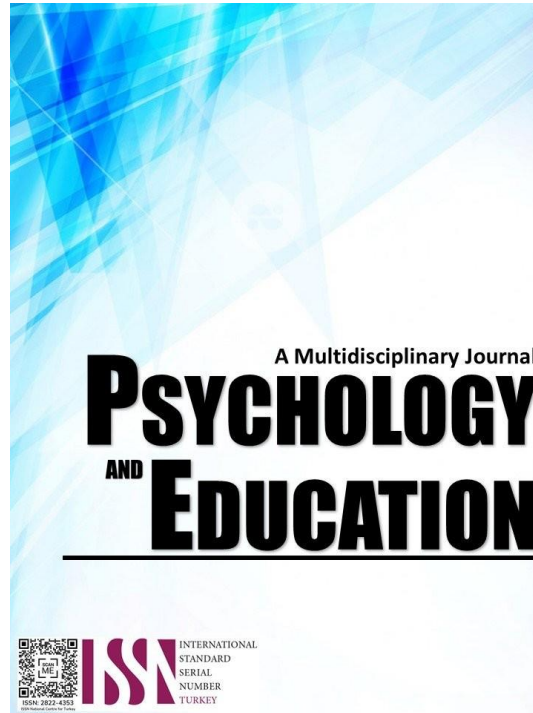


READING IN THE DIGITAL AGE: MODERATING EFFECTS OF AGE AND SEX ON THE RELATIONSHIP BETWEEN SOCIAL MEDIA USAGE AND READING INTEREST



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Reading in the Digital Age: Moderating Effects of Age and Sex on the Relationship between Social Media Usage and Reading Interest

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Abstract

In a world increasingly driven by rapid change and digital transformation, the ability to adapt, connect, and innovate has never been more essential. This study investigated the relationship between social media usage and reading interest among senior high school students at Lala Proper Integrated School during the 2024–2025 academic year, focusing on age and sex as potential moderators. Employing a quantitative, cross-sectional design, data were gathered from 100 randomly selected students (50 males, 50 females) across GAS, HUMSS, and TVL strands through a validated three-part questionnaire measuring socio-demographic variables, reading interest, and social media usage. Descriptive statistics summarized participants' profiles and reading behaviors, while moderation analysis in JAMOVİ examined the influence of age and sex on the social media–reading interest relationship. Findings revealed that Facebook and TikTok were the most frequently used platforms, with students averaging over 3.5 hours weekly on each. Although students demonstrated high reading attitudes (Mean=2.50) and purposes (Mean=2.59), their actual reading engagement (Mean=2.21), preference (Mean=2.11), and overall reading interest (Mean=2.35) were low, highlighting a disconnect between recognizing reading's value and practicing it during leisure time. A significant but weak positive correlation ($r = 0.244$, $p = 0.015$) indicated that greater social media usage was slightly associated with higher reading interest, suggesting that social media might coexist with or even encourage reading interest to some extent. Moderation analyses showed that while social media usage significantly predicted reading interest ($p < 0.05$), neither age ($p = 0.447$) nor sex ($p = 0.847$) moderated this relationship. This implies that the influence of social media on reading interest remains consistent regardless of students' age or gender. These results suggest that interventions to promote reading through social media or digital platforms can be broadly applied without age- or sex-specific modifications.

Keywords: *reading interest, social media usage, moderation analysis*

Introduction

Nowadays, it seems that students are reading less these days than in the past. The method they use to read has changed tremendously, even though they still read. They more often read on their phones or computers than by using books or printed articles. In addition, most of what they read now can be found on social media. Browsing Facebook, Instagram or TikTok, they read quick posts, memes and any comments they find. Teachers, parents and researchers have noticed this change because interest in reading is said to be on the decline.

