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#### Abstract

Stories of Reading: Are Recollections of Reading Instruction Related to Current Print Exposure?


## Manzarsadat Zareashkezari

Children's reading skills during the early years of schooling are positively correlated to the amount of leisure reading they engage in later in life. It therefore goes to reason that these early experiences with print may impact how individuals later view themselves as "readers." However, the relationship between adults' memories of reading during their elementary and high school years and their present-day reading habits has not been systematically examined. Here, I investigated the association between recollections of past reading experiences and reading habits into adulthood among 67 adults. Participants completed an online survey, including three written prompts that asked about their memories of reading during: a) early childhood, b) elementary school, and c) high school. There was also a prompt that asked participants to describe their current reading habits. Participants also completed an Author Recognition Test (ART) to assess their current print exposure, and two questionnaires asking about the frequency of classroom activities during elementary and high school. Results of the Kendall's Tau correlation showed a significant positive relationship between favourable memories of reading during school years (including those involved in classroom activities), and enthusiastic present-day reading habits. Furthermore, only unfavourable memories of reading during high school were associated with unenthusiastic present-day reading habits. Findings highlight the importance of increasing teachers' knowledge about the benefits of creating positive memories of reading during school years, and the ways they can create such memories in their classroom by adopting motivational teaching strategies.

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## Chapter 1: Literature Review and Statement of the Problem

Promoting best reading practices in schools is critical in developing both academic and recreational reading habits (De Naeghel et al., 2016; Merga, 2015). Yet, exposure to print (i.e., reading volume) has declined precipitously among adolescence during the past decade (Twenge et al., 2019). Studies show that only a small proportion of students become voracious readers who read on a regular basis (Applegate \& Applegate, 2004; Nippold et al., 2005). The question then becomes: why do some students stop reading for pleasure, while others choose to read in their spare time? My master's dissertation explores the possible links between concurrent reading habits of university students and their memories of reading during childhood and adolescence. Notably, I aim to understand whether students' memories of reading experiences during school years are correlated with their present-day print exposure scores.

## Matthew Effect in Reading

Over 30 years ago, the concept of the Matthew effect was evoked to describe the impact of students' initial reading success on the rate of growth in their reading skills. According to Stanovich (1986), students with low levels of initial reading achievement experience a slower rate of progress in reading compared to their peers who start with more successful reading experiences. Furthermore, the Matthew effect suggests that poor readers who struggled to read in the early years of school are less likely to read in their spare time, maybe because their early experiences had long-lasting effects on their reading motivation (Kempe et al., 2011). That is, the ease of initial reading acquisition may be pivotal to become a devoted reader, even after reading skills are well-established (Stanovich, 1986).

Stanovich (1986) argued that having a good understanding of decoding motivates students to read independently out of school, thereby improve their reading skills by practicing.

High levels of practice lead to more fluency in reading, that again, encourage students to read more frequently for pleasure. This phenomenon associated with the Matthew effect is sometimes summarized by the phrase the rich-get-richer and poor-get-poorer. On the one hand, fluent readers tend to read more, and on the other hand, a high level of practicing makes them more fluent.

Numerous studies have investigated the relationship between print exposure and reading abilities (Cunningham \& Stanovich, 1997; Erbeli et al., 2019; Martin-Chang et al., 2019; Mol \& Bus, 2011; Sparks et al., 2014). Cunningham and Stanovich (1997) explored the correlation between the speed of initial reading acquisition in Grade 1 and the likelihood of reading for pleasure in Grade 11. In the first grade, 56 American students participated in the study, among whom, only 27 were still available for testing ten years later in the eleventh grade. Cunningham and Stanovich found that students' reading skills (e.g., decoding, word recognition, and comprehension) in the first grade predicted their reading volume in the $11^{\text {th }}$ grade, even after controlling for reading comprehension in the $11^{\text {th }}$ grade. They concluded that an early fast start in reading acquisition could predict the amount of reading that would be done over the years (Cunningham \& Stanovich,1997).

