

Investigating Changes in Short-Term Attention Due to Instagram Reels and YouTube Shorts

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Abstract- This study examines the impact of Instagram Reels and YouTube Shorts on the short-term attention span of adolescents aged 13 to 19 years. These platforms are widely used by teenagers due to their short, engaging, and easily accessible video content; however, excessive usage may affect the ability to focus on tasks requiring sustained attention. The study aimed to explore the relationship between short-form video consumption and changes in attention levels, with a comparison between frequent and less frequent users. Data were collected using a structured questionnaire and standardized attention measures, including the Mindful Attention Awareness Scale (MAAS) and the Short Numerical Attention Scale (SNAS). Descriptive statistics and comparative analysis were used for data analysis. The findings revealed that higher exposure to Reels and Shorts was associated with reduced short-term attention and increased distractibility. Overall, the study highlights the influence of short-form video content on adolescents' attention patterns and emphasizes the importance of balanced and mindful media use.

Keywords: Instagram Reels, YouTube Shorts, Short-Term Attention Span, Mindful Attention Awareness Scale (MAAS), Short Numerical Attention Scale (SNAS), Adolescents.

I. INTRODUCTION

The rapid growth of digital media has significantly transformed the way adolescents consume information and entertainment. In recent years, short-form video platforms such as Instagram Reels and YouTube Shorts have gained immense popularity among teenagers. These platforms provide quick, visually engaging, and easily accessible content, making them highly appealing to adolescents. However, the increasing exposure to such fast-paced digital content has raised concerns regarding its potential impact on cognitive functions, particularly short-term attention span.

Short-term attention span refers to an individual's ability to focus on a task or stimulus for a brief period of time. This form of attention plays a crucial role in learning, memory, academic performance, and daily functioning. Adolescence is a critical developmental stage during which cognitive abilities, including attention control and executive functioning, continue to mature. Excessive exposure to rapidly changing and highly stimulating content may interfere with this development by reducing tolerance for sustained focus and increasing distractibility.

There is a growing body of research suggesting that frequent consumption of short-form video content may be associated with reduced attention span and difficulty concentrating on longer tasks. The constant novelty, rapid transitions, and algorithm-driven personalization of platforms like Instagram Reels and YouTube Shorts encourage continuous scrolling and instant gratification. Over time, this pattern of media consumption may condition adolescents to prefer brief and stimulating content, making it challenging to engage with activities that require prolonged mental effort, such as reading, studying, or classroom learning.

At the same time, it is important to acknowledge that short-form video platforms are not entirely negative. Many adolescents report that these platforms provide quick learning opportunities, creative inspiration, and exposure to new ideas. This indicates that the impact of Reels and Shorts on attention may vary depending on usage patterns, duration of exposure, and individual differences among users. Despite increasing concerns, there remains a need for systematic research that examines both the positive and negative aspects of short-form video consumption on adolescents' attention abilities.

While existing studies have explored the effects of social media use on cognitive and academic outcomes, limited research has specifically focused on short-term attention span in relation to Instagram Reels and YouTube Shorts among adolescents. Additionally, there is a lack of empirical studies using standardized attention measures to assess attention-related changes in this age group. Addressing these gaps is important to better understand how emerging digital media formats influence adolescents' cognitive functioning.

In view of the growing use of short-form video platforms among adolescents, the present study focuses on examining changes in short-term attention associated with Instagram Reels and YouTube Shorts among individuals aged 13 to 19 years. The study aims to compare attention levels between frequent and less frequent users of these platforms using standardized measures, namely the Mindful Attention Awareness Scale (MAAS) and the Short Numerical Attention Scale (SNAS). By assessing attention patterns in relation to short-form video consumption, this research seeks to offer meaningful insights into the cognitive effects of emerging digital media on adolescents.

II. METHODOLOGY

Ethics

Ethics All research procedures adhered to ethical guidelines, ensuring the protection of participants' rights, confidentiality, and welfare. Informed consent was obtained from each participant, outlining the purpose of the study, potential risk and benefits, and their right to withdraw from the research at any time. Participants were assured of anonymity, and their personal information was kept confidential throughout the study. Any sensitive or identifying information was securely stored and accessible only to research personnel.

Research Design

The present study adopted a quantitative research design, as it focuses on collecting and analysing numerical data to identify patterns and relationships related to short-term attention among adolescents. Quantitative research was considered suitable for this study as it allows for objective measurement of

attention levels and comparison between different usage groups of short-form video platforms.

The sample for the study consisted of 50 adolescents, selected using an online mode of participation. Data were collected through an online survey questionnaire, which enabled easy access to respondents and efficient data collection. The questionnaire included standardized scales to assess attention and media-related behaviour.