In previous years, everyone saw reading as sitting down quietly with some material and focusing on the text. These days, there are constant alerts, videos and posts displaying while you read. A study conducted in Indonesia revealed that students depend on the internet for studying and for finding interesting news they can read online (Nurfaizah et al., 2024). At the same time, in the Czech Republic, young people are reading e-books and listening to audiobooks instead of printed books (Richter, 2024). With the rise of digital reading, youth is leading the trend.

Even so, some people still like to read books in physical form. In India, it was found that most people still like to use books, even though digital books are accessible online. For many older people, utilizing digital reading platforms might be uncomfortable. As a result, it shows that reading preferences can be related to someone's age, suggesting some people stick to traditional reading habits. Change is happening in the world of reading, though not everyone is moving at the same rate.

Youngsters in recent generations are showing a growing enjoyment of using technology for their reading. Nowadays, it is common for junior high school students to enjoy reading on mobile phones or tablets (Hermansyah & Mortini, 2023). It explains that technology is affecting both the reading skills and reading habits of students. Many of these changes are due the use of social media. It provides students with a wide range of reading materials online, all of which allow students to explore and understand various subjects with ease (Benaicha & Benghalem, 2024). Correct use of social media can develop a desire for reading among everyone. Even so, there are some obstacles. Information comes quickly on social media and can easily divert you. It might lead students to lose interest in books that are long or deep. Nowadays, many students confess they can endure only little reading, used to the quick and visual posts on social media. A few youths admit that because they waste so much time on the internet each day, they can't always focus on their school assignments.

At the same time, there are also potential problems. Using social media can be distracting and happen very quickly. Because of this, students might have a tougher time appreciating books that are long or heavy. Many people claim they are now unable to read for long periods due to the visual style of social media (Anyira, 2023). For others, finding time for reading school materials is affected because they choose to focus on scrolling social media posts rather than doing their assignments (Adekunjo & Unuabor, 2024).

Social media' attention affects people differently when it comes to reading. The experience affects certain students over those in other classes. The reason could be that younger students find digital books more appealing, whereas older students find it trickier to like them. Since boys and girls may interact with social media in different ways, this difference could contribute to differences in their reading habits. As a result, this subject becomes more interesting and should be explored more deeply.

Most studies conducted on social media and reading just examine general outcomes, not specific effects. So far, not enough evidence exists to say how age and sex play a role in how social media use impacts students' desire to read. At this stage, it is unclear whether the influence of social media on young learners is different for males and females or for those of similar age. More focus should be given to this aspect by current researchers.

The research gap focuses on the limited understanding of how personal factors like age and sex influence the link between social media use and students' reading interest. While many studies have explored the general effects of social media on reading habits, only a few have looked into how these effects might differ across various groups of students. There's a need to dig deeper and ask: whether older and younger students experience the influence of social media on reading differently, and whether boys and girls show different levels of reading interest based on how they use social media or not, and these are important aspect that are often overlooked—and this study aims to fill that gap.

The study aims to determine the moderating effect of age and sex on the relationship between social media usage and the level of reading interest among students. In other words, it wants to find out whether a student's age or sex strengthens, weakens, or changes the way social media influences how interested they are in reading. The study hopes to provide useful insights that can help teachers, parents, and schools support students in building better reading habits in the age of digital media.

Research Questions

The study aimed to explore how social media usage influence level of reading interest among senior high school students, with age and sex acting as moderator. Specifically, this study sought to answer the following questions:

1. What are the age groups of the respondents involved in the study?
2. What are the sexes represented among the respondents?
3. What social media platforms are commonly used by the respondents?
4. What is the level of reading interest among the respondents in terms of reading attitude, reading engagement, reading preferences, and reading purpose?
5. How is social media usage correlated with the level of reading interest?
6. How does age moderate the relationship between social media usage and reading interest?
7. How does sex moderate the relationship between social media usage and reading interest?

