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## **“I’ll still prefer to read the hard copy”: Adolescents’ Print and Digital Reading Habits**

### **Abstract**

Does print still matter in this digital age? What is the role of technology in reading? Do adolescents who enjoy reading view the reading of print and digital material differently from those who do not enjoy reading? Drawing on survey data from 6,005 students and focus group data with 96 students across six secondary schools, this mixed-methods study examines adolescents’ print and digital reading habits in Singapore. Findings show that adolescents prefer print but move towards more online reading as they get older. Adolescents’ online reading habits are reflective of their print preferences and behavior with physical books. The article explains how both print and technology matter to motivate adolescent reading.

### **Teaser**

Educators must take both print resources and technology into account when considering how to support adolescent reading engagement.

## Introduction

In today's networked world, students have grown up surrounded by computers, smartphones and the Internet as part and parcel of daily living, and even more so in Singapore which is the most connected nation in the world (The New Paper, 2016). An oft-heard rhetoric is that students as "digital natives" (Prensky, 2001) are experts immersed in digital worlds and at ease with various media and technology, including reading digitally. Yet others have argued that this myth of the "digital native" has been overstated and exaggerated (Selwyn, 2006) and more nuanced understandings of how young people relate to technology depending on age, culture and socioeconomic status are required.

For the purpose of this study, reading is framed as the meaningful decoding and comprehension of text, in print and digital format. Reading in print refers to reading on paper whereas reading in digital formats refers to online reading, whether on a smartphone, tablet or computer. We limit our focus to the reading of continuously linear texts, whether in the form of fiction or non-fiction, as the reading of these texts correlate to academic achievement (Moje, Overby, Tysvaer, & Morris, 2008). More importantly, we are interested in engaged reading, since engaged reading is correlated to improved reading proficiency, academic achievement and learning. This is because engaged readers are motivated to read independently, spend more time reading for pleasure, and diversified in their reading, whether in print or online (Kirsch et al., 2002).

Few studies have examined the complex intersection between reading using print and online technologies to engage with understanding how they can work in complementary ways to support the cultivation of adolescent reading habits within a school's reading ecology. Singapore

provides an interesting case study as its students rank highly on international reading assessments such as the Programme for International Student Assessment 2015 (OECD, 2016). English is the medium of instruction and there is a strong focus on improving students' English proficiency (Loh, 2015). There is also concerted effort to support students learning through online resources such as the recently launched Singapore School Learning Space (SLS), meant to encourage student self-motivated learning (Schoolbag, 2017). However, there is a lack of research to inform schools' and teachers' decisions about how better to support students' reading engagement via print or online resources.

Using a mixed-methods approach, this article examines the intersection between reading and technology to explore adolescent reading preferences using print and technology so as to understand how to better support adolescent reading engagement in school. To examine this issue, we ask the following research questions:

1. What are the print and digital reading habits of Singaporean adolescents in six secondary schools?
2. How are adolescents' physical and online social interactions around books similar or different?

We argue that the approach to reading print and using technology to read should not be framed an *either/or* option. Rather, educators need to understand reading as an activity that can be situated in both physical and online spaces, using both print and digital resources.

### **Theoretical Perspectives**

## **Reading Print and Digital Books**

In this age of gigabytes and technological innovation, many individuals have almost unlimited access to information and books through the Internet. However, despite earlier doomsday predictions about the demise of books with the growth of online reading and technology, the death of the book is nowhere in sight with book sales increasing (Cocozza, 2017) and print books still more popular than books in digital formats (Pew Research Centre, 2016). Readers enjoy the tactile feel of books and feel a sense of progression as they thumb their way through the book (Evans, 2017). Readers also remember a story better when reading a book compared to reading the same story on an e-book (Mangen, Walgermo, & Bronnick, 2013). Readers who want to focus on the reading may feel that the multiple screens on a computer distract them from undisturbed reading (Rose, 2011).

Understanding when, for whom and how reading is done is crucial for developing complex understandings of how different technologies are utilized differently for different purposes (Singer & Alexandra, 2017). For example, avid readers of print are more likely extend their reading habits by reading e-books as it may be more convenient to read on a device than on print, especially when travelling. Individuals may prefer print for lengthier texts and when they want to concentrate (Baron, 2017) but would rather use their phones to search for instant information (Zasacka, 2017). Reading on the phone also provides alternative sources of reading materials otherwise not available in print (Kuzmicova, Schilhab, & Burke, 2018).

