social media has been increasingly leveraged for unlocking business potential through digital marketing. However, an increasing use of social media, especially excessive engagement with reels, has escalated digital intoxication (DIT). The adverse effects of DIT have been prominent among several generations. This paper aims to investigate the impact of excessive engagement with reels on the social behavior of Gen Z. We examine the relationship between average screen time (both weekdays and weekends) as a proxy for active reel engagement, family interaction, average sleeping time, and social conduct. Data was gathered from 121 undergraduate and postgraduate students using a logistic regression model. Findings indicated that weekend screen usage is a major predictor of negative social behavior, although weekday screen time does not have a significant influence. Gender significantly influenced the prevalence of problematic behavior, with men demonstrating a higher likelihood of such conduct. The research provides valuable insights for educators, parents, and policymakers seeking to promote healthy digital practices and social development in young people.

1. Introduction

Digital intoxication is a behavioural disorder in which a person becomes addicted to digital gadgets, such as games and social media contents. This addiction is like any other type of addiction in that it frequently causes people to ignore their social life and use digital platforms to feel better mentally or emotionally [1]. The impacts are awful for teenagers and youngsters, who are more sensitive to what they see and hear online. Because digital technologies are so standard, more people are paying attention to and learning about this addiction [2]. Digital intoxication, a mental health issue resulting from excessive use of social media platforms like "Facebook", etc., can lead to addictive habits and unhealthy ideas. The content on social media, including disturbing images and

* Corresponding author.

E-mail address: sanjibbiswas1981@gmail.com

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self-harm, can exacerbate emotional problems and complicate mental health. Passive consumption of content instead of active engagement further complicates its impact on mental health [3], [4]. Ranging from 15 to 60 seconds, a social media reel is a brief, engaging video format utilized on sites such as Instagram, TikTok, and Facebook. Its imaginative editing, music, and effects grab attention fast. Popularized by sites like Instagram, Facebook, and social media platforms like TikTok, they have been a major trend lately, changing the way we consume and share material. From informative to entertaining, these brief video styles express different concepts. In education, they enhance language learning and speaking skills.

Recent research has shown that social media platforms like Instagram, TikTok, Facebook, and Snapchat have positive as well as negative impacts on adolescents' mental health. Excessive use of social media reels has been linked to depression and anxiety among teenagers [5]. Studies show that teenagers all throughout the globe actively use social media channels; therefore, knowing their use and viewpoint is vital for grasping their influence on mental health [6]. The relationship between the use of social media reels and adolescent mental health is complex, with both positive and negative effects. Positive effects are linked to how well social media meets adolescents' needs, while the multifaceted impact on mental health, physical well-being, and healthcare access is also significant [7,8]. Teenagers' opinions on social behavior and academic achievements have been greatly influenced by social media reels. Understanding how these tools shape relationships, foster social connection, and influence early adolescent academic performance is very crucial [9, 10]. Social media has increased teenagers' access to resources, people, and knowledge, hence improving their social capital and support systems. Beyond academics, this influence shapes their general well-being and mental health [9]. Knowing the reasons behind teenagers' usage of social media helps one to grasp how it shapes their attitudes and actions. Social media platforms like TikTok, Facebook, and Instagram reels can provide insights into how individuals perceive themselves and others. It also influences perceptions of gender roles and facilitates social change among young individuals [11, 12]. Adolescent social media usage has also been greatly affected by the COVID-19 epidemic, which has in turn influenced their mental health and social conduct. Studies also show that although social media may lead to negative effects such as cyberbullying, poor body image, and disturbed sleep habits, it can also improve social support and access to mental health services. Dealing with the difficulties experienced by teenagers on social media requires an awareness of these consequences [13-15].

The "Differential Susceptibility to Media Effects" Model (DSMM) proposes that human characteristics, including emotional stability, self-esteem, and social competence, may significantly affect media responses [16]. Recent studies, such as those related to the COVID-19 pandemic, have demonstrated how media exposure affects public compliance with health policies. Media stories, especially those aimed at young people, have a varied impact on their well-being. These results support the DSMM's assertion that individual differences might affect media responses [17, 18]. A psychological theory, the DSMM claims that media consumption patterns during the pandemic are connected with mental states like fear and despair [19]. Individuals with high anxiety levels may be more inclined to use social media, potentially exacerbating their distress. The concept emphasizes the intricate interplay between personal characteristics and media influences, as well as how individual difference changes media effects and form character in various environments [18].