Methodology

Research Design

This study employed a quantitative, cross-sectional research design to examine the relationship between social media usage and the level of reading interest among senior high school students. A cross-sectional design involves collecting data at a single point in time, making it suitable for identifying patterns and associations among variables in a specific population (Creswell & Creswell, 2018). This approach is particularly effective for studies aiming to explore relationships and test theoretical assumptions without manipulating variables (Levin, 2006).

In addition, the study investigated whether age and sex act as moderating variables in the relationship between social media usage and reading interest. Moderation analysis was applied to assess whether the strength or direction of the relationship changed based on students' demographic characteristics. This analytical technique is consistent with the goal of testing interaction effects within non-experimental, observational data (Hayes, 2018).

Respondents

The target population of this study consisted of all senior high school students enrolled at Lala Proper Integrated School during the 2024–2025 academic year. From this population, a sample of 100 students was selected to participate in the study. These participants were equally divided by sex (50 male and 50 female) and drawn from the General Academic Strand (GAS), Humanities and Social Sciences (HUMSS), and Technical-Vocational-Livelihood (TVL) strands to ensure representation across various academic disciplines.

To ensure that every eligible student had an equal chance of being selected, the study employed simple random sampling, a probability-based technique that minimizes selection bias and enhances the generalizability of findings (Creswell & Creswell, 2018). The basis for selecting a sample size of 100 was guided by feasibility considerations, including time constraints and available resources, while also aiming to reach a sufficient number of participants for valid statistical analysis, particularly for moderation analysis.

Participants were included in the study if they were currently enrolled as senior high school students at Lala Proper Integrated School during the 2024–2025 academic year, belonged to one of the identified strands (GAS, HUMSS, or TVL), and provided informed and

voluntary consent to participate. Students who were not officially enrolled during the data collection period or those who declined or withdrew their consent were excluded from the study. This sampling approach ensured a gender-balanced and academically diverse representation of the student population.

Instrument

This study employed a validated three-part questionnaire to collect relevant data on the respondents' socio-demographic profile, reading interest, and social media usage. The questionnaire was composed of both adapted and researcher-developed components and was structured to ensure reliability, clarity, and alignment with the research objectives.

The first part of the instrument collected socio-demographic information, specifically the age and sex of the respondents. These items were researcher-constructed to describe the background characteristics of the participants.

The second part assessed the students' reading interest using an adapted instrument originally developed by Priajana (2015). This scale comprised four constructs: reading attitude, reading engagement, reading preferences, and reading purpose. Each construct contained five items, making a total of 20 items. Items were rated on a 4-point Likert scale: 4 – Always, 3 – Often, 2 – Sometimes, and 1 – Never. Higher scores indicated stronger reading interest across the respective dimensions. This structure allowed the researchers to capture both the cognitive and affective components of the students' engagement with reading.

The third part of the instrument measured social media usage and was researcher-developed. This section asked respondents to indicate the number of hours they spent weekly on various types of social media platforms (e.g., Facebook, TikTok, YouTube, Instagram). For each platform, students reported the total number of hours spent per week and the average number of hours per day, offering both a cumulative and comparative view of their digital media habits. This data provided quantitative insight into the intensity and distribution of social media engagement among the participants.

To ensure content validity, the entire questionnaire was evaluated by a panel of three experts in educational research and assessment. Their feedback led to minor revisions to improve the clarity and appropriateness of certain items. A pilot test was then conducted with 30 students from a similar academic setting who were not part of the actual study. Results from this test were used to calculate internal consistency reliability, and the reading interest scale achieved a Cronbach's alpha of 0.83, indicating high reliability (George & Mallery, 2016).

The questionnaire was administered face-to-face during regular class hours at Lala Proper Integrated School, with participants given 20–30 minutes to complete the instrument. Informed consent was obtained prior to administration, and the confidentiality of responses was ensured throughout the data collection process. This standardized and validated instrument ensured the accurate and ethical collection of data essential for analyzing the relationship between social media usage and reading interest.