The Pew Report highlights that reading habits are influenced by educational levels rather than age or gender: college graduates in the US are four times more likely to read e-books and twice

as likely to read print and audio books, compared with non-college graduates (Pew Research Centre, 2016). College graduates are also more likely to read books in general. This suggests that individuals who read print books are also likely to read digital books, seeing both as sources of reading material.

On the other hand, high-proficiency and low-proficiency students may be differently motivated and thus need different forms of encouragement to read (Klauda & Guthrie, 2015). In a study of 10<sup>th</sup> grade students' preferred devices, Tveit and Mangen (2014) found that boys and low-proficiency readers preferred e-books whereas avid readers preferred print. They suggest that the e-book platform might be a way to motivate otherwise reluctant readers to read.

### **Adolescents' Reading Habits and Social Interaction around Print and Digital Books**

Though children tend to read less as they get older, children who are engaged readers are more likely to be proficient readers and continue to read as they get older (Sullivan & Brown, 2015). The reading habits of children also change as they mature into adolescents, with preferences for different kinds of books and different approaches to reading (Appleyard, 1990). However, pleasure remains an important motivation for adolescents, and students are motivated to read when they have a wide variety of books to choose from and see value in reading (Moje, Overby, Tysvaer, & Morris, 2008).

Research have shown that reading is also very much a social activity for adolescents.

Adolescents are motivated to read when they have good reasons to read, which includes reading to interact with others in their social networks (Moje, Overby, Tysvaer, & Morris, 2008).

Adolescents are also more likely to talk about books when they have been frequently exposed to books and have peers who are similarly interested in reading (Merga, McRae & Rutherford, 2018). Moreover, students with reading peers find it easier to locate reading materials since they are more likely to have recommendations from their friends (Ivey, 2014).

This sociability around books is not limited to face-to-face socializing. Technology can afford opportunities otherwise unavailable in physical spaces. In a study of adolescents' reading habits in Poland, it was found that adolescents used the Internet to search for information about books not required for school, second after peer recommendations (Zasacka, 2017). For example, recommendations on Goodreads (Nakamura, 2013) and shared highlights on Kindle's Popular Highlights function (Rowberry, 2016) allow individuals who do not know each other personally to engage in dialogue around books.

Whether print or digital texts better support students' reading and learning needs depends on the students' interest and preferences as well as practical considerations in terms of availability, access and costs (Evans, 2017). As such, it is necessary to have a deeper understanding of the print and digital reading habits of students to find ways to support their reading needs and interests.

### **Method**

This mixed-methods study examines the print and online reading habits of students in six Singapore secondary schools. To ensure a good mix of students from different social backgrounds, two Integrated Programme (IP) schools taking in top students and four government

schools with a wider range of students were included in the study. This purposive sampling ensured a representative sampling of adolescent students in Singapore.

The study used a sequential explanatory design which is a two-stage research process where qualitative data is collected and analysed after the collection and analysis of quantitative data to better understand the issue at hand (Creswell, 2012). The rationale for this approach is that results from the survey yielded some general patterns of Singaporean adolescents' preferences in print and digital reading, which could be further refined and elaborated through an in-depth qualitative exploration in the second phase.

Ethics approval for the present study was obtained from the Institutional Review Board of the university for the study. In the first stage of data collection, a reading survey was administered at the beginning of the academic year to 7,208 secondary school students, out of which 6,005 (83.3%) completed the survey. For the purpose of the present article, four items were retrieved from the survey: reading enjoyment, preferred resources of reading materials, preferred reading devices, and digital access. Students' responses were compared across different grade levels and between students who enjoyed reading and those who did not enjoy reading. Even though the cross-sectional data provide an interesting perspective on students' reading habits and preferences across different ages, it should be noted that the differences observed only relate to differences in the cohorts.