Sparks et al. (2014) replicated this study with a larger sample size ( $N=54$ vs. 27). They also assessed American students' reading skills in the first, second, third, fifth, and $10^{\text {th }}$ grades. In contrast to Cunningham and Stanovich (1997) who found a positive association between reading skills in the first grade and print exposure in the $11^{\text {th }}$ grader, Sparks et al. found such significant relationship only bwtween $10^{\text {th }}$ grade print exposure and reading abilities in second and third grades. Nevertheless, the amount of the student's exposure to print in Grade 10 was related to their reading ability growth from first grade to high school. These findings suggest further
evidence for the positive relationship between early reading success and subsequent levels of print exposure. Moreover, Sparks et al. suggested that poor readers in the first grade who improve their reading abilities by second grade are very likely to become more engaged in reading activities further on.

Mol and Bus (2011) outlined four possible explanations for the relationship between print exposure and reading abilities. First, exposure to print might lead to growth in reading skills. Second, reading skills may be the cause of print exposure. Next, there could be a third variable that affects both reading skills and print exposure. Finally, print exposure is both the consequence and the cause for reading abilities (reciprocal causation).

Mol and Bus (2011) conducted a meta-analysis examining the effects size of the relationship between print exposure and literacy skills (i.e., oral language skills, reading comprehension, basic reading skills, word recognition, and spelling). They used data from 99 studies, including information about reading habits and abilities of 2168 kindergarteners and preschoolers, 2792 Grade students, and 2709 graduate and undergraduate students. Results demonstrated a moderate association between print exposure and oral language abilities for children from kindergarten to middle school, and a stronger correlation at higher grades. Namely, Mol and Bus found that print exposure accounted for $13 \%$ of the variance in oral language skills in primary school, while increasing to $30 \%$ in high school, and to $34 \%$ in college and university. These findings supported the notion of the rich-get-richer and poor-get-poorer phenomenon regarding oral language skills, and suggest that individual differences in oral language skills increases overtime.

In contrast however, no increase was found in the strength of the relationship between print exposure and reading comprehension, technical reading, and spelling skills across school
years (Mol \& Bus, 2011). Interestingly, results revealed a stronger correlation between print exposure and basic reading skills for children with lower level of reading ability than children with age-appropriate reading abilities. In other words, exposure to print is especially invaluable for poor readers in developing their basic reading skills during school years.

Despite conducting correlational research, all the studies mentioned above used "reciprocal relationship" (Cunningham \& Stanovich, 1997; Sparks et al., 2014) and "spiral causality" (Mol \& Bus, 2011) to describe the relationship between reading skills and engagement in reading. Yet, recent studies do not fully support the reciprocal relationship between print exposure and reading competence (Bergen et al., 2018; Torppa et al., 2019).

Bergen et al. (2018) investigated the direction of the causal relationship between reading skills and print exposure, using a large sample of 11559 first-grade twins in the Netherlands. They measured students' reading abilities using two questionnaires (mothers' and teachers' questionnaires asking for the child's level of reading skills), as well as a reading frequency test. Their measure of print exposure also included the mothers' questionnaire, asking mothers about their children's reading amount and volume. Results of the behaviour-genetic approach of direction of causality modelling indicated a causal relationship from reading ability to print exposure, but not vice versa. That is, children with higher reading abilities tend to read more for pleasure, but recreational reading did not seem to promote students' reading competence. Nevertheless, it should be noted that students usually only begin to read longer texts independently, roughly in Grade 3 (Chall, 1983). Therefore, the results of Bergen et al. (2018) may have reflected the age of the sample.