Logistic regression is a statistical method used to model binary dependent variables. It illustrates how various independent factors are associated with the likelihood of a specific outcome. It is used extensively in many fields, including psychology, health communication, social media behaviour, and cyberbullying [20]. "Logistic regression" is a way to look at two groups of data that can only have two outcomes. It can handle both continuous and categorical predictors and can account for a variety of

different factors. This makes it a good tool for analysing observational data to reduce bias. Standard linear regression for two-level outcomes may provide suboptimal findings because it assumes continuous variability for predictors, which is inconsistent with the characteristics of two-level outcomes. Consequently, logistic regression has been developed to address this deficiency. In some research, logistic regression has been used to identify the factors contributing to media addiction among youth. The researchers identified gender, maternal education, and alone time as significant determinants. This study demonstrates that logistic regression is an effective tool for determining social and environmental factors that influence the behavior of young people. Additionally, logistic regression has been employed to identify mental health issues by analyzing social media posts [21].

This paper makes a significant contribution to literature. First, this paper addresses a relatively uncharted problem of digital intoxication (resulting from the overuse of social media) among Gen Z. Second, the ongoing work considers variables such as screen time (for both weekdays and weekends), family interaction, and sleep time. Studies considering all these variables as potential predictors of social conduct are not available in the context of Gen Z. Third, this paper demonstrates the use of logistic regression in addressing the social behavior problem caused by social media usage. The existing research is mainly based on the US and European regions. The relationship between the time spent on screen time and family time, and the social conduct problem has not been explored. Most of the research is not based on any predictive model.

The remaining part of this manuscript is organized as follows. Section 2 exhibits a summary of some of the background studies. Section 3 briefs the theoretical foundation behind this work. Section 4 outlines methodological details. Key findings are highlighted in section 5. The discussions on the results are made in section 6. Section 7 concludes the paper.

2. Literature Review

Social media screen time has potential impacts on cognitive development in adolescents, with studies revealing associations between mental health, academic performance, social behaviors, and cognitive abilities. Prolonged screen exposure can have both positive and negative effects on cognitive abilities [22, 23]. Limits on screen time have been imposed by the WHO for infants and kids up to age five, with an emphasis on young children because of their fast physical and cognitive development. The goal of these initiatives is to stop bad lifestyle choices that can affect a person's entire life [24]. The systematic synthesis of neuroscientific literature on the relation between screen time and adolescent brain development highlights changes in brain structures responsible for cognitive control and emotional regulation in relation to addictive screen time behavior in children and adults [22, 25]. Limits on screen time have been imposed by the WHO for infants and kids up to age five, with an emphasis on young children because of their fast physical and cognitive development. The goal of these initiatives is to stop bad lifestyle choices that can affect a person's entire life [26]. Recent study demonstrates a substantial correlation between screen time and the start of binge eating disorder in adolescents, with heightened depressive symptoms serving as a partial mediator. The research indicates that screen time may directly influence the start of binge eating disorder (BED) in teenagers, with other variables perhaps modulating this relationship [23], [27]. The "Adolescent Brain Cognitive Development (ABCD)" Study indicates an annual rise in screen time among 9-12-year-olds [28]. Adolescence is experiencing an increase in screen time, particularly among early adolescents, making it crucial to understand how media parenting practices influence screen use behaviours. Digital development is also changing leisure practices, reducing physical activity time [29, 30]. Studies reveal a difference in the amount of time in making or watching reels reported by parents and adolescents, indicating that self-reported screen time is a better indicator of reel screen time [31].