In the second stage of data collection, ninety-six 14-year-old students across all six schools participated in two focus groups sessions each in during the school year. These students were

chosen by the English Head of Department and teachers based on our request to have a spread of students with varied reading proficiencies and interests. Based on the findings of the quantitative survey, we realised it was important to ask students more about their preferred reading devices and their reasons for reading using various technologies. We also wanted to know what they read on print or online, and when and how they read print and e-books.

The focus group data was transcribed and coded using Nvivo software. Constant comparison analysis (Charmaz, 2014) was used to discern emerging themes around reading and technology. Themes that emerged from coding the data included (1) reasons for print reading, (2) reasons for online reading (smartphone, Kindle, other tablet devices); and (3) reading and sociability. The data was further analysed using the students' reading engagement (determined by whether the student stated that he or she enjoyed reading or not during the focus group) to cut across the different categories to refine our understanding of the various themes.

## **Adolescents' Print and Digital Reading Habits and Preferences**

### **Students' Reading Enjoyment**

Table 1 presents the percentage of students who reported they like to read by grade levels.

Insert Table 1. Students' Reading Enjoyment by Grade Levels (%)

Overall, more than two thirds of the participants indicated that they like to read. A closer look reveals some results that are consistent with previous studies on adolescent reading habits.

Students enjoy reading less as they get older. This may be because of preoccupation with

increased external activities and preparation for impending high-stakes examination (i.e., GCE 'O' Level Examinations in Secondary 4) in the Singapore context.

This item was used in subsequent analysis to distinguish students who enjoy reading and those who did not enjoy reading. Comparison between these two groups of students allowed us to deepen our understanding of how different kinds of readers approach print and digital books differently.

### **Differences across Grade Levels for Use of Technology for Reading**

The proportion of students' digital access across grade levels are summarized in Table 2.

Consistent with Singapore's high internet penetration rate, a large percentage of students have internet access: 96.3% report that they have internet access at home and 82.6% report that they have phone plans with internet access. It is important to note that a minority still do not have such access, and as such may be limited in their personal access to online reading technologies and e-books.

There is a steady increase in the usage of computer or mobile devices to read e-books, articles or newspaper across age levels: the percentages rise from 36.5% and 51.1% for Secondary 1 students to 44.9% and 70.3% for Secondary 4 students. This could be due to the ubiquity of smartphone ownership as well as increased familiarity with using the smartphone and other electronic devices. Older adolescents may use the Internet to read more about current affairs. Teachers and students across schools shared about an emphasis on news reading within the school's curriculum.

Insert Table 2. Digital Access for Students across Grade Levels (%)

To understand students' preferred sources of reading materials and preferred reading devices, students were presented with the following statements.

“I get my reading materials from \_\_\_\_\_.”

“I read using the following \_\_\_\_\_.”

They were also asked to rate how often they used various sources of reading materials (i.e., bookstores, public libraries, school libraries, borrowing from friends, and online or electronic resources) and reading devices (i.e., printed book, dedicated e-reader, tablet, smartphone, and computer). For each option, they were required to rate it on the scale of “all the time”, “often”, “sometime”, “rarely”, and “never”. Proportions of sources of reading materials and devices that students preferred either “all the time” or “often” are presented in Table 3.

Insert Table 3. Students' Preferred Sources of Reading Materials and Preferred Devices for Reading (%)

In general, students indicated that they obtained most of their reading materials from the public library (46.2%), followed by bookstores (43.5%) and online resources (40.0%). As Singapore is a small country with well-designed and stocked libraries strategically located across Singapore, it is not surprising that many students obtain their reading materials from the public library. Across grade levels, however, there is a clear shift from offline to online: more than half (54%) of the Secondary 1 students get their reading materials from public libraries either all the time or often, whereas only 39.5% of the Secondary 4 students preferred public libraries. By contrast, the

percentage of students who chose online or electronic resources as their preferred resources for reading materials rises from 32.7% for Secondary 1 students to 45.2% for Secondary 4 students.

Similar patterns have been found for preferred reading devices as well: while 53.2% of Secondary 1 students read printed books either all the time or often, only 40.6% of Secondary 4 students preferred printed books. Moreover, among e-devices (i.e., e-reader, tablet, smartphone, and computer), the smartphone appears to be the most preferred reading device (40.7% vs 12.2 - 17.4%) and more students read on smartphones across grade levels (33.9% for Secondary 1 and 46.7% for Secondary 4). Taken together, the survey data showed that students prefer print but read more on their smartphones and other electronic devices as they grow older.

