

DIGITAL MEDIA USE, ANXIETY, SELF-ESTEEM, AND DELINQUENT BEHAVIOUR AMONG ADOLESCENTS IN SOUTHWEST DELHI: A CROSS-SECTIONAL STUDY

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ABSTRACT

The present cross-sectional study examined the relationships among digital media use, anxiety, self-esteem, and delinquent behaviour among adolescents in Southwest Delhi. The sample comprised 252 adolescents aged 13–18 years, including 126 boys and 126 girls, selected through stratified random sampling from schools located in urban and semi-urban areas. Digital media use was assessed using the Digital Media Use Questionnaire for Adolescents (DMUQ-A), anxiety through a self-report adaptation of the Hamilton Anxiety Rating Scale (HAM-A), self-esteem through the Rosenberg Self-Esteem Scale (RSES), and delinquent behaviour through a 10-item Delinquent Behavior Checklist adapted from selected Youth Self-Report items. Descriptive statistics and Pearson's product-moment correlation were used to analyse the data. Digital media use was positively associated with anxiety, $r = .49$, $p < .01$, and delinquent behaviour, $r = .41$, $p < .01$, and negatively associated with self-esteem, $r = -.38$, $p < .01$. Anxiety was negatively related to self-esteem and positively related to delinquent behaviour, while self-esteem was negatively related to delinquent behaviour. The findings indicate that higher digital media use scores are associated with less favourable emotional and behavioural adjustment among adolescents. However, the cross-sectional design does not permit causal conclusions. The study highlights the importance of digital literacy, supportive parental monitoring, and school-based mental health initiatives aimed at promoting balanced and responsible digital engagement among adolescents.

KEYWORDS: adolescents, anxiety, delinquent behaviour, digital media usage, self-esteem

INTRODUCTION

Digital media has become an important part of adolescents' everyday lives. Social networking platforms, online games, video-streaming services, messaging applications, and educational technologies now influence how young people communicate, learn, entertain themselves, and develop their social identities. Digital engagement can provide adolescents with access to information, opportunities for self-expression, and wider social interaction. At the same time, concerns have increased regarding the psychological and behavioural consequences of excessive or poorly regulated digital media use.

Adolescence is a sensitive developmental period marked by emotional changes, identity formation, peer comparison, and an increasing need for social acceptance. Because of these developmental characteristics, adolescents may be especially responsive to feedback and experiences encountered in online environments. Frequent exposure to idealised images, social comparison, cyberbullying, negative content, and continuous online interaction may contribute to emotional distress and unfavourable self-evaluation. Previous research has linked extensive digital and social media use with anxiety, depressive symptoms, and psychological distress among adolescents (Keles et al., 2020; Twenge et al., 2017). Online communication may support social relationships in some circumstances, but its effects depend on the type, intensity, and context of digital engagement (Valkenburg & Peter, 2011).

Self-esteem is another important aspect of adolescent adjustment that may be influenced by digital experiences. Online platforms often encourage individuals to compare their appearance, achievements, lifestyle, and popularity with carefully presented images of others. Repeated upward comparison may increase dissatisfaction with the self and contribute to lower feelings of personal worth, particularly among adolescents who are still developing a stable self-concept (Perloff, 2014). However, the relationship between digital media and psychological wellbeing is not always linear. Moderate digital engagement may be relatively harmless or even beneficial, whereas excessive use may be associated with less favourable outcomes (Przybylski & Weinstein, 2017).

Digital media use may also be related to behavioural adjustment. Exposure to aggressive content, online peer pressure, cyberbullying, and poorly monitored digital spaces may increase adolescents' involvement in rule-breaking or antisocial activities. Digital platforms can also provide opportunities for impulsive behaviour, conflict, truancy-related communication, and the normalisation of aggression. Nevertheless, delinquent behaviour is influenced by several personal, familial, school-related, and social factors. Therefore, digital media use should be understood as one possible correlate rather than as a direct cause of delinquency.

The Indian context requires particular attention because adolescents' digital experiences are shaped by academic demands, family expectations, parental monitoring, unequal digital literacy, and varying access to psychological support. Adolescents living in urban and semi-urban areas of Southwest Delhi are likely to have substantial access to smartphones and online platforms while simultaneously facing academic competition and social pressures. Despite growing concern regarding adolescent screen use, limited Indian research has examined anxiety, self-esteem, and delinquent behaviour together in relation to digital media use within the same sample.