Adolescents significantly engage with social media or other types of screen engagement for socialization, and other activities. This type often happens fearing social disapproval if they don't maintain a consistent online presence, meeting perceived norms and expectations [32]. Social experiences and in-person socializing are crucial for well-being, but the fear of missing out can displace these activities. Heavy social media use can cause psychological distress, especially among vulnerable individuals, emphasizing the need for parental guidance [33, 34]. Adolescent friendship quality is influenced by social media features and online support, providing new expression avenues, self-presentation, and identity development [35, 36]. In recent times, social media is essential for creating and sustaining connections with peers both online and offline, hence shaping their behaviours and preferences throughout adulthood and stressing the interdependence of social media use [37, 38]. Parents' social media knowledge helps young adults to control their children's online conduct, hence affecting teenagers' access to social media.

However more study is needed to define how parental behaviour affects adolescents' social media addiction and to design effective screen time restriction strategies [39, 40]. Adolescent mental well-being is significantly impacted by social media and other types of screen engagement, with adverse effects such as negative body image, self-esteem issues, and psychological distress. Addressing these issues through discussions and awareness, particularly in peer groups, can help mitigate these negative effects on adolescents' self-esteem and confidence [41, 42]. Excessive use of social media greatly affects hazardous behaviours and sexual activity among teenagers. Research indicates that social media offers venues for interaction with peers and maybe this can influence behaviour. The importance of social media and influencers in forming teenage sexual behaviour is highlighted, therefore stressing the need of thorough treatments to handle these effects [43, 44]. Digital media has greatly affected general welfare, cognitive abilities, and attention span. According to earlier studies, more use of digital tools—such as telework during the COVID-19 pandemic—can cause cognitive overload, hence influencing work efficiency and general well-being [45]. The constant presence of media devices and notifications can negatively impact cognitive control, attention spans, and decision-making abilities, necessitating a deeper understanding of the specific aspects of attention affected by screen time [46, 47]. Digital media influences attention and cognitive function, hence affecting different groups, including those with moderate cognitive impairment and schizophrenia. Improving cognitive function depends much on memory-encoding techniques and cognitive stimulation [48, 49].

Curated social media content like reels might foster unreasonable expectations, unhappiness, and disengagement among employees or future employees. The addictive quality of short video material may diminish attention spans and productivity, obstructing effective communication and collaboration, hence adversely influencing corporate performance, workplace culture, and career advancement [50, 51]. Excessive digital screen usage may result in mental health complications for people, especially among young people such as Generation Z. This may induce worry, despair, and feelings of inadequacy, impairing job concentration and elevating turnover intentions.

3.Theoretical underpinning

In an increasingly digitized world, understanding the theoretical frameworks that explain the influence of emerging technologies on human behaviour is essential. This chapter explores the foundational theories that inform the present study, focusing on how digital engagement reshapes social structures, interpersonal dynamics, and psychological outcomes. From the viewpoint of some theoretical lenses, this chapter lays the groundwork for understanding how digital screen engagement shape youth behaviour and mental health, thereby guiding the interpretation of the empirical findings in subsequent chapters.

Digital Displacement Theory examines how technological innovations alter social structures and behavioral patterns. It causes dislocation in fields like work, personal relationships, and societal standards [52]. It highlights how digital communication channels and social media impact social ties, leading to isolation and marginalization. Parental “Technoference” emphasizes the negative psychological consequences of digital technology, such as less parental warmth and more frequent rejection, which may aggravate mental health issues in adolescents [53-55].

Digital participation greatly influences young people's social behaviour, endangering academic performance and personal relationships. More digital platforms usage increases social anxiety, which causes feelings of inadequacy and unfavourable social comparisons. This phenomenon could lead to mental health issues like anxiety and despair. Maladaptive actions like cyberbullying, digital self-harm, and drug use may also influence the societal behaviour [56, 57]. While digital games may foster addiction and harmful habits, they also help young people learn [58]. This underlines the need for balanced engagement strategies. Gender and cultural identity influence digital displacement; therefore, various groups require tailored research and therapies [59].

The Differential Susceptibility to Media Effects Model (DSMM) describes how media exposure affects people differently depending on their personal, contextual, and media characteristics. High-quality family time acts as a buffer against adverse media exposures, implying that family interactions greatly affect adolescent behavioural development [60, 61]. Increased screen time, on the other hand, can harm family ties and cause anxiety, loneliness, and behavioural problems. While disturbance might make one more vulnerable to bad media effects, stronger family ties are connected to fewer behavioural problems in middle childhood [62].