Data Analysis

The data gathering procedure followed a systematic sequence to ensure clarity, validity, and ethical conduct. First, permission to conduct the study was secured from the school head of Lala Proper Integrated School. Informed consent forms were then distributed to the selected senior high school students, explaining the study's purpose, assuring confidentiality, and emphasizing voluntary participation with the option to withdraw at any time. Prior to the main data collection, a pilot test was conducted with 30 students from a similar academic background to evaluate the reliability and clarity of the questionnaire. Based on the pilot results and expert feedback, minor revisions were made to finalize the instrument.

Data collection was carried out through face-to-face administration of the validated three-part questionnaire during regular class hours. The researchers provided instructions and were available to clarify any questions while participants completed the questionnaire within 20 to 30 minutes. After collection, the researchers performed data cleaning to identify and address any missing or inconsistent responses, ensuring the dataset's accuracy before encoding it for analysis.

Descriptive statistics, such as means, standard deviations, and frequency distributions, were used to summarize participants' demographic profiles, social media usage patterns, and reading interest levels. Inferential analysis involved moderation analysis conducted using JAMOV software (MedMod or jAMM module) to test whether age and sex moderated the relationship between social media usage and reading interest. Predictor variables were mean-centered to reduce multicollinearity, and interaction terms between social media usage and the moderators (age and sex) were created. The significance of these interaction terms determined the presence of moderation effects. When significant, simple slopes analysis was performed to examine how the relationship varied across different levels of the moderators, such as varying age groups or between males and females. Assumption checks—including linearity, homoscedasticity, and normality of residuals—were conducted to validate the regression models. This systematic procedure ensured the reliability and replicability of the study's findings.

Ethical Considerations

This study adhered to ethical standards to protect the rights and welfare of all participants, who were minors enrolled as senior high school students. Prior to data collection, permission to conduct the research was obtained from the school head of Lala Proper Integrated School. To ensure informed participation, written informed consent was secured not only from the students themselves but also from

their parents or legal guardians, as required for research involving minors. The consent forms clearly explained the study's purpose, procedures, voluntary nature of participation, and the participants' right to withdraw at any point without penalty.

Confidentiality of all information provided by the respondents was strictly maintained. Personal identifiers were omitted during data encoding, and all collected data were stored securely, accessible only to the research team. The data were used solely for the purpose of this study and were handled with the utmost respect for participants' privacy.

Results and Discussion

This section presents the findings according to the study's research questions. It was computed using JAMOWI 2.6.26.

Table 1. Frequency Distribution on the Age of the Respondent

<i>Age</i>	<i>Frequency</i>	<i>Percentage</i>
15 – 17 years old	73	73.0
18 – 20 years old	24	24.0
21 years – above	3	3.0
Total	100	100

The table 1 shows the age distribution of the respondents. It shows that 73% of respondents are 15–17 years old, indicating the study primarily reflects younger senior high school students' reading behaviors. This suggests findings on reading interest and social media usage may be more applicable to early adolescents, who likely exhibit stronger digital preferences compared to older students. The limited representation of students aged 18+ (27%) implies caution when generalizing results to older adolescents, as their reading habits and media engagement might differ.

This interpretation aligns with global research on age-related reading trends. In the study of Richter (2024), it was found out that younger audiences prefer digital formats like e-books and audiobooks, supporting the likelihood of similar preferences among the predominantly 15–17-year-old sample. However, the study of Singh (2024) in India notes that digital adoption varies by age, reinforcing the need to contextualize our findings within the younger majority. Further, in the study of Hermansyah and Mortini (2023), it highlights that the Alpha Generation (including our younger respondents) leans heavily toward tech-based reading, suggesting our results capture this generational shift.