Overall, the focus group data also showed that students preferred print. Students reported feeling a form of “haptic dissonance” (Gerlach & Buxmann, 2011) or a certain unfamiliarity with the feel of e-books compared to print books.

“I find it very awkward to read online. You know, Kindle doesn’t feel like you are reading a book. You are doing an uncomfortable thing.” (Jan)

“I prefer using printed books, because I like the feel of turning pages, holding a book.” (Ian)

In the examples above, Jan refers to reading on the Kindle as “an uncomfortable thing” and Ian talks about the need to turn the pages of the physical book. For these readers, books need to be held, felt and flipped. The printed book is particularly associated with students’ pleasure reading, where they expect to sit down for long periods to enjoy the reading experience.

Students also felt that reading online led to physical strain on their eyes, which reduced the pleasure of the reading experience. As such, reading online was an option not usually meant for extended reading.

“I still prefer to read the hard copy because my phone is very small and it is very difficult to read.” (Ashley)

“It’s kind of tiring to stare at the screen and read.” (John)

Students revealed that they used their phones to read for various reasons. The phone was convenient for searching for information or making quick references (for example, to the Bible or Wikipedia) or reading short news articles. Students also used their phones to read materials that could only be found online, such as manga and fan-fiction. Additionally, students may follow serialized novels and TV adaptations.

“I do use my phone to read informative passages or fan fiction such as “Creepy Past-time.” (Jan)

“I still read e-books. I love reading e-books when I was like primary six to like secondary 1. But now I don’t really read because I’m very busy. A lot of dramas are adapted from the novels. So after watching the drama, I will go online and search for the novel and I will start reading. Do you know why? Because the novels are more detailed in their feelings, their dilemma because they are not shown on the TV.” (Florence)

Florence’s account is particularly reflective of the integration between the market for serialized e-books and serialized dramas, and points to the connection between television and books as complementary sources of entertainment (Fuller & Sedo, 2013).

Students used different devices differently. Students with specialized reading devices such as Kindles liked the convenience of accessing many books on one light device. Specialised reading devices seem to have a limited lifespan though, with students often reporting intensive usage

over a period of time and subsequent boredom with the device. For example, Josh shared about a Kindle which he used intensively for a while and subsequently passed on to his sister. The singular function of the Kindle may contribute to its limited shelf life, with mobile phones or tablets replacing Kindles as multifunctional devices.

### **Adolescents' Differentiated Use of Technology for Reading**

Table 4 shows the digital access for students who stated that they did not enjoy reading and those that stated that they enjoyed reading. As shown, adolescents do not differ much regarding Internet connection at home and phone plan subscriptions. Other results, however, demonstrate that adolescents who enjoy reading used technology differently from those who did not: more students who enjoy reading read e-books, articles or newspaper articles on their computer/mobile compared to those who did not enjoy reading (45.9% vs 27.4% and 67.8% vs 45.9%).

Insert Table 4. Digital Access for Adolescents who Enjoy and Do Not Enjoy Reading

Table 5 shows the proportion of sources of reading materials and devices that adolescents preferred either all the time or often. Results suggest students' online reading preferences reflect their offline reading preferences. For preferred sources of reading materials, even though public libraries, bookstores and online resources are the top three most preferred choices for both adolescents who enjoy and did not enjoy reading, more adolescents who enjoy reading than adolescents who did not enjoy reading made use of these resources (44.9 - 54.5% for those who enjoy reading vs 28.0 – 28.9% for those who do not enjoy reading). Similarly, for preferred devices for reading, while printed book and smartphone are the two most preferred devices among all adolescents, more students who enjoy reading than those who did not enjoy reading

read via these devices (45.6% and 56.0% for those who enjoyed reading vs 29.2% and 23.3% for those who did not enjoy reading).

Collectively, the results in this section underscore one qualitative difference between the online reading habits of adolescents who enjoy reading and those who do not enjoy reading: adolescents who enjoy reading often used their phones and other devices to extend their reading habits, reading on print, e-books or online, depending on which was more convenient or enjoyable for the occasion. On the other hand, adolescents who did not enjoy reading were less likely to use their phones and devices for reading.

