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Exploration of Digital Literary Reading Comprehension among Secondary School Students: A Gender-Based Comparative Study

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Abstract

This study explores gender-based differences in junior high school students' comprehension of digital literary texts. It responds to the growth of screen-based reading and the need to understand how students interpret literary meaning when texts are accessed through online media. A quantitative comparative design was employed. Data were collected through Microsoft Forms and a digital literary reading comprehension test administered to 75 junior high school students who were active social media users, consisting of 41 female and 34 male students. The data were analyzed using descriptive statistics, Levene's test, Welch's independent samples t-test, and effect size estimation. The findings showed that female students achieved a higher mean score (M = 6.66, SD = 0.48) than male students (M = 4.26, SD = 1.21). Because the assumption of equal variances was not met, the Welch test was interpreted, indicating a significant difference, t(41.541) = 10.819, p < .001. The effect size was very large (Cohen's d = 2.689), indicating a substantial gender-related difference. The study recommends differentiated digital literature instruction and inquiry into students' reading processes, motivation, and online attention patterns.

1. Introduction

Digital literary reading comprehension has become an important issue in language and literature education at the secondary school level because adolescents' reading practices have increasingly shifted to screen-based spaces. This transformation occurs while Indonesian students' reading ability continues to face serious challenges. PISA 2022 shows that only about 25% of Indonesian students reached Level 2 or higher in reading, while almost no students reached Level 5 or higher (OECD, 2023). In the gender dimension, Indonesian female students outperformed male students by 23 points in reading literacy (OECD, 2023). This situation intersects with the expansion of national digital access. APJII reported 221,563,479 internet users in Indonesia in 2024, with a penetration rate of 79.5% (APJII, 2024). DataReportal also recorded 143 million active social media user identities in Indonesia in January 2025 (DataReportal, 2025). These data indicate that secondary school students live in a highly digital reading ecology, yet their capacity to understand texts, particularly literary texts that require inference, imagination, empathy, and meaning interpretation, does not necessarily develop in parallel with their intensity of social media access.

Recent international research indicates that digital reading cannot be understood merely as a shift of medium. The meta-analysis by Altamura et al. (2023) shows that recreational digital reading habits have a weaker relationship with text comprehension than print reading. Peras et al. (2023) emphasize that comparisons between digital and paper reading need to consider age, gender, socioeconomic status, and school location. At the feature level, Krenca et al. (2024) demonstrate that scrolling and hyperlinks can influence children's comprehension when reading on screens.

Other studies position digital reading as a complex literacy practice. van Moort et al. (2025) explain that online reading requires the ability to select, integrate, and evaluate information in dynamic environments. Tüchler and Cain (2026) found that screen media can reduce young readers' ability to remember the location of information in a text. Gender issues also emerge in digital literacy, because adolescents' perceptions and media-information abilities do not always develop in the same direction (Jones & Procter, 2023). In the context of youth reading culture, Yessenbekova et al. (2025) show that digital formats change the frequency, preference, and pattern of young people's reading consumption. Scholes (2024) and Wallner (2024) also stress the importance of reading as a social, affective, and interpretive practice, especially when narrative texts are discussed in classroom settings.

National studies have also begun to pay attention to digital literature and reading literacy. Widiastuti et al. (2022) found that secondary school students have varied preferences for printed and digital literary reading materials. Digital reading was considered practical, although print reading was still perceived as more comfortable for certain comprehension purposes. Mustofa and Lestari (2023) discuss the opportunities and challenges of digital literary criticism in EFL

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pedagogy. Asia et al. (2024) show that reading strategies in digital literacy environments are related to reading comprehension. Budiyanto et al. (2024) link computer literacy and motivation with reading comprehension, while Pradnyawati et al. (2023) highlight the need to develop digital storybooks for seventh-grade students.

Although these studies have contributed to the field, a research gap remains. Previous research has more frequently compared print and screen media or discussed digital literacy in general, while fewer studies specifically examine the comprehension of digital literary texts. Gender-based studies have often focused on general reading literacy rather than students' responses to literary texts read within a digital ecology. In addition, junior high school students who are active social media users are rarely positioned as the main population. This group is at a decisive stage of reading development and, at the same time, is intensively engaged with digital media. The novelty of this study lies in its gender-based comparative measurement of digital literary reading comprehension. This study aims to describe differences in digital literary reading comprehension between female and male students and to interpret their implications for digital literature instruction in secondary schools.