Table 2. Frequency Distribution on the Sex of the Respondent

<i>Sex</i>	<i>Frequency</i>	<i>Percentage</i>
Male	50	50.0
Female	50	50.0
Total	100	100

Table 2 presents the frequency distribution on the sex of the respondents. It shows an equal gender distribution among respondents, with 50 male (50%) and 50 female (50%) participants. This balanced representation ensures that the study's findings on reading interest and social media usage are not skewed by gender bias, allowing for fair comparisons between male and female students. The equal distribution implies that any observed differences in reading preferences or digital behaviors can be confidently attributed to gender-specific trends rather than sampling imbalance.

The gender-equal findings align with existing research on reading preferences. The study of Milal et al. (2021) found that male students tend to prefer printed books, while female students show greater inclination toward e-books and academic reading. This suggests that despite equal representation in our sample, male and female respondents may exhibit different reading behaviors—a factor that could influence the study's overall results on reading interest. The balanced gender distribution in our data allows this idea on differences to emerge clearly, providing valuable insights for targeted educational interventions.

Table 3. Social Media Usage of the Respondents (No. of hours spent on a platform per Week)

<i>Type of Social Media</i>	<i>Total No. of Hours</i>	<i>Average Hours Spent</i>
Facebook	371	3.71
Tiktok	367	3.67
Instagram	109	1.09
Snapchat	24	0.24
Twitter/X	19	0.19

Table 3 shows the social media usage of the respondents in terms of number of hours spent on platforms per week. It reveals that respondents spend the most weekly hours on Facebook (3.71 hours) and TikTok (3.67 hours), significantly outpacing time spent on Instagram (1.09 hours), Snapchat (0.24 hours), and Twitter/X (0.19 hours). This heavy engagement with visually driven, algorithm-based platforms suggests potential impacts on students' attention spans, study habits, and leisure reading time. The high usage rates imply these platforms may dominate students' digital lives, possibly displacing time for academic reading or other productive activities.

These findings align with concerning trends identified in recent research. The study of Savolainen and Oksanen (2024) found similar

heavy usage of Facebook and TikTok among adults correlated with negative behavioral outcomes, suggesting students' usage patterns may carry comparable risks. The study's reported averages (3.5-3.7 hours weekly) actually translate to about 30-45 minutes daily, which appears moderate until contextualized with study of You et al. (2022) finding that 37.7-58.3% of adolescents exceed 2 hours daily. This comparison suggests our respondents' usage might represent school-day patterns, with potential for higher weekend usage mirroring the 58.3% reported by You et al. The predominance of visually oriented platforms supports concerns about declining engagement with text-based content, highlighting the need for balanced digital literacy education.

Table 4. Level of Reading Interest of the Respondents in terms of Reading Attitude

Indicators	Mean	SD	Interpretation
1. I like reading in my leisure time.	2.45	0.89	Low
2. I feel confident in my ability to understand what I read.	2.62	0.83	High
3. I prefer reading over other leisure activities like watching TV or playing games.	2.47	0.88	Low
4. I think reading is a valuable way to spend my time.	2.61	0.93	High
5. I consider reading an essential part of my daily routine.	2.37	0.93	Low
Aggregated Mean	2.50	0.60	High

The table 4 shows the level of reading interest in terms of reading attitude. The results show students have generally positive attitudes toward reading, though with some mixed feelings. They feel quite confident about their reading abilities (Mean=2.62, High) and clearly value reading as worthwhile (Mean=2.61, High). However, they show less enthusiasm for reading in their free time (Mean=2.45, Low) and don't often make reading part of their daily routine (Mean=2.37, Low). The overall attitude score (Mean=2.50) falls at the low end of the "High" category, suggesting that while students recognize reading's importance, they may need more motivation to actually choose reading over other activities. This implies that reading promotion efforts should focus on making reading more appealing and relevant to students' interests, rather than just emphasizing its value.

