

The Role Of Digital Exposure In Teenage Anxiety: Comparing Rural And Urban Adolescents Across

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ABSTRACT

This study presents the issue of digital exposure on teenage anxiety with a comparative emphasis on rural and urban adolescents. With the increased use of digital connectivity in adolescent life, the side effects of the same especially anxiety are of concern. The study is based on a sample of 80 adolescents (40 rural and 40 urban) and secondary data based on well-established behavioural and psychological research, which is used to analyse trends in screen time, content consumption, and reported anxiety symptoms. The results show that adolescents in urban areas have a much stronger digital presence, particularly in social media and gaming, and experience more symptoms of anxiety, including sleep disturbance, over thinking and mood swings. By contrast, rural teenagers demonstrate a more balanced use of the digital world, spending more time on educational content and experiencing less anxiety. The paper indicates the importance of geographical and lifestyle effects on the connection between digital media consumption and the mental health of adolescents and the necessity of specific interventions and digital wellness education especially in urban areas.

Keywords- Digital exposure, adolescent anxiety, rural vs. urban comparison, screen time, social media use, teenage mental health, secondary data analysis, digital behaviour.

1. INTRODUCTION

The increasing number of digital connections and the common usage of smartphones, social media, and internet-based entertainment have dramatically changed the everyday lives of teenagers. The digital technology has enormous potential in learning, communication and social interaction but it has brought in novel psychological issues. Among the most urgent issues is the fact that the connection between the increased digital exposure and the development of anxiety in teenagers is becoming stronger. Due to the emotional and psychological critical stage of development, adolescents are especially vulnerable to the impact of the excessive screen time, social comparison, online peer pressure, and sleep disturbances caused by excessive use of digital devices.

Remarkably, this impact is not the same in all populations. Because of differences in internet access, parental control, social norms, and educational infrastructure, the digital exposure of adolescents in rural settings may differ, compared to those in urban settings. Adolescents in urban areas who have better access to fast internet and high-tech devices are more involved in digital ecosystems, whereas rural adolescents can be more selective in the use of digital tools or use them with other purposes. Such differences can lead to different mental health conditions, especially when it comes to anxiety disorders, stress, and mood swings.

This paper aims to examine and contrast the importance of digital exposure in developing anxiety symptoms in adolescents living in rural and urban areas by analyzing secondary data to find patterns and make conclusions.

1.1. Objectives of the Study

The primary objectives of this research are:

1. To examine the patterns of digital exposure among rural and urban adolescents, including screen time duration and types of digital content consumed.
2. To identify and compare common anxiety-related symptoms reported among rural and urban teenagers in relation to their digital habits.
3. To analyse the correlation between digital exposure and anxiety levels across the two demographic groups.
4. To interpret how geographical and environmental factors (rural vs. urban) influence the psychological impact of digital technology on adolescents.

2. REVIEW OF LITERATURE

Shinde et al. (2024) conducted a cross-sectional study and examined the quality of sleep of adolescents in urban and rural settings and their involvement in the digital world. The study was a comparative research and found out that the quality of sleep of adolescents residing in urban areas where there was greater access and availability of digital devices was significantly lower than the sleep of adolescents residing in rural areas. The findings emphasized the fact that nighttime screen time, especially, was linked to late bedtime, frequent sleep disturbances, and poor overall sleep satisfaction in particular, which has contributed to an emotional imbalance and high anxiety symptoms in general.

Livingstone et al. (2017) carried out a rapid evidence assessment to explore the utilization, risk and prospects of digital media in low- and middle-income nations among younger adolescents. The review indicated that, as much as the digital technologies presented immense educational as well as social opportunities, it also exposed the adolescents to an enormous range of risks, including cyberbullying, inappropriate content, and peer pressure. The study also indicated the role of the socio-economic background in shaping the construction of digital experiences, as in urban settings, digital access is more extensive and unregulated due to the increased degree of internet access and the reduction of parental supervision.

George and Odgers (2015) assessed the typical concerns on the psychological implications of the mobile technology to the adolescents under the digital age. They could summarize the literature on psychology and thus they could come up with seven major fears which include reduced attention span, poor social skills, anxiety, and depression which are linked to the use of mobile devices. In their review, they acknowledged that some of the fears were overplayed, but there was reasonable evidence that there exists a relationship between mobile overuse and psychological distress, especially in adolescent participants who already tended towards emotional fluctuation.

Termine et al. (2021) investigated the psychological impact of COVID-19 lockdown in Italy on children and adolescents and, more precisely, on those with and without neurodevelopment disorder. The study claims that the abrupt shift to remote living along with the heightened dependency on digital communications to learn and socialize contributed significantly to mental health. The factors of anxiety, irritability, emotional deregulation, and poor sleep hygiene were more likely to be experienced by adolescents, including those with underlying conditions, and were exacerbated by the increased screen time and the inability to physically interact.