Table 1

Summary of Included Literature: Digitalization's Social and Psychological Effects

Title	Author(s)	Research Focus	Methodology	Key Findings
The Digital Displacement on Everyday Activities and Happiness Among Chinese Older Adults	Chen <i>et al.</i> , (2025)	Digital technology's impact on elderly well-being	Quantitative survey	Digital use improves happiness but displaces traditional activities
Parental Technoference and Adolescents' Mental Health and Deviant Behaviour	Dixon <i>et al.</i> , (2023)	Parental technology interference effects	Scoping review	Parental device use correlates with youth mental health issues and deviant behaviour
Online Work as Humanitarian Relief? Digital Livelihoods for Syrian Refugees	Hackl & Najdi (2023)	Digital work opportunities in crisis	Mixed-methods	Online work provides economic relief but has access limitations
Family Relations after the Emergence of Social Media	Hussain <i>et al.</i> , (2020)	Social media's impact on family systems	Comparative analysis	Weakens joint family bonds while strengthening nuclear families
Family-Centered Prevention Buffers Financial Strain	Lavner <i>et al.</i> , [60]	Parenting interventions under stress	RCT intervention	Family programs reduce youth conduct problems during financial hardship

Table 1
Continued

Title	Author(s)	Research Focus	Methodology	Key Findings
Can Selfies Trigger Social Anxiety?	Liu <i>et al.</i> , [57]	Selfie behaviour and social anxiety	Cross-sectional survey	Frequent selfie-posting correlates with increased social anxiety
Digital Displacement of Youth Offending	McCord <i>et al.</i> , [56]	Technology's role in youth crime	Scoping review	Digital platforms enable new forms of youth delinquency
Digital Displacement: Contentious Politics in China	Morris [52]	Digital activism and state control	Qualitative case study	Digital tools reshape activism but face government censorship
Digital Mental Health Games for Refugees	Schuler & Raknes [58]	Mental health interventions	Experimental study	Group-based digital games improve refugee mental health
Youth Posts on Sex, Drugs, and Alcohol	Stevens <i>et al.</i> , [59]	Risky behaviour on social media	Mixed methods	Social media normalizes and amplifies risky youth behaviours
Early Childcare Quality and Development	Wustmann Seiler <i>et al.</i> , [61]	Childcare quality effects	Longitudinal study	High-quality childcare predicts better social-emotional outcomes

The above literature study (Table 1) highlights the intricate relationship between digital technology usage, family ties, and social behavior, particularly among teenagers and children. Digital displacement might lead to declining social relationships, emotional regulation, and prosocial behaviour. As a moderating factor, "Technoference" might reduce family time and aggravate adolescent behavioural problems. Studies show the need to track digital material use and screen time. Harmonizing digital involvement with in-person encounters will help to promote prosocial behaviour and psychological resilience.

3.1 Research Objectives and Hypotheses

Based on the theoretical discussion and literature review, the research objectives are outlined below.

RO 1. To examine the relationship between screen time and prosocial behaviour among Gen Z in the Indian context.

RO 2. To analyse the effect of family time spent on the social conduct among Gen Z.

RO 3. To investigate the impact of sleeping time on social conduct.

RO 4. To assess the impact of gender and educational qualification on social conduct.

Accordingly, we frame the research hypotheses as follows.

H₁: There is a significant relationship between screen time and social behaviour among adolescents.

H₂: Family time significantly influences the development of problematic social behaviour among adolescents.

H₃: Sleeping time is a significant predictor of adolescent social conduct.

H₄: Gender significantly influences the social behaviour among adolescents.

H₅: The educational qualification significantly influences the social behaviour among adolescents.

4. Materials and Methods

4.1. Respondents

The population in this study consisted of 121 students, drawn from undergraduate and postgraduate levels in eastern India. The respondents were selected through a convenient sampling approach. Initially, we approached 200 students, out of which 145 responded, resulting in a 72.5% response rate. After discarding the incomplete and improper responses, we could obtain 121 valid responses, resulting in a 60.5% effective response rate. The profiles of the respondents are mentioned in Table 2.