Torppa et al. (2019) addressed this issue by investigating the nature of the association between reading skills (i.e., comprehension, fluency) and reading for pleasure longitudinally. The
authors followed 2525 students from Grade 1 to Grade 9 in Finland. Results showed a positive link between leisure reading and reading abilities. In Grades 1 to 3 , the direction of this association ran from both fluency and comprehension to print exposure, while it was reciprocal between reading comprehension and print exposure after Grade 4. In other words, Torppa et al. found that students with higher reading skills (reading fluency and reading comprehension) across nine grades read more for pleasure than students with lower reading skills. Interestingly, however, leisure reading did not improve reading fluency at any grade but did promote students' reading comprehension in higher grades (4-9).

Finally, in one of the most recent studies in this domain, Bergen et al. (2020) tracked 200 Finnish children from age 5 to 15 to explore the direction of the effect between print exposure and reading abilities. They assessed children's reading fluency in Grades $1,2,3$, and 8 . Moreover, children's reading comprehension was assessed in Grades 2, 3, and 9. Finally, Bergen et al. assessed participants' print exposure via a parental questionnaire at age 5, and Grades 1,2 , 3, and 7. Results suggested a developmental association between reading proficiency and print exposure. That is, while in early grades (i.e., preschool to Grade 3) reading skills are responsible for the amount of time students spend reading for pleasure, after Grade 3, the direction of the association runs from print exposure to reading skills. Therefore, Bergen et al. (2020) replicated and extended the results of the previous research and presented a new outlook on the relationship between print exposure and reading skills. Results also highlighted the significance of the classroom practices first, in the development of reading skills during the early years of education, and second, in encouraging students to read more for pleasure across higher grades.

In sum, a large body of research established the positive relationship between reading skills and print exposure during the past decades (Bergen et al., 2018; Mol \& Bus, 2011;

Stanovich, 1986). However, studies yield inconsistent results about the direction of this relationship. While Stanovich (1986) suggested that there might be reciprocal causation between reading abilities and print exposure (Matthew effects in reading), some studies found only a oneway relationship from reading skills to print exposure (Bergen et al., 2018; Torppa et al., 2019). Recently, however, Bergen et al. (2020) found that the effects run from reading skills to print exposure during the early grades; while the inverse pattern was noted after Grade 4. Therefore, it seems that the balance may tip from a "skills development" focus in lower grades to "reading for pleasure" in upper grades. Hence, it is essential to understand the role of teachers across school levels in developing both (a) ability and (b) desire to support recreational reading.

## Classroom Practices

A major factor in developing students' regular reading habits is having a good reading model (Applegate \& Applegate, 2004; McKool \& Gespass, 2009). Although parents seem to have a significant impact on reading skills and motivation upon children's entry into formal education, teachers are considered to be the main reading role models for most individuals during school years (Daisey, 2010). As stated by Carreker et al. (2007), "Simply, one's ultimate reading level is thought to reflect an interaction of innate potential and experiences such as print exposure and instructional quality" (p. 189). That is, although early experiences with reading are essential in reading competence, the quality of teacher's instruction and attitudes toward reading should not be underestimated in the process of becoming an enthusiastic reader. Still, Applegate and Applegate (2004) suggested that teachers who are not avid readers themselves are not able to share a love of reading with their students. They called this situation the Peter effect, referring to the notion that people cannot give what they do not have. Therefore, the Peter effect has been used to refer to both preservice teachers' attitudes and knowledge towards recreational reading
(Applegate \& Applegate, 2004; Kozak \& Martin-Chang, 2019). Future teachers who have positive attitudes toward reading, as well as the relevant knowledge of reading instruction, are more likely to nurture habitual leisure readers.

Applegate and Applegate (2004) investigated the Peter effect in a sample of 195 preservice teachers. They also explored the association between participants' level of reading activity (by asking them what reading they had done over the past summer), early reading experiences (by directly asking them whether their experiences were primarily positive, negative, or neutral) and their self-reported level of reading enjoyment. Results showed that more than $50 \%$ of the participants were identified as unenthusiastic readers. Moreover, a positive correlation was found between early successful reading experiences and enjoyment of reading (Applegate \& Applegate, 2004).