Blanchard et al. (2023) conducted a literature review and its association with the application of social media, adolescent mental health, and dietary behaviour. The review encompassed the study conducted in other parts of the world and found out the strong relationship between the high social media use and the adverse psychological outcomes, which are the heightened anxiety, body dissatisfaction, disordered eating, and low self-esteem. The paper emphasized that constant exposure to images of the perfect body, the comparison with others, and the feeling of validation in the online environment resulted in the acquisition of emotional distress among adolescents, especially those residing in cities with free access to a variety of social media sources.

3. RESEARCH METHODOLOGY

This methodology section describes the research design, data sources, sample description, and analysis methods to be used in addressing the role of digital exposure in anxiety among teenagers, with a comparative emphasis on rural and urban adolescents. The study is realised on secondary data which are taken out of the already developed behavioural and psychological researches, scholarly sources, and reputable databases. It is an analytical and descriptive approach that is aimed at interpreting the patterns and associations between digital behaviours and anxiety symptoms in the adolescent population.

3.1. Research Design

The research design used in this study is comparative descriptive research design whose focus is based on describing the behavioural differences between two particular demographic groups rural and urban adolescents in terms of their exposure to digital media and how it is related to anxiety.

3.2. Data Type and Source

The information that has been employed in this research is retrieved on the basis of diverse reliable scholarly and institutional sources. These are current peer-reviewed journals and empirical accounts of mental health and digital behaviour in adolescents, official publications by associations of child psychology and educational establishments, and articles in medical and behavioural science journals about screen time, anxiety symptoms, and digital engagement patterns in the youth.

3.3. Sample Size

A sample of 80 adolescents was taken into consideration in the name of analytical clarity and statistical consistency. The sample was composed of an equal number of persons in rural and urban areas, 40 adolescents in rural areas and 40 in urban areas. The size of each group was 20 boys and 20 girls, which made it possible to compare them on the basis of gender within the two geographical settings and also across the two settings. This ordered dispersion helped in a thorough examination of the presence of digital exposure and anxiety levels among various demographics.

3.4. Analytical Techniques

The data was displayed in tables so that a clear comparative and descriptive analysis can be done. The data were analyzed with the help of such techniques as descriptive statistics (mean values and percentages), cross-tabulation, and interpretive analysis to identify the trends in screen time, content use, and anxiety symptoms among rural and urban adolescents. Moreover, hypothetical correlation analysis was taken into consideration to establish the correlation between digital exposure and the level of anxiety.

4. RESULT

This section would give an analytical review of the interdependence between digital exposure and anxiety in rural and urban adolescents. The sample size will be 80 respondents where 40 respondents will be sampled in the rural areas and 40 in the urban areas. The secondary data information and past published behavioural research on digital behaviour and sign of anxiety among adolescents is used to conduct the analysis. Screen time, social media use, content, sleep quality and prevalence of anxiety symptoms are taken into consideration to interpret trends and differences between rural and urban adolescents.

Table 1: Average Daily Screen Time (in Hours) by Location and Gender

Location	Gender	Mean Screen Time (Weekdays)	Mean Screen Time (Weekends)
Rural	Boys	2.1 hrs	3.2 hrs
Rural	Girls	1.8 hrs	2.9 hrs
Urban	Boys	4.5 hrs	6.2 hrs
Urban	Girls	4.2 hrs	5.8 hrs

Table 1 indicates that urban teenagers are more active on digital devices than their rural peers. Urban boys spend the most time on the screen an average of 4.5 hours during the weekdays and 6.2 hours during the weekends closely followed by urban girls. Conversely, rural adolescents, particularly girls, have far less digital engagement, with rural girls spending the least amount of time on the screen in general. The data also shows that there is a steady rise in screen time on the weekend in all the groups, which mirrors the less strict schedule and more recreational use. Moreover, boys both in the country and in cities spend a little more time in front of the screen compared to girls, which is an indicator of digital activity patterns by gender.

Table 2: Type of Digital Content Most Frequently Consumed (Percentage of Respondents)

Content Type	Rural Adolescents (%)	Urban Adolescents (%)
Social media (e.g., Instagram, Snapchat)	25%	45%
Video Streaming (e.g., YouTube, OTT)	35%	30%
Online Gaming	15%	20%
Educational Platforms	25%	5%

Table 2 points out significant disparities in the consumption of digital content among rural and urban adolescents. The urban adolescents are more likely to prefer social media (45%) and online gaming (20%) than rural adolescents (25% and 15% respectively) indicating a higher propensity to interactive and social

media. Rural adolescents, in their turn, are more likely to use educational platforms (25%) and video streaming (35%), which implies more utilitarian use of digital media. This implies that urban teens are mostly involved with the digital content with social and recreational needs whereas rural teens prefer to access educational and informational content.