These findings align with other research about young people's reading attitudes. The study of Wang et al. (2020) found that social media users develop various positive attitudes toward reading when they see its practical benefits. Similarly, in the study of Anhar et al. (2024), it was observed that while Gen Z students recognize how social media competes with reading time, many also appreciate how online platforms can support reading through communities and accessible content. This helps explain why respondents value reading but don't always practice it - their positive attitudes may be tied more to functional reading (like for information) than leisure reading. These studies suggest that building on students' existing positive attitudes by connecting reading to their digital lives.

Table 5. Level of Reading Interest of the Respondents in terms of Reading Engagement

Indicators	Mean	SD	Interpretation
1. I read early in the morning.	2.19	0.95	Low
2. I read during breaks at work or school.	2.31	0.90	Low
3. I read in the afternoon.	2.28	0.93	Low
4. I read before going to bed at night.	2.11	0.97	Low
5. I read on weekends or during my days off.	2.14	0.91	Low
Aggregated Mean	2.21	0.709	Low

Interpretation: 3.25 – 4.00 – Very High, 2.50 – 3.24 – High, 1.75 – 2.49 – Low, 1.00 – 1.73 – Very Low

The table 5 shows the level of reading interest in terms of reading engagement. The results show students have low reading engagement across all times of day (all means between 2.11-2.31). They rarely read in the morning (2.19), during breaks (2.31), afternoon (2.28), before bed (2.11), or on weekends (2.14). The overall score (2.21) falls in the "Low" category, meaning students don't make time for reading in their daily schedules. This suggests that even though students may think reading is valuable, they don't actually spend much time reading. Teachers should help students find specific times for reading each day and make it more enjoyable so they'll choose to read more often.

These findings match what the study of Kushwaha (2024) found - that social media often takes time away from reading. When students are always checking phones, they have less time and focus for reading books or articles. This helps explain why our respondents show low reading engagement, even if they have positive attitudes about reading. Their time and attention may be going to social media instead. Schools might need to create phone-free reading times to help students build better reading habits.

Table 6. Level of Reading Interest of the Respondents in terms of Reading Preference

Indicators	Mean	SD	Interpretation
1. I read early in the morning.	2.39	0.93	Low
2. I read during breaks at work or school.	2.20	0.84	Low
3. I read in the afternoon.	1.93	0.89	Low
4. I read before going to bed at night.	1.88	0.87	Low
5. I read on weekends or during my days off.	2.14	0.90	Low
Aggregated Mean	2.11	0.653	Low

Interpretation: 3.25 – 4.00 – Very High, 2.50 – 3.24 – High, 1.75 – 2.49 – Low, 1.00 – 1.73 – Very Low

The table 6 shows the level of reading interest in terms of reading preference. The table shows students have low preference for reading at all times of day (all means below 2.5). They slightly prefer morning reading (2.39) but show very little interest in afternoon (1.93) or bedtime reading (1.88). The overall score (2.11) falls in the "Low" category, meaning students generally don't choose to read voluntarily. This suggests students see reading as something they have to do (like for school) rather than something they want to do for fun. Teachers should find ways to make reading more enjoyable and relevant to students' interests to increase their preference for reading.

These results match recent research about reading preferences. The study of Benaicha & Benghalem (2024) found that while social media gives students access to lots of reading materials, they prefer quick, entertaining content over traditional books. Liu et al. (2022) also found that social media affects leisure reading more than school reading - students still read for class, but choose social media over books for fun. This explains why students show low reading preferences – they would rather use social media than read books during free time. Schools could use social media platforms to share interesting reading materials that might change students' preferences.