A decade later Applegate et al. (2014) replicated this study with the same measures, but this time, with a sample of 1025 college students from different majors including business ( $n=$ 166), health science ( $n=120$ ), humanities $(n=124)$, mathematics and science $(n=108)$, social sciences $(n=124)$, and education $(n=348)$. Therefore, in addition to exploring the Peter effect among preservice teachers, the authors also aimed to investigate the level of reading enthusiasm among college students who have passed through the American educational system. They found that unenthusiastic readers attributed their reading attitudes to poor teaching, boring books suggested by teachers, and the inability to find interesting books. Additionally, results showed that $53 \%$ of the sample were classified as unenthusiastic readers. Importantly, of the 348 preservice teachers in the sample, only $51.1 \%$ were identified as avid readers. Thus, when comparing the results of the Applegate and Applegate (2004) with Applegate et al. (2014), it
seems that the proportion of disengaged readers among preservice teachers did not decrease over time ( $50 \%$ in 2004 compared with $51.1 \%$ in 2014).

A similar pattern was reflected in a study of in-service teachers' reading habits and their reading instruction. McKool and Gespass (2009) studied the association between reading habits of 65 elementary school teachers (Grade 4 to Grade 6) and their instructional practices for recreational reading. Results of the teacher's surveys showed that while only seven (11\%) teachers spent more than 45 minutes on pleasure reading every day, 17 teachers (about $26 \%$ ) said that they spent no time engaging in this activity per day. Interestingly, all the teachers who spent more than 45 minutes a day reading books, reported adopting teaching strategies that promote intrinsic reading motivation among students. These strategies included discussions about reading, providing book recommendations, and allowing students to choose their reading materials (McKool \& Gespass, 2009). Also, teachers who valued reading the most in their personal lives were more likely to use evidence-based literacy practices such as literature circles, silent reading plus discussion, and sharing personal insights from their own readings compared with the teachers who valued reading the least. Therefore, findings supported the Peter effect among elementary school teachers and the fact that teachers with higher reading values are more likely to model enthusiasm for reading.

McKool and Gespass's study (2009), while telling, was based on self-reported measures of reading habits. These two limitations were addressed by Kozak and Martin-Chang (2019). These authors hypothesized that preservice teachers who value print exposure are more likely to prioritize best practices when planning for instruction. Kozak and Martin-Chang asked 106 preservice teachers to plan for five days of teaching language arts in Grade 5 (7 hours in total). Participants' own levels of exposure to adult, young adult and children's fiction were measured.

The authors, also asked preservice teachers to define terms related to print exposure and identify teaching practices that were or were not conducive to leisure reading. Results showed a positive correlation between preservice teachers' scores on print exposure, specifically for Grade 5 students, and the planned time allocated for student reading and explicit teaching. Additionally, preservice teachers who could define terms related to print exposure more precisely planned more time for their hypothetical students to read. These findings again highlight the potential role of future teachers' reading habits when structuring positive classroom literacy environments.

The findings of Kozak and Martin-Chang (2019) fit with De Naeghel's view (2014) that teaching styles should encorporate elements of self-determination theory (Deci \& Ryan, 2000). De Naeghel et al. (2014) hypothesized that there is a positive relationship between teachers' behaviour and adolescence' intrinsic motivation to read for pleasure. According to selfdetermination theory (Deci \& Ryan, 2000), students need for autonomy (i.e., the experience of having choice and/or some control), competence (i.e., the ability to perform the required task), and relatedness (i.e., the opportunity to connect to teachers and peers). De Naeghel et al. (2014) measured intrinsic reading motivation (i.e., enjoyment of reading) of 4269 Flemish 15 -years-old students. The authors also asked students how much they think their teacher encouraged reading involvement and developed reading abilities in the classroom. Students rated their teachers based on: the implementation of classroom structure, use of scaffolding strategies, and relationships with students. Results indicated that students' perception of teachers' autonomy support, involvement, and structure was significantly and positively associated with students' intrinsic desire to read. Findings suggested the importance of increasing teachers' knowledge about best classroom practices (De Naeghel et al., 2014).