To measure attention and related aspects, the Mindful Attention Awareness Scale (MAAS) and the Short Numerical Attention Scale (SNAS) were used. These tools helped in assessing participants' attention levels and understanding the impact of Instagram Reels and YouTube Shorts on short-term attention. The collected data were then analysed using basic descriptive and comparative methods to meet the objectives of the study.

Participants

The study recruited participants from a diverse range of backgrounds, including different age groups, genders, and socioeconomic statuses. The inclusion criteria specified that participants must be adolescents aged 13 to 19 years. Recruitment was carried out through online platforms, including social media and school networks, to ensure wide accessibility. Participants who expressed interest were provided with clear information about the research objectives, procedures, and their rights, including the right to withdraw at any time. Only adolescents who provided informed consent, were included in the study.

Hypothesis

1. Adolescents who spend more time on Instagram Reels and YouTube Shorts will exhibit lower short-term attention levels, as measured by the Mindful Attention Awareness Scale (MAAS) and the Short Numerical Attention Scale (SNAS), compared to those who use these platforms less frequently.
2. Frequent use of short-form video platforms will be positively associated with higher distractibility among adolescents, as reflected in their MAAS and SNAS scores.

3. The relationship between short-form video usage and short-term attention will vary depending on the platform, with Instagram Reels expected to have a stronger impact than YouTube Shorts.

Data Collection

The study recruited 50 adolescents aged 13 to 19 years using a convenience sampling method through online platforms, including social media and school networks. This approach aimed to include participants from diverse backgrounds in terms of gender, age, and socioeconomic status, ensuring a representative sample for the study. Participants completed a structured online questionnaire, which included standardized attention measures, specifically the Mindful Attention Awareness Scale (MAAS) and the Short Numerical Attention Scale (SNAS). The data collected provided insight into the relationship between short-form video usage and short-term attention among adolescents.

Research Tools

1. Mindful Attention Awareness Scale (MAAS): The MAAS (Brown & Ryan, 2003) was used to measure participants' short-term attention and mindfulness levels. This standardized scale assesses the ability to maintain attention on present-moment experiences and to be aware of distractions, providing insight into how exposure to short-form video content may influence attention patterns among adolescents.
2. Short Numerical Attention Scale (SNAS): The SNAS was administered to evaluate participants' numerical attention and focus. This scale measures the ability to concentrate on brief numerical tasks, capturing changes in attention span that may be associated with frequent use of Instagram Reels and YouTube Shorts.
3. Short-Form Video Usage Questionnaire: A structured questionnaire was developed to assess the frequency, duration, and type of content consumed on Instagram Reels and YouTube Shorts. This tool helped categorize participants into frequent and less frequent users and provided context for interpreting attention scores from the MAAS and SNAS.

Data Analysis

The data collected from 50 adolescents through Google Forms were analysed primarily using descriptive statistical methods. Pie charts and graphs were used to summarize participants' demographics, time spent on Instagram Reels and YouTube Shorts, and attention levels measured by the MAAS and SNAS. This provided a clear visual overview of usage patterns and attention scores among the respondents.

The relationships between short-form video usage and attention were also explored using simple correlation observations from the graphs, allowing for comparison between frequent and less frequent users. By examining differences in the pie charts and visual data, the study identified patterns in how usage of Reels and Shorts may influence short-term attention and distractibility in adolescents.

Overall, the analysis focused on presenting trends and patterns in the data, making it easy to understand the impact of short-form video consumption on attention without the need for complex statistical tests.

Rationale for Methodological Choices

The use of a quantitative approach in this study allowed for a clear and systematic examination of patterns in short-term attention among adolescents. By using standardized questionnaires such as the Mindful Attention Awareness Scale (MAAS) and the Short Numerical Attention Scale (SNAS), the study was able to efficiently collect data on attention levels and relate them to the frequency and type of short-form video usage.

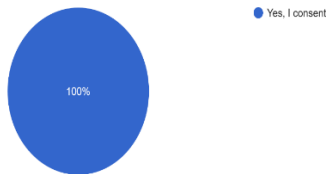
The use of descriptive statistics and visual outputs such as pie charts and graphs provided an easy-to-understand overview of participants responses, while also enabling comparisons between frequent and less frequent users of Instagram Reels and YouTube Shorts. This approach was well-suited to identify trends and patterns in the data without relying on complex statistical analyses.

Overall, the chosen methodology effectively addressed the research objectives and hypotheses, offering insights into how short-form video

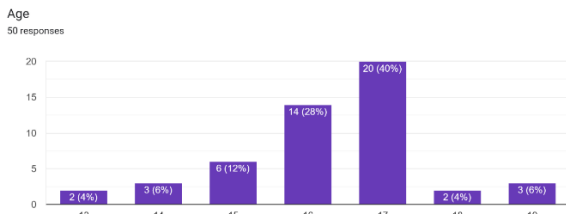
consumption may influence adolescents' attention. By combining structured questionnaires with simple visual analysis, the study provided a practical reliable and concise way to understand the impact of Reels and Shorts on short-term attention in a school-friendly research setting.