Insert Table 5 Adolescents' Preferred Sources of Reading Materials and Preferred Devices for Reading (%)

Qualitative data provide more evidence. During focus group sessions, adolescents who enjoyed reading were more likely to report reading stories, articles and longer texts online. For example, Lyn reported that she downloaded 16 stories online and read the fan-fiction over the holidays. Students bring their offline habits of book selection online to search for more reading material. Clearly, the students had to have a certain degree of familiarity with such sites to look for them and to use them to obtain reading materials.

On the other hand, students who do not enjoy reading tended to report that they used the phone for other leisure activities such as playing games and interacting on social media.

Candy: Like nobody is reading a book.  
 Sue: Nobody is reading.  
 Interviewer: Is that, is that true? Everyone, is nobody reading?  
 Sue: Yah. Everyone is on their phone.  
 Candy: People would rather read Instagram stories.

In the excerpt above, Candy and Sue discuss their class reading culture where reading is not a typical leisure activity. Instead, students are on their phones and actively engaged in social media. Arguably, reading Instagram stories are a form of reading but the differentiation between adolescents who enjoy reading and those who did not enjoy reading seem to be in the length of the texts read. Those who enjoy reading were more likely to report that they read fan-fiction and e-novels, further extending the length of their reading duration and thereby getting practice and becoming more motivated to read. In contrast, adolescents who did not enjoy reading were less likely to read print and lengthier texts online.

The contrast between the reading habits of adolescents who enjoy and those who do not enjoy reading demonstrate that a *digital-only* approach to reading may not work for all students. The assumption that the Internet and technology is a great equalizer when it comes to reading has to be questioned (Warschuer, Matuchniak, Pinkard & Gadsden, 2010). In our research, we have met principals and teachers who have neglected the role of print or libraries based on the assumption that students will use their smartphones or computers to access books. This study proves otherwise and demonstrates that technology has the potential to encourage reading but can also widen the reading gap between students from different starting points.

### **Reading as Social Activity – Online and Offline**

The focus group data showed that students who enjoy reading often have communities that support their reading practices, whether at home, in school or in other peer communities.

I have this friend. She went to watch *The Hobbit* and then she was like enamoured with the elf, Legolas. So, she came and influenced a few of us to read the book. (Natalie)

Natalie's quote demonstrates how peers influence each other's reading (and movie) habits. There is a form of sociality around the activity of reading for these readers, who read together or read within communities that value reading (Ivey, 2014).

These social behaviors around reading can be mirrored online, with students engaging in reading communities online, especially through following authors and the reviews of other readers on fan-fiction website.

“For A03, there's a system. You can go for a specific genre, then you can put all the filters like the ratings and the content warnings and you can go for a specific fandom like Sherlock and Naruto. They can filter the character names, the character relationships and you can see which goes first. You can arrange from the “Most follows” to the “Least follows”, the shortest to the longest. You can just search from there.” (Denise)

“The websites don't update. It's the people who post. I'm following only one since last year. Every two to three months, the person will update one chapter.” (Kai)

Denise engages with the online community of A03, a fan-fiction site. She reads the reviews and uses the community's rating system to search for readings. In contrast, Kai engages with a single author that she likes, reading the author's work as and when it is available. Some students also write fan-fiction, engaging both as producers and consumers in these independent sites of book production.

Aileen and Jan's explanations (below) about how they obtain book recommendations demonstrate the interplay of online and offline social behaviours around books and reading.

Interviewer: Is it the same for you? Do you borrow books?  
 Aileen: No, because I read e-reader right? So I will find my stories online like through...  
 Interviewer: What type?  
 Jan: Like through recommendations from my friends like they also read through that app.  
 Aileen: And it's all about romance.

Aileen conducts personal searches for books in the romance genre to find her preferred reading materials and Jan adds that they rely on a physical community of friends to recommend authors and stories. While the reading platform is online, students rely on their social relationships with friends as part of their strategy for finding stories they like to read online. This ecology of reading ensures that Aileen and Jan have a community of fellow readers and reading resources, online and offline, to motivate and support their reading.