Table 7. Level of Reading Interest of the Respondents in terms of Reading Purpose

Indicators	Mean	SD	Interpretation
1. I read to gain knowledge or learn new skills.	2.75	0.90	High
2. I read for leisure or entertainment.	2.42	0.91	Low
3. I read to stay updated on current event.	2.42	0.89	Low
4. I read to improve professional skills.	2.58	0.92	High
5. I read to complete school or academic requirements.	2.77	0.93	High
Aggregated Mean	2.59	0.73	High

Interpretation: 3.25 – 4.00 – Very High, 2.50 – 3.24 – High, 1.75 – 2.49 – Low, 1.00 – 1.73 – Very Low

The table 7 shows the reading interest in terms of reading purpose. The table shows students mainly read for school work (2.77) and learning (2.75), scoring in the "High" range. They read less for fun (2.42) or news (2.42). The overall score (2.59) is "High", but this mostly comes from required school reading. This means students see reading as important for school and work, but not something they choose to do for enjoyment. Teachers should try to make reading more fun and meaningful, not just for assignments.

To support the implication, Martinez-Heras (2022) found that social media use makes people read less for pleasure. This matches the results - students read because they have to (for school), not because they want to. When students spend lots of time on social media, they seem to forget that reading can be enjoyable too. Schools should help students balance social media with different kinds of reading.

Table 8. Level of Reading Interest of the Respondents

Constructs	Mean	SD	Interpretation
Reading Attitude	2.50	0.60	High
Reading Engagement	2.21	0.71	Low
Reading Preference	2.11	0.65	Low
Reading Purpose	2.59	0.73	High
Reading Interest	2.35	0.46	Low

Interpretation: 3.25 – 4.00 – Very High, 2.50 – 3.24 – High, 1.75 – 2.49 – Low, 1.00 – 1.73 – Very Low

The table 8 shows the level of reading interest of the respondents. The composite results reveal a picture of students' reading interest. While students demonstrate moderately positive reading purposes (Mean=2.59) and attitudes (Mean=2.50), their actual reading behaviors show significant limitations, with particularly low scores in engagement (Mean=2.21) and preference (Mean=2.11). This pattern suggests a concerning disconnect between students' recognition of reading's value and their voluntary reading practices. The data indicates that reading primarily serves instrumental purposes (academic requirements and skill development) rather than personal enjoyment or habitual practice.

These findings align with and extend previous research in significant ways. In the study of Martinez-Heras (2022), the findings about the displacement effect of social media on leisure reading help explain the low engagement and preference scores, particularly the students' tendency to prioritize digital content over traditional reading. Meanwhile, Anhar et al. (2024) offer a complementary perspective by demonstrating how digital platforms can potentially serve as gateways to reading when content aligns with youth interests. Together, these studies contextualize the results, suggesting that while students maintain functional reading purposes (especially for academic survival), their overall reading culture has been substantially reshaped by digital media consumption patterns.

Table 9. Correlation between Social Media Usage and Reading Interest

	Correlation	Level of Reading Interest
Social Media Usage	r-value	0.244*
	df	98
	p-value	0.015

The table 9 shows the correlation between the social media usage and reading interest. The analysis reveals a statistically significant but weak positive correlation ($r = 0.244$, $p = 0.015$) between social media usage and reading interest. This suggests that higher social media engagement is slightly associated with greater reading interest among students. While the relationship is modest, the significant

p-value indicates this connection is unlikely due to chance. These findings imply that social media may not necessarily reduce reading interest as commonly assumed, but rather might coexist with or even support reading behaviors to some extent. The results warrant further exploration of how digital platforms could potentially complement reading promotion efforts in educational settings.

This observation aligns with existing literature demonstrating the complex relationship between digital media and reading practices. Recent studies suggest social media platforms can serve as gateways to reading by exposing users to literary content and online reading communities (Anhar et al., 2024). However, other research cautions that the quality and depth of reading may differ significantly between traditional and digital formats (Martinez-Heras, 2022). The current findings contribute to this ongoing discussion by providing empirical evidence of a measurable, though limited, positive association between these variables in an academic context.