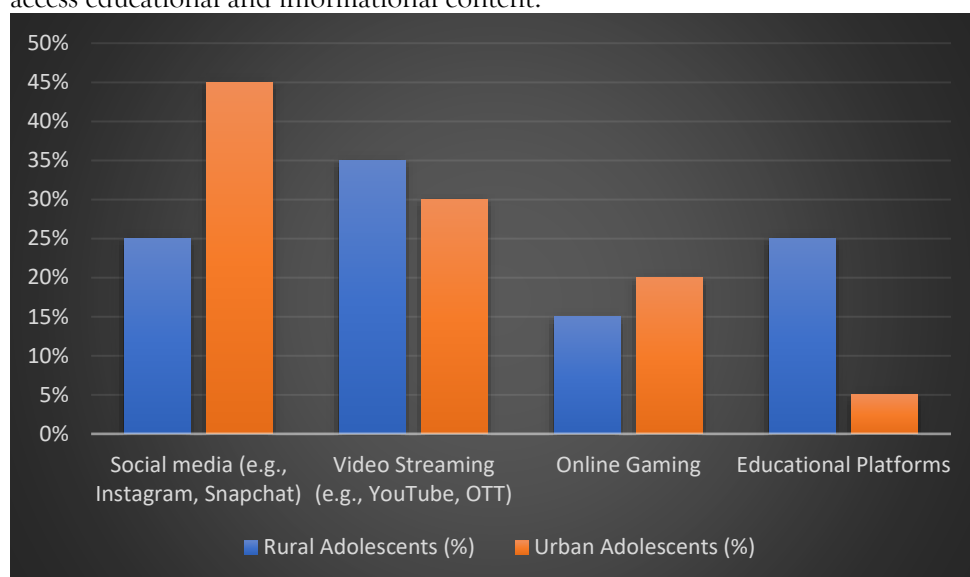


Figure 1: Graphical presentation of Digital Content Most Frequently Consumed

Figure 1 reveals that urban teenagers tend to use social media and online games, and rural teenagers are more interested in video streaming and learning services. This indicates that urban teens refer more to digital media on social and recreational grounds, and their usage pattern is more balanced or academic in nature as compared to the usage of rural teens.

Table 3: Self-Reported Symptoms of Anxiety Related to Digital Use (% Reporting the Symptom)

Symptom	Rural (%)	Urban (%)
Sleep Disturbances	30%	50%
Constant Worry/Overthinking	25%	48%
Irritability or Mood Swings	32%	46%
Social Withdrawal	20%	38%

Table 3 demonstrates that the symptoms associated with anxiety concerning the use of digital technologies are more common in urban adolescents than in rural adolescents. Urban adolescents have a higher prevalence of sleep disturbances (50%), over thinking (48%), irritability (46%) and social withdrawal (38%) than their rural counterparts (30%, 25%, 32%, and 20% respectively). It implies that the relationship between digital exposure and the anxiety symptoms is closer in urban environments.

Table 4: Comparison of Perceived Anxiety Levels on a 5-Point Scale

Anxiety Level	Rural Frequency	Rural (%)	Urban Frequency	Urban (%)
Very Low (1)	5	12.5%	1	2.5%
Low (2)	10	25%	3	7.5%
Moderate (3)	15	37.5%	12	30%
High (4)	8	20%	15	37.5%
Very High (5)	2	5%	9	22.5%

Table 4 discloses that the perceived anxiety is greater among urban adolescents than among rural adolescents. Most of the teenagers in the rural areas are in the low to moderate anxiety range but there is a significant shift in urban teens with 37.5 % of them being in the high anxiety group and 22.5 % in the very high anxiety group. In comparison, only 20 % of the teens in the rural areas report high anxiety and only 5 % report very high. This indicates a more intense level of anxiety in urban adolescents, which may be connected to more digital exposure.

5. CONCLUSION

This research points out the evident relationship between digital exposure and the level of anxiety in adolescents as urban teenagers report much more screen time and spending more time on social media and online games than their rural peers. This enhanced online activity among the urban teenagers is associated with the elevated rate of the anxiety-related symptoms, like sleep disorders, over thinking, moodiness, and anti-social behaviour. Conversely, rural adolescents who, at least, are more inclined to use digital platforms to learn and receive information, report fewer cases of anxiety. The results indicate that the psychological effect of digital media depends on the differences in the environment and lifestyle, and it is necessary to promote awareness, moderate digital use, and mental health care particularly in cities where the digital saturation is stronger.

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