### **Discussion**

This article examined the complex intersection between reading print and e-books to engage with questions of how print and technology can work in complementary ways to motivate and support the cultivation of adolescent reading habits within a school's reading ecology. Contrary to popular belief that today's adolescents are "digital natives" who are completely immersed in technology, we found that adolescents in Singapore still prefer print books. As one student explains, "I'd still prefer to read the hard copy", even when given the choice of digital copies of books. However, these same adolescents do not completely eschew e-books and other online reading resources, but will use them depending on the context. Readers may use online resources to find reading material they cannot find in print, for convenience or simply as an alternative source for reading materials, especially as they become older. Moreover, just as students socialize around physical books and reading, students can also engage in online communities to help them find books and stories to read online.

The research suggests that schools need to attend to students' desire for both print and digital reading materials. School libraries should not do away completely with print but ensure that

students are able to obtain different reading materials across different devices. Print and e-reading materials can complement each other within an ecology that supports reading. For example, we have seen school libraries subscribe to e-magazines to ensure access to up-to-date issues while maintaining comprehensive print fiction and non-fiction collections.

Students have different reading habits and preferences depending on whether they enjoy reading or not. Educators can consider asking students what kinds of devices they would like to read on and invest in devices that cater to specific student needs. More importantly, it is crucial to ensure students have access to books they *want* to read, whether in print or online. Understanding student profile and needs can provide a guide to teacher and librarians when it comes to stocking up on physical or e-copies of books.

Finally, the social aspect of reading is vital for motivating students to read. Adolescent readers find their reading materials by talking to peers and getting information about books from online communities. This social life around books can be replicated by teachers' infusing social activities such as recommendations, reading circles or book clubs into classroom reading (Bromley et al., 2014). Technology can also be used to amplify students' interest in reading and books. Social media tools such as Instagram and Twitter can be used to interest students' in particular books and reading.

Creating a social life around books, in both physical and online spaces, can encourage adolescents to read more print and digital texts. Understanding reading as situated within a

seamless physical and digital ecology will allow educators to better utilize technology to design environments, curriculum and instruction to support student reading.

**Take Action!**

1. Students still want print, especially younger adolescents. Focus on stocking the class and school library with attractive and up-to-date print fiction and non-fiction to support reading motivation and interest.
2. Students who enjoy reading and students who do not enjoy reading may be differently motivated. Consider using different reading devices to motivate different kinds of readers.
3. Use technology to engage students in social activities around books. Set up Instagram or Twitter accounts to promote books.
4. Rethink the school library's physical and online ecology of reading as a seamless whole. Consider how to motivate student reading and support their reading habits through both print and digital technologies.

### More to Explore

1. Provide opportunities for students to engage in classroom discussions around books. Get started with Literature circles (<http://www.readwritethink.org/classroom-resources/lesson-plans/literature-circles-getting-started-19.html>).
2. Get students to explore online social communities using Good Reads (<https://www.goodreads.com>)
3. Introduce students to fan-fiction on apps such as <https://www.wattpad.com> so they can read more stories on the go.

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### **Tables and Figures**

Table 1. Students' Reading Enjoyment by Grade Levels (%)

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Table 3. Students' Preferred Sources of Reading Materials and Preferred Devices for Reading (%)

Table 4. Table 4. Digital Access for Adolescents who Enjoy and Do Not Enjoy Reading

Table 5. Adolescents' Preferred Sources of Reading Materials and Preferred Devices for Reading (%)

|                | Sec1 | Sec 2 | Sec 3 | Sec 4 | All participants |
|----------------|------|-------|-------|-------|------------------|
| I like to read | 75.8 | 71.9  | 66.2  | 68.6  | 70.5             |

*Note.* Sec 1 = Secondary 1; Sec 2 = Secondary 3; Sec 3 = Secondary 3; Sec 4 = Secondary 4.