Table 10. *Moderation Estimates for the Effect of Social Media Usage on the Level of Reading Interest with Age as Moderator*

	<i>Estimate</i>	<i>SE</i>	<i>Z</i>	<i>p</i>
Social Media Usage	0.01770	0.00717	2.470	0.014
Age	0.03510	0.08575	0.409	0.682
Social Media Usage * Age	0.00903	0.01186	0.761	0.447

The table 10 shows the moderation estimates for the effect of social media usage on the level of reading interest with age as moderator. The moderation analysis examining age as a potential moderator shows mixed results. While social media usage significantly predicts reading interest (Estimate=0.0177, $p=0.014$), age alone does not show a significant effect ($p=0.682$). Most importantly, the interaction between social media usage and age (Estimate=0.00903, $p=0.447$) is not statistically significant. This indicates that age does not moderate the relationship between social media usage and reading interest as hypothesized. The relationship between social media and reading interest remains consistent across different age groups in this study population. These findings suggest that interventions targeting social media's influence on reading interest can be applied broadly without age-specific adaptations.

These results align with prior research showing consistent digital reading patterns across adolescent age groups (Richter, 2024). While some studies suggest age-related differences in media use (Singh, 2024), the current findings support the perspective that social media's relationship with reading interest may be more universal than age-dependent (Hermansyah & Mortini, 2023). The non-significant interaction effect reinforces the need to consider factors beyond chronological age when examining how digital platforms influence reading behaviors. Future research might investigate other potential moderators such as reading purpose or platform type rather than demographic variables.

Table 11. *Moderation Estimates for the Effect of Social Media Usage on the Level of Reading Interest with Sex as Moderator*

	<i>Estimate</i>	<i>SE</i>	<i>Z</i>	<i>p</i>
Social Media Usage	0.01813	0.00720	2.518	0.012
Age	0.03007	0.08960	0.336	0.737
Social Media Usage * Age	0.00277	0.01441	0.192	0.847

The table 10 shows the moderation estimates for the effect of social media usage on the level of reading interest with sex as moderator. The analysis testing sex as a moderator reveals three key findings. First, social media usage shows a significant positive relationship with reading interest (Estimate=0.01813, $p=0.012$). Second, sex alone does not significantly affect reading interest ($p=0.737$). Most crucially, the interaction between social media usage and sex (Estimate=0.00277, $p=0.847$) is not statistically significant. This indicates that sex does not moderate the relationship between social media usage and reading interest as hypothesized. The consistent relationship across sexes suggests that social media's influence on reading interest operates similarly for both male and female students. These results imply that gender-specific interventions may not be necessary when addressing social media's impact on reading behaviors.

These findings align with previous research showing similar digital reading patterns across genders (Milal et al., 2021). While some studies report gender differences in reading preferences, the current results support the view that social media's relationship with reading interest remains consistent regardless of sex (Anhar et al., 2024). The non-significant interaction effect reinforces those other factors beyond sex likely play more important roles in moderating how social media usage affects reading interest. Future research could explore alternative moderators such as academic strand or reading purposes that might influence this relationship more substantially.

Conclusions

The study concluded that social media usage has a significant influence on the level of reading interest among senior high school students. While social media platforms can provide access to various reading materials and stimulate interest in current events, excessive or unproductive use may negatively impact students' motivation to engage in deeper, academic reading. Furthermore, the influence of social media on reading interest was found to vary slightly across age and sex, indicating that individual differences play a moderating role in how students interact with and are affected by digital content. Overall, the findings suggest a complex relationship between social media engagement and reading behaviors, with both beneficial and detrimental effects depending on usage patterns.

Based on the findings, it is recommended that educators and school administrators develop programs that promote productive use of

social media to support reading interest, such as encouraging students to follow educational pages, participate in online book discussions, or use e-reading platforms. Parents and guardians should also monitor their children's screen time and guide them in balancing social media use with academic responsibilities. Additionally, further studies may be conducted to explore other potential moderating variables, such as socioeconomic status, type of social media platforms used, and students' preferred reading formats, to better understand and support the development of reading habits in the digital age.

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