Subsequently, De Naeghel et al. (2016) designed an experimental study to explore the efficacy of teacher professional development on elementary students' motivation to read in- and out of school. Thirty-eight fifth-grade teachers participated in this study, 12 of whom were randomly assigned to the experimental condition and the rest $(n=26)$ to the control condition. Teachers in the experimental condition were asked to participate in a teacher professional development workshop based on self-determination theory, which, as mentioned previously, emphasized supporting students' psychological needs for autonomy, competence, and relatedness in the classroom (Deci \& Ryan, 2000). After the workshop, teachers were asked to complete a nine-week journal on their classroom reading practices in 27 elementary schools in Flanders, Belgium. Most teachers reported increasing time for students to talk, providing students with more opportunities to work on their own, asking students about their choices, and providing students with optimal challenges. Students' reading motivation was measured before and after the teachers' professional workshop. Results indicated that students' reading motivation from pretest to posttest increased significantly in the experimental group, compared to the control group. These findings suggest that it is important to invest in professional development to encourage teachers to be more autonomy-supportive and to implement more structure, as it might be related to students' on-going reading habits.

Self-determination theory (Deci \& Ryan, 2000) also inspired many other researchers to design reading programs to instill a desire to read for pleasure (Fisher \& Frey, 2018; Miller, 2015; Woodford, 2016). For instance, Woodford (2016) designed an action research study to improve Australian students' reading skills and engagement with reading in Grades 7 to 9 . The teaching strategy referred to as "Literacy Circles Progression", which drew on the classic Literature Circles (Daniels, 1994, 2002), and included peer interaction around selected stories
and enabling higher student authority over reading and related tasks. The peer interaction took place in the form of four core roles: discussion director, vocabulary enricher, connector, and summarizer, each of which provided guidance for facilitating reading and discussion around the text. The two teachers that implemented Literacy Circles Progression in their classroom reported improved student engagement with in-class reading after applying this strategy. Moreover, students and teachers reported higher motivation and engagement with recreational reading after the Literacy Circles Progression program.

In another action study, Miller (2015) designed and implemented small reading groups in her own classroom that emphasized social interaction and students' choice to promote American fourth-graders' reading motivation. Miller (2015) noted four critical elements of small reading group intervention that encouraged reading in her classroom: creating a reading culture among students, emphasizing social interactions and students' choices, promoting perceptions of success through written assignments, and finally, increasing teachers' positive feelings about their classroom practice. These findings were also in line with self-determination theory basis, in which teachers are encouraged to support students' autonomy, competence, and relatedness to promote students' willingness to participate in reading activities.

Fletcher et al. (2012) used similar strategies in their case study to promote 10-12-year old students' attitudes and motivation toward reading in New Zealand. The authors' strategies included: reading aloud and questioning, using picture books, providing rewards, and making reading safe and fun. All the eight teachers in this study reported an overall improvement in their student reading skills and sustaining positive attitudes toward recreational reading. They suggested that respecting the students' opinions during the discussions underpinned reading motivation. Moreover, Fletcher et al. (2012) found that using students' preferred reading
materials and modes of instruction as well as sharing reading enjoyment with students also increased passion for recreational reading.

Fisher and Frey (2018) went one step further, and instead of focusing merely on promoting students' reading motivation, they focused on increasing elementary students' out of school reading volume. They proposed a model based on four essential factors: access, choice, classroom discussion, and book talks. A total of 3844 students from six elementary schools in the United States participated in this study. Teachers in Grade 1, 3, and 5 (44 teachers) were asked to participate in a professional learning session before the 12 -week program implementation. At week 12 , teachers rated the efficacy of the program on students' reading volume, on a 4-point scale. Most of the teachers (41 out of 44) believed that the program had a significant impact on students' extra curriculum reading. Additionally, students who participated in the program scored higher on writing in the district benchmark test and the fluency rate and borrowed more books from the school library compared to their previous year. Also, students themselves and their parents reported reading more books compared to the past. Fisher and Frey (2018) suggested that teachers can adopt practical strategies in their classroom to increase students' exposure to print.