2. Method

This study used a quantitative approach with a comparative design. This design was selected because the study aimed to compare students' digital literary reading comprehension scores based on gender groups. The respondents were 75 students from SMP Negeri 5 Mandai Maros who were active users of social media. The sample consisted of 41 female students and 34 male students. Respondents were selected purposively by considering their active use of social media and willingness to complete the online instrument. The criterion of active social media use was applied because the study positioned students as readers who were familiar with digital environments.

The research instrument was developed using Microsoft Forms. It consisted of respondent identity, confirmation of social media activity, and a digital literary reading comprehension test. The text used in the test was a short literary work presented in digital format, followed by seven questions. The test items were designed to measure students' ability to understand textual information, interpret implicit meaning, connect story elements, and draw conclusions about messages or values contained in the text. Data were collected by distributing the Microsoft Forms link to respondents through digital media used by students. Before completing the instrument, respondents received an explanation of the research purpose, data confidentiality, and instructions for completing the test. The data were analyzed using descriptive statistics and an independent two-group difference test with SPSS.

3. Result

This section presents the statistical findings on students' digital literary reading comprehension based on gender. The analysis focuses on three main aspects: descriptive statistics, the independent samples test, and effect size estimation. Descriptive statistics are used to describe the tendency of reading comprehension scores in the female and male groups. The difference test is then used to determine whether the scores of the two groups differ significantly. Finally, effect size analysis is presented to identify the practical strength of the gender-based difference in digital literary reading comprehension.

Gender-Based Descriptive Statistics

The descriptive analysis provides an initial overview of students' digital literary reading comprehension scores based on mean, standard deviation, and standard error mean. This analysis is important for identifying the general tendency of each gender group. The descriptive statistics are presented in Table 1.

Table 1. Descriptive Statistics of Digital Literary Reading Comprehension by Gender

Gender	N	Mean	Std. Deviation	Std. Error Mean
Female	41	6.6585	0.48009	0.07498
Male	34	4.2647	1.21378	0.20816

The descriptive analysis shows a difference in the mean score of digital literary reading comprehension between female and male students. Female students obtained a mean score of 6.6585 with a standard deviation of 0.48009, while male students obtained a mean score of 4.2647 with a standard deviation of 1.21378. The mean difference between the two groups reached 2.39383 points. In addition to being higher, the scores of the female group were also more homogeneous because their standard deviation was smaller than that of the male group.

Independent Samples Test

The independent samples test was used to determine whether there was a significant difference between the digital literary reading comprehension scores of female and male students. The test results are presented in Table 2.

Table 2. Independent Samples Test of Digital Literary Reading Comprehension

Test row	Levene F	Sig.	t	df	p	Mean diff.	SE diff.	95% CI
Equal var.	21.016	< .001	11.595	73	< .001	2.39383	0.20646	1.98235-2.80531

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Welch	-	-	10.819	41.541	< .001	2.39383	0.22125	1.94718-2.84048

Table 2 shows that the Welch independent samples t-test yielded t(41.541) = 10.819 with p < .001. The mean difference of 2.39383 had a 95% confidence interval ranging from 1.94718 to 2.84048. Because the confidence interval did not cross zero, the difference between the two groups can be considered statistically significant.

Effect Size

Effect size analysis was conducted to determine the strength of the difference in digital literary reading comprehension between female and male students. The effect size results are presented in Table 3.

Table 3. Independent Samples Effect Sizes

Effect Size	Standardizer	Point Estimate	95% CI Lower	95% CI Upper
Cohen's d	0.89011	2.689	2.055	3.314
Hedges' correction	0.89938	2.662	2.034	3.280
Glass's delta	1.21378	1.972	1.308	2.621

The effect size strengthened the practical meaning of the findings. Cohen's d reached 2.689 with a 95% confidence interval between 2.055 and 3.314. Hedges' correction showed a value of 2.662, while Glass's delta was 1.972. These values fall within the very large category. Therefore, the difference in digital literary reading comprehension between female and male students was not only statistically significant but also had a very strong effect.

4. Discussion

The findings show that female students achieved higher digital literary reading comprehension than male students. This difference should be interpreted as an empirical association, not as evidence that gender directly causes comprehension differences. The result is consistent with international reading literacy trends that often show female students' advantage in reading. The mean difference of 2.39 points and Cohen's d of 2.689 indicate a very strong achievement gap. In instructional contexts, a gap of this magnitude cannot be viewed as a minor variation between groups; rather, it signals the need for teaching designs that are more responsive to students' diverse reading experiences.