Table 2

Respondents Profile

Gender	Count	Qualification	Count
Male	76	UG	85
female	45	PG	36
Total	121	Total	121

4.2. Logistics Regression Model

Data were analyzed quantitatively using Logistic regression analysis techniques, with the SPSS software tool (version 21).

Logistic regression analysis was employed to examine the relationship between the dependent variable and one or more independent variables. This statistical technique is particularly appropriate when the dependent variable is binary (i.e., it assumes two possible outcomes, such as yes/no, success/failure, or presence/absence) [63].

The logistic regression model is expressed as:

$$\log\left(\frac{P}{1-P}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k \quad (1)$$

Where:

P = Probability of exhibiting problematic social conduct ($Y = 1$);

β_0 = Intercept (constant);

β_i = Coefficient for the i^{th} predictor;

X_i = Predictor variable;

$$\log\left(\frac{P}{1-P}\right) = \text{Log-odds of the outcome (logit)}.$$

Given the present problem, Eq. 1 can be translated into the research model as follows.

$$\log\left(\frac{\text{Problematic conduct}}{1 - \text{Problematic conduct}}\right) = \beta_0 + \beta_1 V_1 + \beta_2 V_2 + \beta_3 V_3 + \beta_4 V_4 + \beta_5 V_5 + \beta_6 V_6 \quad (2)$$

V1: Gender; V2: Qualification; V3: Average screen time spent during the weekend; V4: Average time spent for interaction with the family members; V5: Average sleeping time; V6: Average screen time spent during the weekdays

Before running the regression, the dataset was checked for multicollinearity, missing values, and model fit indicators.

4.3. Analysis prerequisite test

After performing Spearman's rho correlation, all correlations are found to be statistically significant at the 0.01 level (2-tailed), meaning the relationships are very unlikely to have occurred by chance. The analysis prerequisite test includes Multicollinearity test, Omnibus Tests of Model

Coefficients, -2 Log likelihood, Cox & Snell R Square, Nagelkerke R Square, Hosmer and Lemeshow Test. For Multicollinearity test, a low tolerance value below 0.1 suggests substantial multicollinearity by indicating notable shared variance across variables. A VIF number over 10 also indicates a major multicollinearity problem that calls for corrective action [64,65]. In case of Omnibus Tests of Model Coefficients, the p-value associated with the Chi-square statistic is the critical value for interpretation. A low p-value (≤ 0.05) generally indicates a significant improvement in model fit [66]. Particularly in the context of Maximum Likelihood Estimation (MLE), which is often employed in models like logistic regression, the essential result in statistical modelling is the "-2 Log Likelihood" number. It indicates how well the model fits the actual data. A lower -2 Log Likelihood score shows a better fit of the model to the data [67]. Similar to linear regression's R^2 , the Cox & Snell R^2 is a pseudo R^2 statistic used in logistic regression to show the model's explanatory power. Higher values suggest greater data interpretation, as they reveal the fraction of dependent variable variance explained by the model. With Nagelkerke R Square usually utilized, the value varies from < 0.10 to > 0.50 [68]. A pseudo- R^2 measure in logistic regression, Nagelkerke R^2 , modifies the Cox & Snell R Square to span between 0 and 1. Its interpretation ranges from extremely poor to great explanatory power; values over 0.2-0.3 are acceptable in social sciences and health studies [69]. The Hosmer and Lemeshow Test evaluates the goodness-of-fit of a logistic regression model by comparing observed and predicted probabilities. A p-value > 0.05 indicates a good fit, while a p-value ≤ 0.05 indicates a poor fit [70].

5. Results

5.1 Analysis prerequisite test

5.1.1 Multicollinearity test

The collinearity statistics (Tolerance and VIF) assess the presence of multicollinearity among the independent variables. Tolerance values close to or below .10 and VIF values close to 10 indicate high multicollinearity. In this case, all Tolerance values are above .10, and all VIF values are below 5, suggesting that multicollinearity is not a significant concern.