In sum, it seems that teachers play a key role in nurturing dedicated readers. Not only do teachers' habits, knowledge and attitudes impact students' reading behaviour (Applegate \& Applegate, 2004; Kozak \& Martin-Chang, 2019), but also studies have shown that teachers can promote students' desire for recreational reading by adopting strategies in their classrooms that are in line with students' psychological needs for autonomy, competence, and relatedness (e.g., Fisher and Frey, 2018; Miller, 2015). Despite the promising results of specific teaching strategies on students' pleasure reading motivation and habits, it is unknown whether these strategies have a long-lasting effect on students' reading habits beyond the school years. More specifically,
although it has been posited that reading experiences in the classroom can affect students' future attitudes and behaviours regarding recreational reading (Applegate et al., 2014), the relationship between the recollection of past reading experiences and concurrent print exposure among university students has not been directly explored.

## Recollections of Past Experiences

Given the importance of classroom practices, students who benefited from having enthusiastic teachers who implement high-quality instruction might be expected to have higher levels of print exposure later in life. To examine the links between reading experiences and present-day leisure reading habits, one strategy is to ask students about their memories of past reading-related events. Notably, some scholars suggest that memories should be distinguished from experiences (Chernoff, 2002), because it seems that people make decisions based on their recollections of the past, irrespective of what actually transpired (Braun et al., 2018). As Kahneman (2010) suggested: "We make our decisions in terms of our memories." Research has shown that emotions are essential to shaping memories from experiences: people remember experiences that include strong emotions more vividly and with more details (Strijbosch et al., 2019). Besides, having positive or negative emotions about experiences seem to affect new choices: if people have positive memories about an experience, they are more likely to choose to repeat that experience. On the contrary, people usually avoid experiencing activities that they have negative or unpleasant memories about (Redelmeier \& Kahneman, 1996).

Therefore, what students remember about reading during school years might be critical, as those recollections could influence students' present reading habits, attitudes and choices. It is important to consider that the valence of the memories could influence the way people will recall them in the future. For example, the fading affect bias suggests that memories of negative
emotions fade significantly faster than those of positive emotions (Meltzer, 1930; Ritchie et al., 2015).

Moreover, students' recollections can help researchers and educators to identify the most salient classroom practices for students, including those deemed desirable and undesirable. Perhaps knowing which activities have more prolonged effects on students' memories can help to develop reading-related strategies and instruction to prevent reading from becoming an unpleasant experience for students, or even better, help make the activity of reading more enjoyable.

Although in some previous research participants spontaneously reported memories from their schooling (Applegate \& Applegate, 2004; Applegate et al., 2014), the relationship between these recollections and students' present-day reading habits and attitudes has not been systematically investigated. More specifically, the relationship between print exposure and memories of past reading experiences is still unknown.

## Present Study

Using a retrospective correlational design, this thesis addresses the following research questions:

1. Do memories of past reading experiences (i.e., early recollections, elementary school recollections, and high school recollections) correlate with reading habits into adulthood?
2. Are there any associations between participants' current reading habits and their memories of self-determination theory-based classroom practices during school years?

## Chapter 2: Method

## Materials

## Demographic Survey

Participants were asked to report information about their age, sex, ethnicity, native language and other languages spoken (if applicable). They were also asked about their academic major, the degree they were currently perusing, the university they were attending, and whether or not they had taken any classes regarding English language art instruction before (see Appendix A).