This difference can be explained through the relationship between reading engagement, literacy habits, and text comprehension. A rich literacy environment, reading enjoyment, motivation, and reading frequency have been shown to be

associated with students' reading comprehension (Claes et al., 2024; Maden, 2026). Digital literary texts require readers to do more than recognize explicit information. Readers must construct inferences, connect characters, understand conflicts, and capture values that are often not directly stated. In screen environments, these processes may be disrupted by fast reading habits, notifications, application switching, and multitasking tendencies.

Research on reading medium shows that digital texts may create challenges for accuracy and comprehension processing, particularly when readers do not have adequate strategies (Holsey Foss et al., 2025; Yarritu, 2026). Meta-analyses of digital reading also show that the benefits of technology are stronger when digital tools are combined with targeted pedagogical interventions and support (Pasqualotto et al., 2025; Alqahtani et al., 2024).

The larger standard deviation in the male group indicates greater heterogeneity of achievement. This means that the main issue in the male group is not only a lower mean score but also a wider internal variation. Some male students may have strong digital reading competence, while others may struggle to maintain attention or interpret narrative meaning. This finding is in line with studies emphasizing the relationship between traditional literacy and digital practice, where deep reading ability remains an important foundation for successful reading in digital spaces (Couceiro & Eynon, 2026; Clinton-Lisell, 2026). Therefore, digital literature instruction needs to avoid gender stereotyping and should focus more on mapping individual needs.

This finding is also important because students who are active social media users do not automatically possess strong digital literary reading comprehension. Social media activity can increase exposure to texts, images, comments, and short narratives, but such exposure is often fast and fragmentary. Understanding literary works requires sustained attention, emotional engagement, and the ability to evaluate characters' perspectives and story messages. Critical digital literacy requires readers to evaluate textual purposes, distinguish facts from opinions, and read contexts reflectively (Sirén et al., 2025; McGrew, 2024). Thus, digital literature instruction should be directed toward transforming screen-browsing habits into more conscious, deep, and interpretive reading practices.

In the Indonesian pedagogical context, the findings support the importance of explicit online reading strategies. Rinantanti et al. (2024) show that online reading strategies help learners face the challenges of digital texts. Visual and interactive media can also strengthen comprehension when used to clarify structure, meaning, and relationships among ideas (Asilestari, 2025; Salsabila & Kurnianto, 2025). The use of interactive platforms such as Wordwall may increase reading engagement when activities are designed for comprehension, not merely for play (Pratiwi et al., 2025). This evidence strengthens the argument that technology is not an automatic solution; the quality of task design, teacher guidance, and reflective strategies remains decisive.

Theoretically, this study extends the discussion of digital literacy into the

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literary domain. Many digital reading studies focus on informational texts, whereas literary texts have different characteristics because meaning is shaped through symbols, conflict, point of view, and aesthetic experience. Interactive e-books and digital strategy-based approaches can improve comprehension when readers are guided to monitor their thinking processes (Shao et al., 2025). Studies on gender in digital literacy also show that performance differences may be influenced by context; therefore, the present findings should be read alongside factors such as motivation, access, text type, and reading culture (Chen et al., 2026).

Future studies should use mixed methods designs with reading process observation, interviews, digital trace data, and varied literary genres. Such steps are necessary so that score differences do not remain merely statistical findings but develop into pedagogical understanding of how students construct literary meaning in digital ecologies.

5. Conclusion

This study concludes that there is a significant gender-based difference in digital literary reading comprehension among students of SMP Negeri 5 Mandai Maros. Female students obtained higher and more consistent mean scores than male students. The Welch independent samples t-test showed a significant difference, $t(41.541) = 10.819$, $p < .001$, with a very large effect size. This finding implies that language and literature teachers need to design differentiated digital literature instruction. Male students who show wider variation in achievement can be supported through pre-reading activities, inference guides, character maps, response journals, and structured discussions. Female students who already demonstrate high achievement still need challenges through symbolic analysis, evaluation of narrator perspective, and creative response production. Future research is recommended to use mixed methods, expand the number of respondents, compare different digital literary genres, and explore students' cognitive-affective processes when reading literary texts on screens.