5.1.2 Omnibus Tests of Model Coefficients

The Chi-square value for the model is 133.170 with 6 degrees of freedom, and the significance (Sig.) is .000. This indicates that the model with the predictors is statistically significant and provides a better fit to the data.

5.1.3 Log likelihood, Cox & Snell R Square, Nagelkerke R Square:

Several criteria are used to evaluate the model's performance; the -2 Log likelihood value is 27.553, with lower values suggesting a better match. The Cox & Snell R Square is .667, indicating that around 66.7% of the variance in the dependent. The model accounts for the variable; the Nagelkerke R-squared is 0.908, indicating that almost 90.8% of the variation in the dependent variable is explained by the model.

5.1.4 Hosmer and Lemeshow Test

A non-significant result ($p > .05$) is desired, indicating that the model fits the data well. Here, the Chi-square is .423 with 8 degrees of freedom, and the Sig. is 1.000. This indicates a perfect model fit, meaning there is no significant difference between the observed and predicted frequencies across deciles of risk.

5.2 Logistic regression analysis results

Table 3 illustrates the contributions of various predictors to the model.

Table 3
Results of Binary Logistic Regression Analysis

Variables in the Equation	Values					
	B	S.E.	Wald	df	Sig.	Exp(B)
V1	7.135	3.617	3.891	1	0.049	1255.00
V2	1.583	1.574	1.012	1	0.314	4.87
V3	1.552	0.699	4.928	1	0.026	4.72
V4	-1.084	0.808	1.799	1	0.18	0.34
V5	-2.042	0.854	5.714	1	0.017	0.13
V6	-0.272	0.393	0.476	1	0.49	0.76

V1: Gender; V2: Qualification; V3: Average screen time spent during the weekend; V4: Average time spent for interaction with the family members; V5: Average sleeping time; V6: Average screen time spent during the weekdays ; Dependent variable: Social conduct problem

A major predictor is gender; a positive B coefficient suggests a greater probability of social behaviour issues in the group labelled '1'-Male. With a negative B coefficient suggesting no appreciable effect, qualification is not a major predictor. A major predictor is average screen usage on weekends, with a positive B coefficient suggesting a higher probability of social behaviour issues. On weekdays, however, average screen usage is not a major predictor; a negative B coefficient suggests a lower likelihood of social behaviour issues. Average family time expenditure is a major predictor; average sleeping time is not. The general model indicates that social behaviour issues are influenced by gender, education, average screen time, family time expenditure, and average screen time on weekday.

When we put all the values in Eq. 2, the following equation will be formed:

$$\log\left(\frac{\text{Problematic conduct}}{1 - \text{Problematic conduct}}\right) = \beta_0 + 7.135V_1 + 1.583V_2 + 1.552V_3 - 2.042V_4 - 1.084V_5 - 0.272V_6 \quad (3)$$

6. Discussion

The logistic regression model was evaluated for multicollinearity, model significance, model fit indices, and overall goodness of fit. The findings confirmed the independence of the predictors employed in the model, as there was no sign of multicollinearity among the independent variables. The Omnibus Test of Model Coefficients yielded a Chi-square score of 133.170 with a significance level of $p = 0.000$, which assessed the model's ability to predict the outcome variable. The model's explanatory power and fit were assessed using many indices; a low score indicated a strong model fit. With a Chi-square of 0.423 and a p-value of 1.000, the Hosmer and Lemeshow Goodness-of-Fit Test evaluated how well the model's predicted probabilities corresponded to the actual results.

The results indicate that gender has a significant and high impact on social conduct. There is a substantial indication that there is a difference between the male and female categories while considering their impact on social conduct problems due to digital intoxication. We coded females as value 2. Therefore, females are more susceptible to digital intoxication among Gen Z. This finding poses a critical issue. Due to digital intoxication, females suffer from mental depression and body image concerns (Tiggemann & Anderberg, 2020). The results indicate that qualification, though it may have some impact on social conduct, does not have any significant effect based on our study. However, we notice that respondents who spent more time watching reels on weekends experienced

a 4.7 times greater effect on their social conduct. Family interaction does not show any significant relationship, necessitating a deeper introspection. Conforming to the medical convention, spending more time sleeping significantly reduces the likelihood of social misconduct by 87%. Interestingly, the study reports that weekday screen time has a slightly negative but statistically insignificant impact.