The present study was therefore undertaken to examine the relationship between digital media use and anxiety, self-esteem, and delinquent behaviour among adolescents in Southwest Delhi. By investigating emotional and behavioural outcomes simultaneously, the study seeks to provide a clearer understanding of how digital media engagement is associated with adolescent psychological adjustment.

Objectives of the Study

The present study was conducted with the following objectives:

1. To examine the relationship between digital media usage and anxiety among adolescents.
2. To investigate the relationship between digital media usage and self-esteem among adolescents.
3. To assess the relationship between digital media usage and delinquent behaviour among adolescents.

Hypotheses

Based on the objectives and previous research, the following hypotheses were formulated:

H1: Digital media usage will be positively and significantly related to anxiety among adolescents.

H2: Digital media usage will be negatively and significantly related to self-esteem among adolescents.

H3: Digital media usage will be positively and significantly related to delinquent behaviour among adolescents.

METHOD

Participants

The study included 252 adolescents between 13 and 18 years of age. The sample consisted of an equal number of boys and girls, with 126 participants in each group. Participants were selected through stratified random sampling from schools situated in urban and semi-urban areas of Southwest Delhi. Only adolescents who fell within the specified age range and obtained parental consent were included in the study.

Measures

Digital Media Use Questionnaire for Adolescents

Digital media use was assessed through a study-specific instrument titled the Digital Media Use Questionnaire for Adolescents (DMUQ-A). The questionnaire consisted of two sections. The first section recorded the average number of hours spent each day on activities such as social media, online videos, gaming, messaging, online study, and video calls. Participants were also encouraged to consult the screen-time or digital-wellbeing records available on their devices while reporting their usage. The second section included 10 statements assessing the perceived influence of digital media on family interaction, sleep, concentration, physical activity, emotional wellbeing, friendships, coping, and academic performance. Responses to these statements were recorded on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating a greater perceived negative impact of digital media use.

Hamilton Anxiety Rating Scale

Anxiety was assessed using a self-administered adaptation of the Hamilton Anxiety Rating Scale (HAM-A) developed by Hamilton (1959). The scale contains 14 items covering psychological and somatic symptoms of anxiety, including anxious mood, tension, fears, insomnia, concentration difficulties, cardiovascular symptoms, respiratory symptoms, gastrointestinal complaints, and autonomic symptoms. Each symptom was rated on a 5-point scale ranging from 0 (not present) to 4 (very severe). Total scores may range from 0 to 56, with higher scores reflecting greater severity of anxiety symptoms. Although the original HAM-A was designed as a clinician-rated measure, the present study used the items in a self-report format.

Rosenberg Self-Esteem Scale

Self-esteem was measured using the Rosenberg Self-Esteem Scale (RSES) developed by Rosenberg (1965). The scale consists of 10 items assessing global feelings of self-worth and self-acceptance. Participants responded to each statement on a 4-point scale ranging from strongly agree to strongly disagree. Items 2, 5, 6, 8, and 9 are negatively worded and require reverse scoring. After appropriate reverse scoring, higher total scores indicate higher self-esteem. The RSES has demonstrated satisfactory reliability and validity across adolescent and adult populations.

Delinquent Behavior Checklist

Delinquent behaviour was assessed using a 10-item Delinquent Behavior Checklist adapted from selected items of the Youth Self-Report developed within the Achenbach System of Empirically Based Assessment. The checklist included behaviours such as lying or cheating, skipping school, stealing, physical fighting, destroying others' property, staying out without permission, threatening others, and using obscene language. Each item was rated as 0 (not true), 1 (somewhat true), or 2 (very true). Item scores were summed, with higher total scores indicating greater involvement in rule-breaking and delinquent behaviour. As only selected items were used, the checklist should be described as an adaptation rather than as the complete Youth Self-Report.

Procedure

Permission to conduct the study was obtained from the participating school authorities. Parental consent was secured before the administration of the measures. The questionnaires were administered collectively in classroom settings, and participants were informed about the purpose of the study and the voluntary nature of their participation. They were assured that their responses would remain confidential and would be used only for research purposes. Adequate time was provided to complete all four measures.