III. RESULT

Do you consent to participate in this research study, understanding that your responses will remain confidential and will be used only for research purposes?
 50 responses

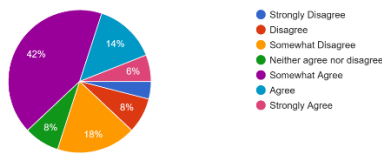


50 Respondents Participated in the following survey. The information was strictly used for research work only.



Participants from the ages 13-19 responded to the questionnaire with majority of the respondents being 17 years old. 86% were females and 14 % were males.

While studying or working, my thoughts often drift towards social networking sites
 50 responses



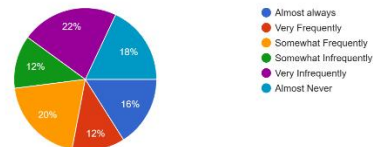
Descriptive Chart for SNAS (Short Numerical Attention Scale)

Overall Analysis of the Short Numerical Attention Scale (SNAS) responses revealed a noticeable level of distractibility among adolescents. A majority of participants agreed with the statement “While studying

or working, my thoughts often drift towards social networking sites.” As shown in the pie chart, most respondents selected “Somewhat Agree,” “Agree,” or “Strongly Agree,” (62% respondents) and in many other similar questions indicating that social media frequently interferes with their ability to maintain attention during academic or important work-related tasks. This suggests that adolescents are prone to distraction, supporting the view that frequent exposure to short-form video platforms such as Instagram Reels and YouTube Shorts may affect short-term attention.

The SNAS findings suggest that social media holds a strong presence in adolescents' daily attention (salience), with many participants reporting that their thoughts drift toward social networking sites during academic tasks. This distraction reflects mood modification, where social media draws attention away from studying, and conflict, as it interferes with academic focus. Repeated difficulty in maintaining attention despite efforts to concentrate may indicate tendencies related to tolerance and relapse, highlighting how frequent engagement with short-form video content can influence short-term attention patterns.

I find it difficult to stay focused on what's happening in the present.
 50 responses



Descriptive Chart for MAAS (Mindful Attention Awareness Scale)

Overall, Responses on the Mindful Attention Awareness Scale (MAAS) showed differences in how well adolescents maintain present-moment attention. For the statement “I find it difficult to stay focused on what's happening in the present,” most participants selected “Sometimes” or “Often,” indicating that sustained focus is often inconsistent. A smaller group (about 22%) reported “Rarely” or “Never,” suggesting better attentional awareness among some adolescents. Overall, the results highlight clear individual differences in short-term attention, with many adolescents' experiencing occasional difficulty

staying focused and some fraction of it is caused due to Instagram reels and YouTube shorts

MAAS primarily reflects aspects of present-moment awareness, automatic behaviour, and divided attention. The responses suggest that many adolescents tend to function on “automatic pilot,” rush through tasks without full awareness, or divide their attention between multiple activities. Difficulties in staying mentally present, reduced awareness of ongoing actions, and frequent shifts of attention indicate lower mindfulness, which is closely linked to fluctuations in short-term attention. These patterns highlight how everyday attention among adolescents may be inconsistent rather than sustained.

IV. CONCLUSION

The present study examined the impact of Instagram Reels and YouTube Shorts on the short-term attention span of adolescents aged 13 to 19 years using the Mindful Attention Awareness Scale (MAAS) and the Short Numerical Attention Scale (SNAS). The findings indicate that short-form video consumption is associated with noticeable variations in attention patterns among adolescents. Results from both scales showed that many participants experience fluctuating attention, frequent distraction, and reduced present-moment awareness, particularly during academic or task-oriented activities.

At the same time, the study also revealed individual differences, with a smaller proportion of adolescents demonstrating relatively stable focus and better attentional awareness. This suggests that while short-form video platforms do not affect all users in the same way, frequent exposure may contribute to inconsistent attention and increased distractibility for many adolescents. Concepts such as divided attention, automatic behavior, and interference with tasks were evident across responses, highlighting how digital media habits may shape everyday cognitive functioning.

Overall, the findings of this study highlight the growing influence of short-form digital content on adolescents’ attention in everyday life. While platforms such as Instagram Reels and YouTube Shorts provide quick entertainment, creativity, and social connection, their frequent use may encourage

habits of divided attention and reduced present-moment awareness. During adolescence, a stage marked by ongoing cognitive and emotional development, such patterns can affect the ability to concentrate on academic tasks and daily responsibilities. Therefore, it becomes important to promote mindful and balanced media use rather than complete avoidance. Awareness among adolescents, guidance from parents and educators, and responsible platform design can collectively support healthier attention habits. By fostering conscious engagement with digital media, adolescents can benefit from technology while also preserving their ability to focus, reflect, and engage meaningfully with the world around them.

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