If we plug the values of the independent variable in Eq. 3, we shall get the following values:

- Gender = 1 (Male)
- Qualification = 1 (PG)
- Avg_Screen_Weekend = 4 hours
- Avg_Family_Time = 2 hours
- Avg_Sleeping_Time = 7 hours
- Avg_Screen_Weekdays = 3 hours

$$\begin{aligned} \text{Logit}(P) &= 7.135(1) + 1.583(1) + 1.552(4) - 2.042(2) - 1.084(7) - 0.272(3) \\ &= 7.135 + 1.583 + 1.552 + 6.208 - 4.084 - 7.588 - 0.816 = 2.438 \end{aligned}$$

And converting the logit into probability, we shall get

$$P = \frac{e^{2.438}}{1 + e^{2.438}} \approx \frac{11.44}{1 + 11.44} \approx \frac{11.44}{12.44} \approx 0.919$$

Here, we can say that the student has a 91.9% probability of exhibiting problematic social conduct, primarily due to high weekend screen time and male gender, despite having an average family time and adequate sleep.

6.1. Research implications

The research indicates that gender is a crucial predictor of social behavior problems, with females exhibiting a greater tendency for these illnesses compared to males. This suggests that gender-based inequalities in social behavior warrant further examination. Interventions aimed at improving social conduct must be gender-sensitive, particularly for males within the teenage and young adult populations.

Excessive weekend screen usage significantly increases the likelihood of social behavioral problems, supporting the Displacement Hypothesis. Efforts to improve digital hygiene, particularly on weekends, could effectively reduce conduct-related issues. Educational institutions and mental health practitioners must incorporate instruction on suitable digital usage into their outreach and counseling programs. Sufficient sleep time is seen as a protective factor, with prolonged sleep reducing the probability of experiencing social conduct problems. This highlights the importance of sleep regulation in influencing behavioral outcomes and underscores its role as an essential component of behavioral intervention programs.

Advanced educational qualifications had a positive correlation with social conduct issues, indicating that formal education alone may not be sufficient to shield individuals from behavioral difficulties. Increased time spent with family members correlated inversely with behavioral issues, indicating a protective role of familial connections and support systems. Weekday screen time did not significantly predict social conduct issues, suggesting that incorporating screen usage into scheduled daily routines may not pose the same behavioral risks as unregulated screen use during weekends. The study provides empirical evidence that behavioral lifestyle characteristics, specifically gender, leisure screen time, and sleep habits, are crucial in predicting social conduct problems.

7. Conclusion

This paper employed a logistic regression model to investigate the impact of screen time and family time on the social behavior of teenagers in a non-Western setting. The model demonstrated good statistical validity, with no indications of multicollinearity, and a good overall fit, as indicated by the findings of the Omnibus Test and the Hosmer-Lemeshow Test.

Average screen use on weekends strongly predicted greater likelihoods of poor social behaviour, confirming Hypothesis H₁. On the other hand, weekday screen use was not particularly important, suggesting that the context and time of digital engagement are essential. Providing empirical support, average family time does not offer evidence for Hypothesis H₂. A significant influence was discovered for gender; females were more likely to have social behaviour problems. We also observe that a higher sleeping time significantly lowers the social conduct problem. Educational qualifications do not significantly influence social behavior.

The paper examines the impact of screen time on the social behavior of teenagers in the Indian context. It implies that demographic factors should be evaluated more strictly in future studies, including interaction effects. Although longitudinal studies may more accurately reflect developmental changes and the long-term effects of digital media and family involvement, the cross-sectional design of the study restricts causal inferences. A more comprehensive understanding of teenage social behavior may be achieved by differentiating screen content, comparing results across various cultural contexts, and incorporating psychological factors, including parental supervision, peer influence, emotional intelligence, and mental health. Policy-oriented studies might convert results into practical suggestions, particularly in digital literacy instruction, school counselling, and parenting programs.

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Conflicts of Interest

The authors declare no conflicts of interest.

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