Participants were recruited via social media and were asked to share information about the project with their friends and classmates. Online assessment allowed for a wide sample of university students. Seventy-seven completed surveys were collected, among which, 67 were indicated as usable (the criteria included relevant responses to the questions) after the first review of the responses. Participants were drawn from 12 universities across Canada, with $74.6 \%$ being drawn from Concordia University. At the time of data collection, $4.5 \%$ of the participants were pursuing their Diploma of College Studies (DEC), $58.2 \%$ bachelor's degrees, $32.8 \%$ master's degrees, and $4.5 \%$ doctoral degrees. The majority of the participants $(73.1 \%)$ were pursuing degrees in Humanities and Social Science, while 17.9\% were in Natural Science and Engineering.

More than $77 \%$ of participants were females and the remainder were males ( 52 vs .15 ). The participants' age ranged from 19 to 41 years $\left(M_{\mathrm{age}}=24.94, S D=4.72\right)$. The majority of the participants (65.7\%) self-identified as being White (e.g., Canadian, Italian, Irish, Greek). Also, $29.2 \%$ of the participants self-identified as being Asian (Chinese, Indian, Pakistani, Syrian, Arab,

Lebanese, Iranian), and the remaining participants (5.1\%) self-identified as being from other ethnicity groups (Caribbean, African American).

Participants were asked to provide their native and any additional languages (if spoken). Among all the participants, $67.2 \%$ reported English as their native language. Other native languages indicated were Arabic (6\%); Mandarin (6\%), Urdu (3\%), Romanian (3\%), French (3\%), Constance (1.5\%), Farsi (1.5\%), Greek (1.5\%), Guajarati (1.5\%), Italian (1.5\%), Tamil (1.5\%), and Naval Chaudhary (1.5\%). More than $80 \%$ of the participants reported speaking a second language. French was the most common second-language spoken, consisting of $83.6 \%$ of all second-languages spoken. Also, $25 \%$ of the participants reported speaking more than two languages. Finally, $73.1 \%$ of the participants reported that they had not taken any classes regarding English language art instruction before.

## Prompts

University students were asked to respond to four open-ended prompts regarding their past reading experiences. For the first prompt, they were asked to "Please take a few minutes to write down your most salient memories of learning to read. Feel free to answer with the first thing that comes to mind. (This should take 2-3 minutes. A good guideline is 1-2 paragraphs. Don't worry about spelling or grammar.)". The second and the third prompts replaced 'learning to read' with 'reading during elementary school (both in and out of school)' and 'reading during high school (both in and out of school)'. The final prompt was "How would you describe your leisure reading habits now?" (see Appendix B). Open-ended questions allowed for a wide range of responses, from recollections of early home experiences to school and personal reading experiences. Open-ended prompts were chosen over close-ended questions and forced-choice questionnaires because they allowed a greater range of responses.

## Print Exposure

Participants' levels of exposure to print were assessed using a version of the Authors Recognition Test (ART; Stanovich \& West, 1989), adapted by Martin-Chang et al. (2019), to measure familiarity with Children's and Young Adult fiction (CYA), as well as contemporary adult fiction (A). See Appendix C.

Author Recognition Test (ART). The ART (Stanovich \& West, 1989) is an index of print exposure that was designed as an alternative to standard reading questionnaires that are more likely to be affected by social desirability. The ART includes the names of real authors embedded among foils. The participants were asked to choose the names of authors that they recognized. Also, they were told to avoid guessing, as it is easily identifiable. The ART has been used in research for more than three decades and is demonstrated to effectively measure relative individual differences in exposure to print (Echols et al., 1996; Stanovich \& Cunningham, 1992).

Scoring. A general ART score was obtained as well as separate scores for ART-A and ART-CYA. To calculate the scores, the proportion of incorrectly identified foils was subtracted from the proportion of correctly identified authors ([authors identified/total authors - foils identified] / total foils]; Stanovich \& West, 1989). Because the mean scores of ART-A and ARTCYA were positively correlated $(r(67)=.94, p<.001)$, an average score of the two variables are reported in subsequent analyses.

## Classroom Practices

Two parallel questionnaires were adapted from Tremblay et al. (2020) to assess the frequency of classroom practices in elementary school and high school. The 'Elementary School Classroom Practices' questionnaire and the 'High School Classroom Practices' questionnaire comprised nine and 14 questions respectively.