Data Analysis

The data were analysed using descriptive and correlational statistics. Mean, standard deviation, skewness, and kurtosis were calculated to describe the distribution of scores on digital media usage, anxiety, self-esteem, and delinquent behaviour. Pearson's product-moment correlation was used to examine the relationships among the study variables and to test the proposed hypotheses.

RESULTS

Descriptive Statistics

Descriptive statistics were calculated for digital media usage, anxiety, self-esteem, and delinquent behaviour. The results are presented in Table 1.

Table 1: Descriptive Statistics for the Study Variables

Variable	M	SD	Skewness	Kurtosis
Digital media usage	22.35	8.56	0.25	-0.67
Anxiety	21.47	9.84	0.42	-0.55
Self-esteem	18.22	5.12	-0.21	-0.19
Delinquent behaviour	9.56	3.34	0.60	-0.28

The mean digital media usage score was 22.35 (SD = 8.56), while the mean anxiety score was 21.47 (SD = 9.84). The average self-esteem score was 18.22 (SD = 5.12), and the mean delinquent behaviour score was 9.56 (SD = 3.34).

The skewness and kurtosis values were within acceptable limits, indicating that the distributions did not show substantial departures from normality. Therefore, Pearson's product-moment correlation was considered appropriate for examining the relationships among the variables.

Correlation Analysis

Pearson's correlation coefficients were calculated to examine the relationships among digital media usage, anxiety, self-esteem, and delinquent behaviour. The results are shown in Table 2.

Table 2: Correlations Among Digital Media Usage, Anxiety, Self-Esteem, and Delinquent Behaviour

Variable	1	2	3	4
1. Digital media usage	-			
2. Anxiety	.49**	-		
3. Self-esteem	-.38**	-.44**	-	
4. Delinquent behaviour	.41**	.37**	-.33**	-

Note. $p < .01$.

Digital media usage was positively and significantly related to anxiety, $r = .49$, $p < .01$. This finding indicates that adolescents with higher digital media usage tended to report greater anxiety. Thus, the first hypothesis was supported.

A significant negative relationship was found between digital media usage and self-esteem, $r = -.38$, $p < .01$. Higher digital media usage was associated with lower self-esteem among the participants. Therefore, the second hypothesis was also supported.

Digital media usage was positively and significantly related to delinquent behaviour, $r = .41$, $p < .01$. Adolescents reporting greater digital media usage also tended to report greater involvement in delinquent behaviour. Accordingly, the third hypothesis was supported.

Anxiety was negatively associated with self-esteem, $r = -.44$, $p < .01$, and positively associated with delinquent behaviour, $r = .37$, $p < .01$. Self-esteem was negatively related to delinquent behaviour, $r = -.33$, $p < .01$. Overall, the findings indicate that greater digital media usage was associated with less favourable emotional and behavioural adjustment among the adolescents.

DISCUSSION

The present study examined the relationship between digital media usage, anxiety, self-esteem, and delinquent behaviour among adolescents in Southwest Delhi. The findings supported all three hypotheses. Higher digital media usage was associated with greater anxiety, lower self-esteem, and higher levels of delinquent behaviour.

These results suggest that excessive or poorly regulated digital engagement may be linked with less favourable emotional and behavioural adjustment during adolescence.

A significant positive relationship was found between digital media usage and anxiety. Adolescents who reported greater digital media use also tended to experience higher anxiety. This finding is consistent with earlier research showing that intensive digital and social media engagement is associated with psychological distress among adolescents (Keles et al., 2020; Twenge et al., 2017). Constant connectivity, fear of missing out, exposure to negative online interactions, and pressure to remain socially available may contribute to emotional strain. However, because the study used a correlational design, it is also possible that anxious adolescents use digital media more frequently as a way of seeking reassurance, distraction, or social support.

Digital media usage was negatively related to self-esteem. Adolescents with higher digital media usage tended to report lower self-esteem. This finding may be understood in the context of social comparison, as online platforms often expose young users to carefully selected and idealised representations of others. Repeated comparison with such content may encourage unfavourable self-evaluation and dissatisfaction with one's appearance, achievements, or social status (Perloff, 2014). At the same time, the relationship between digital media and self-esteem may depend on the nature of online activity. Supportive communication and meaningful participation may have different effects from passive browsing, exposure to appearance-focused content, or repeated social comparison.