6. References

Alqahtani, S. S., et al. (2024). A meta-analysis of technology-based interventions for young students with reading difficulties. Humanities and Social Sciences Communications. https://doi.org/10.1057/s41599-024-04159-y

Altamura, L., Vargas, C., & Salmerón, L. (2023). Do new forms of reading pay off? A meta-analysis on the relationship between leisure digital reading habits and text comprehension. Review of Educational Research. https://doi.org/10.3102/00346543231216463

APJII. (2024). Jumlah pengguna internet Indonesia tembus 221 juta orang. Asosiasi Penyelenggara Jasa Internet Indonesia. https://apjii.or.id/berita/d/apjii-jumlah-pengguna-internet-indonesia-tembus-221-juta-orang

Asia, M., Asdam, M., & Asdar, A. (2024). Investigating students' reading strategies

and reading comprehension through digital literacy environment. AL-ISHLAH: Jurnal Pendidikan, 16(3), 3370-3379. https://doi.org/10.35445/alishlah.v16i3.5510

Asilestari, P. (2025). Enhancing reading comprehension through visual information: A longitudinal study in higher education. AL-ISHLAH: Jurnal Pendidikan, 17(2), 2415-2434. https://doi.org/10.35445/alishlah.v17i2.7490

Budiyanto, D., Tridinanti, G., & Ridho, M. R. (2024). Students' computer literacy skill, motivation, and reading comprehension in eleventh grade. Jurnal Pendidikan Bahasa Inggris Undiksha, 12(2), 150-158. https://doi.org/10.23887/jpbi.v12i2.81711

Chen, L. L., et al. (2026). Gender differences in digital literacy: A systematic and meta-analytic review. Frontiers in Psychology, 17, 1673694. https://doi.org/10.3389/fpsyg.2026.1673694

Claes, R., Laga, J., Denies, K., Bleukx, N., Dockx, J., Van Keer, H., & Aesaert, K. (2024). The interplay between students' home literacy environment, reading attitudes and comprehension: A serial mediation analysis using PIRLS 2021 data. Large-scale Assessments in Education, 12, 36. https://doi.org/10.1186/s40536-024-00233-8

Clinton-Lisell, V. (2026). Decoding digital reading: A network meta-analysis of reading comprehension in digital environments. Education and Information Technologies. https://doi.org/10.1007/s10639-025-13843-8

Couceiro, L., & Eynon, R. (2026). Turning back the page on digital literacy: The role of traditional literacy in shaping digital practices. Learning, Media and Technology. https://doi.org/10.1080/17439884.2026.2640004

DataReportal. (2025). Digital 2025: Indonesia. Global Digital Insights. https://datareportal.com/reports/digital-2025-indonesia

Holsey Foss, V., Støle, H., & Magyari, L. (2025). The impact of reading medium on text comprehension among vocational students. Scandinavian Journal of Educational Research. https://doi.org/10.1080/00313831.2025.2506387

Jones, S.-L., & Procter, R. (2023). Young peoples' perceptions of digital, media and information literacies across Europe: Gender differences, and the gaps between attitudes and abilities. Technology, Pedagogy and Education, 32(4), 435-456. https://doi.org/10.1080/1475939X.2023.2210152

Krenca, K., Taylor, E., & Deacon, S. H. (2024). Scrolling and hyperlinks: The effects of two prevalent digital features on children's digital reading comprehension. Journal of Research in Reading, 47(3), 269-291. https://doi.org/10.1111/1467-9817.12468

Maden, A. (2026). Secondary school students' reading culture and its role in critical reading self-efficacy perceptions. BMC Psychology, 14, 116. https://doi.org/10.1186/s40359-026-04015-5

Masruddin, Hartina, S., Arifin, M. A., & Langaji, A. (2024). Flipped learning: facilitating student engagement through repeated instruction and direct feedback. Cogent Education, 11(1), 2412500.

ISSN 2338-4778 (Print)
ISSN 2548-4192 (Online)

Masruddin, M., Amir, F., Langaji, A., & Rusdiansyah, R. (2023). Conceptualizing linguistic politeness in light of age. International Journal of Society, Culture & Language, 11(3), 41-55.