Table 1. Students' Reading Enjoyment by Grade Levels (%)

|                                                                             | Sec 1 | Sec 2 | Sec 3 | Sec 4 | All Participants |
|-----------------------------------------------------------------------------|-------|-------|-------|-------|------------------|
| Do you have internet connection at home?                                    | 95.8  | 96.9  | 97.0  | 95.5  | 96.3             |
| Do you have a phone plan that allows internet access?                       | 81.7  | 83.3  | 81.5  | 83.9  | 82.6             |
| Do you read e-books, articles or newspaper articles on your computer?       | 36.5  | 39.7  | 40.3  | 44.9  | 40.4             |
| Do you read e-books, articles or newspaper articles on your mobile devices? | 51.1  | 58.4  | 64.9  | 70.3  | 61.4             |

*Note.* Sec 1 = Secondary 1; Sec 2 = Secondary 3; Sec 3 = Secondary 3; Sec 4 = Secondary 4.

Table 2. Digital Access for Students across Grade Levels (%)

| Preferred Sources of Reading Materials           |       |       |       |       |                  |
|--------------------------------------------------|-------|-------|-------|-------|------------------|
|                                                  | Sec 1 | Sec 2 | Sec 3 | Sec 4 | All Participants |
| Bookstores                                       | 44.6  | 45.7  | 42.0  | 42.0  | 43.5             |
| Public Libraries                                 | 54.4  | 48.9  | 42.7  | 39.5  | 46.2             |
| School Libraries                                 | 21.6  | 17.4  | 10.0  | 9.5   | 14.4             |
| Borrowing from friends                           | 15.4  | 15.3  | 11.2  | 10.6  | 13.1             |
| Online or electronic resources                   | 32.7  | 37.5  | 44.2  | 45.2  | 40.0             |
| Preferred Devices for Reading                    |       |       |       |       |                  |
|                                                  | Sec 1 | Sec 2 | Sec 3 | Sec 4 | All Participants |
| Printed book                                     | 53.2  | 48.6  | 41.8  | 40.6  | 46.3             |
| Dedicated e-reader (such as the Kindle)          | 14.2  | 12.7  | 12.2  | 9.9   | 12.2             |
| Tablet (such as the i-Pad or Samsung Galaxy Tab) | 16.9  | 16.1  | 20.4  | 15.8  | 17.4             |
| Smartphone                                       | 33.9  | 40.3  | 41.6  | 46.8  | 40.7             |
| Computer                                         | 15.6  | 17.9  | 18.0  | 17.6  | 17.3             |

*Note.* Sec 1 = Secondary 1; Sec 2 = Secondary 3; Sec 3 = Secondary 3; Sec 4 = Secondary 4.

Table 3. Students' Preferred Sources of Reading Materials and Preferred Devices for Reading (%)

| Digital Access                                                              | Adolescents who Enjoy Reading | Adolescents who do not Enjoy Reading |
|-----------------------------------------------------------------------------|-------------------------------|--------------------------------------|
| Do you have internet connection at home?                                    | 98.5                          | 97.0                                 |
| Do you have a phone plan that allows internet access?                       | 83.8                          | 84.8                                 |
| Do you read e-books, articles or newspaper articles on your computer?       | 45.9                          | 27.4                                 |
| Do you read e-books, articles or newspaper articles on your mobile devices? | 67.8                          | 45.9                                 |

Table 4. Digital Access for Adolescents who Enjoy and Do Not Enjoy Reading

| Preferred Sources of Reading Materials (%)      |                               |                                      |
|-------------------------------------------------|-------------------------------|--------------------------------------|
|                                                 | Adolescents who Enjoy Reading | Adolescents who do not Enjoy Reading |
| Bookstores                                      | 50.0                          | 28.0                                 |
| Public Libraries                                | 54.5                          | 28.9                                 |
| School Libraries                                | 17.1                          | 8.1                                  |
| Borrowing from friends                          | 14.7                          | 9.3                                  |
| Online or electronic resources                  | 44.9                          | 28.4                                 |
| Preferred Devices for Reading (%)               |                               |                                      |
|                                                 | Adolescents who Enjoy Reading | Adolescents who do not Enjoy Reading |
| Printed book                                    | 56.0                          | 23.3                                 |
| Dedicated e-reader (such as the Kindle)         | 14.9                          | 5.9                                  |
| Tablet (such as the ipad or Samsung Galaxy Tab) | 19.0                          | 13.4                                 |
| Smartphone                                      | 45.6                          | 29.2                                 |
| Computer                                        | 18.1                          | 15.6                                 |

Table 5 Adolescents' Preferred Sources of Reading Materials and Preferred Devices for Reading (%)