A positive association was also observed between digital media usage and delinquent behaviour. Adolescents reporting greater digital media use were more likely to report involvement in rule-breaking behaviour. This relationship may reflect exposure to aggressive content, online peer influence, cyberbullying, reduced parental supervision, or the normalisation of risky behaviour in digital spaces. General Strain Theory also provides a useful explanation, as stressful experiences such as online rejection, exclusion, and conflict may increase emotional frustration and contribute to maladaptive behavioural responses (Agnew, 1992). Nevertheless, digital media use should not be treated as a direct cause of delinquency, as adolescent behaviour is also influenced by family relationships, peer groups, school environment, socioeconomic conditions, and individual personality factors.

The findings further showed that anxiety was negatively related to self-esteem and positively related to delinquent behaviour. In addition, self-esteem was negatively associated with delinquency. These relationships indicate that emotional and behavioural difficulties may be interconnected. Adolescents with low self-esteem may be more vulnerable to anxiety, peer pressure, and risky forms of online or offline behaviour. Similarly, anxiety may affect judgement, coping, and impulse control, thereby increasing the likelihood of maladaptive responses.

Overall, the findings are consistent with the view that the effects of digital media depend not only on the amount of use but also on the purpose, content, and social context of engagement. Moderate use may not necessarily be harmful, whereas excessive or disruptive use may interfere with sleep, academic functioning, face-to-face interaction, and emotional regulation (Przybylski & Weinstein, 2017). Therefore, digital media usage among adolescents should be understood as part of a broader developmental and social environment rather than as an isolated behavioural problem.

Limitations

The findings should be interpreted in light of certain limitations. First, the cross-sectional design does not allow conclusions regarding causality or the direction of the observed relationships. Second, all variables were assessed through self-report measures, which may have been influenced by recall error or social desirability. Third, the sample was drawn from selected schools in Southwest Delhi, which limits the generalisability of the findings to adolescents from other geographical, cultural, and socioeconomic backgrounds. The study also examined digital media usage as a broad construct and did not distinguish between educational and recreational use, active and passive engagement, or specific forms of online content. Variables such as parental monitoring, sleep quality, cyberbullying, academic stress, family functioning, and peer influence were not included and may have affected the reported relationships.

Implications

The findings have practical implications for schools, parents, and mental health professionals. Schools may incorporate digital literacy and responsible media-use programmes into their student support services. Such programmes should focus not only on reducing screen time but also on helping adolescents recognise harmful online content, manage social comparison, respond appropriately to cyberbullying, and maintain a healthy balance between online and offline activities.

Parents may benefit from adopting consistent and supportive digital-monitoring practices. Open communication regarding online experiences, shared family media rules, device-free routines, and responsible digital behaviour by adults may help adolescents develop healthier media habits. Excessively restrictive or punitive approaches should be avoided because they may reduce adolescents' willingness to discuss negative online experiences.

Mental health professionals working with adolescents should consider assessing digital media habits when addressing anxiety, low self-esteem, or behavioural difficulties. Interventions may include cognitive-behavioural strategies, emotional regulation skills, improved offline social engagement, and family-based guidance. Future

research should use longitudinal and multi-method designs to examine the processes through which different types of digital engagement influence adolescent mental health and behaviour.

CONCLUSION

The present study examined the relationship between digital media usage, anxiety, self-esteem, and delinquent behaviour among adolescents in Southwest Delhi. The findings indicated that greater digital media usage was significantly associated with higher anxiety, lower self-esteem, and greater involvement in delinquent behaviour. These results suggest that excessive or poorly regulated digital engagement may be related to both emotional and behavioural difficulties during adolescence.

At the same time, the findings should not be interpreted as evidence that digital media directly causes psychological distress or delinquency. Adolescents' online experiences are influenced by several factors, including family environment, peer relationships, school climate, socioeconomic conditions, and the nature of the content they access. Therefore, the quality, purpose, and context of digital media use may be as important as the amount of time spent online.

The study highlights the need for coordinated efforts by schools, parents, counsellors, and mental health professionals to promote balanced and responsible digital media use. Digital literacy, emotional regulation, supportive parental monitoring, and opportunities for healthy offline interaction may help reduce the risks associated with excessive digital engagement. Further longitudinal research is needed to clarify the direction of these relationships and to identify the mechanisms through which digital media influences adolescent development.

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