McGrew, S. (2024). Tackling misinformation through online information literacy: Structural and contextual considerations. Journal of Research on Technology in Education. https://doi.org/10.1080/15391523.2023.2280385

Mustofa, A., & Lestari, L. A. (2023). Literary criticism in the digital age: Addressing the problems and opportunities of digital literature in EFL pedagogy. English Review: Journal of English Education, 11(1), 263-274. https://doi.org/10.25134/erjee.v11i1.7137

OECD. (2023). PISA 2022 results (Volume I and II): Country notes: Indonesia. OECD Publishing. https://www.oecd.org/en/publications/pisa-2022-results-volume-i-and-ii-country-notes_ed6fbcc5-en/indonesia_c2e1ae0e-en.html

Pasqualotto, A., Cunningham, E. G., Cartwright, K. B., & Bavelier, D. (2025). Digital tools for reading success: Meta-analyses of digital reading interventions. Journal of Cognitive Enhancement. https://doi.org/10.1007/s41465-025-00336-2

Peras, I., Klemenčič Mirazchiyski, E., Japelj Pavešić, B., & Mekiš Recek, Ž. (2023). Digital versus paper reading: A systematic literature review on contemporary gaps according to gender, socioeconomic status, and rurality. European Journal of Investigation in Health, Psychology and Education, 13(10), 1986-2005. https://doi.org/10.3390/ejihpe13100142

Pradnyawati, K. R., Myartawan, I. P. N. W., & Pratiwi, N. P. A. (2023). Need analysis in developing TBLT-based digital storybook for 7th-grade students. Jurnal Pendidikan Bahasa Inggris Undiksha, 11(2), 196-204. https://doi.org/10.23887/jpbi.v11i1.61192

Pratiwi, R., et al. (2025). Enhancing reading comprehension through Wordwall interactive learning platform. Jurnal Pendidikan Bahasa Inggris Undiksha. Retrieved from https://ejournal.undiksha.ac.id/index.php/JPBI/article/view/94358

Rinantanti, Y., Rahayu, B., Ibrahim, M., Faot, O., & Limbong, S. (2024). Exploring online reading strategies and comprehension of texts for EFL learners' use in 5.0 society development era. AL-ISHLAH: Jurnal Pendidikan, 16(3), 3637-3649. https://doi.org/10.35445/alishlah.v16i3.5167

Salsabila, N. F., & Kurnianto, B. (2025). Developing digital scrapbook media to enhance narrative reading comprehension in grade III elementary students. AL-ISHLAH: Jurnal Pendidikan. Retrieved from https://journal.staihubbulwathan.id/index.php/alishlah/article/view/7499

Shao, J., Abdul Rabu, S. N., & Chen, C. (2025). The impact of gamified interactive e-books incorporating metacognitive reading strategies on Chinese

elementary students' mathematical reading comprehension. Education and Information Technologies, 30, 22893-22929. https://doi.org/10.1007/s10639-025-13660-z

Scholes, L. (2024). Reading for digital futures: A lens to consider social justice issues in student literacy. Cambridge Journal of Education, 54(2), 195-212. https://doi.org/10.1080/0305764X.2023.2281695

Sirén, M., Leino, K., & Nissinen, K. (2025). Critical literacy in the PISA 2018 reading literacy assessment. Scandinavian Journal of Educational Research. https://doi.org/10.1080/00313831.2023.2287458

Tüchler, A. F., & Cain, K. (2026). Reading print vs. on screen: How do medium and text structure influence the ability to locate information in text? Reading and Writing, 39(5), 1763-1783. https://doi.org/10.1007/s11145-025-10671-7

van Moort, M. L., de Bruïne, A., & van den Broek, P. (2025). Reading comprehension in an online world: Challenges, opportunities, and implications for education. The Reading Teacher, 79(1), e70006. https://doi.org/10.1002/trtr.70006

Wallner, L. (2024). Constructing moments of insight: Accounting for learning in classroom discussions on narrative fiction reading. Classroom Discourse, 15(4), 421-436. https://doi.org/10.1080/19463014.2024.2335958

Widiastuti, Y., Lestari, O. W., & Ambarwati, A. (2022). Preferensi media bacaan sastra siswa SMAN 1 Kraksaan: Cetak atau digital? KEMBARA: Jurnal Keilmuan Bahasa, Sastra, dan Pengajarannya, 8(2), 272-287. https://doi.org/10.22219/kembara.v8i2.21345

Yarritu, I. (2026). The role of media multitasking tendency in medium effect on reading comprehension of university students. Educational Technology Research and Development. https://doi.org/10.1007/s11423-026-10607-0

Yessenbekova, U., Aldabergenova, Z., Mamankul, A., Rakhymbayev, N., & Kutym, B. (2025). The impact of the digital format on Kazakh youth's information consumption and reading culture. Publishing Research Quarterly, 41, 113-131. https://doi.org/10.1007/s12109-024-10012-6