The questionnaires asked for the frequency of a broad range of reading experiences during school years on a scale of 1 (never) to 5 (very often). The option of "I don't remember" (0) also was added to the Likert scale. While the overall framework of the questionnaires was based on self-determination theory (Deci \& Ryan, 2000), I adapted some items from previous findings on the effectiveness of some specific classroom practices on student's reading motivation and habits (see for example De Naeghel et al., 2014; Fletcher et al., 2012; Miller, 2015).

Accordingly, in the Elementary School Classroom Practices questionnaire, two items were added to the activities related to competence, namely "how often did you read chapter books in school?" and "how often did you read chapter books in your free time?" As for relatedness, participants reported how often they engaged in activities such as "talking about chapter books in small groups," and "participating in classroom discussion on chapter books". They rated how frequently their teachers "read chapter books to them in school," "suggested fiction/nonfiction books to them," and "shared reading preferences with them." The final item was dedicated to autonomy, which asked for the frequency of "having the choice to select the book(s) they wanted to read." The Elementary School Classroom Practices questionnaire consisted of nine questions and showed a high level of internal consistency, as determined by a Cronbach's alpha of 0.79 .

Items under the High School Classroom Practices questionnaire were the same as the Elementary School Classroom Practices questionnaire, except for an additional six unique items asking about nonfiction-related experiences: how often did "teachers read nonfiction books to you," "you read non-fiction books in school," "you read non-fiction book in your free time (out of school)," "you talk about nonfiction books in small groups," "you participate in classroom discussions on non-fiction books," and "teachers suggest non-fiction books to you" (see

Appendix D). The scale had a high level of internal consistency, as determined by a Cronbach's alpha of 0.89 .

For further analysis two composite scores were calculated, one adding up the participants' scores for all the items in the Elementary School Classroom Practices, and the other, adding up all the scores for High School Classroom Practices. Both questionnaires' items are shown in Appendix E along with the descriptive statistics.

## The Overall Quality of Reading Instruction

Participants also rated their satisfaction of the overall quality of reading instruction in elementary school and high school, on a 7-point Likert scale ( $1=$ Extremely dissatisfied to $7=$ Extremely satisfied).

## Procedure

An online survey was designed using Limesurvey GmbH (Version 3.23.1, 2020). The survey link was made accessible for potential participants through social media accounts such as Facebook and WhatsApp. The first page of the survey included an introduction to the study, approximate time needed to complete the survey (20-30 minutes), and the requirement for participation (being a university student in Canada), as well as information pertaining to the monetary compensation for completing the survey ( $15 \$$ e-gift card). The measures were given to participants in the following sequences: Consent Form (see Appendix F), Prompt 1, Demographics, Prompt 2, The ART, Prompt 3, the Elementary School Classroom Practices questionnaire, the High School Classroom Practices questionnaire, the Overall Satisfaction questions, and Prompt 4.

## Data Coding

Deductive coding (Kuckartz, 2014) was used to analyze the written responses in details. That is, I designed a coding scheme to categorize responses based on the three components of self-determination theory (Deci \& Ryan, 2000). Accordingly, three predefined categories were used in the process of coding: Competence, Autonomy, and Relatedness. Additionally, individual words such "loved", "obsessed", "hated", or "boring" were coded under a fourth Affect category. Next, I decided if the memories related to each category were Favourable or Unfavourable. Finally, I developed a coding guide consisting of categories' definitions and examples to be used for inter-rater reliability test.

## Competence

Favourable Competence was assigned when the response indicated any of the following:
(a) reading/practicing literacy-related skills (e.g., "I remember reading outloud [sic]"); (b) noting specific reading instruction or reading materials (e.g., "having free time to read in school", or "we were allowed to read e-books"); (c) mentioning own reading skills in a positive way (e.g., "I could read thick novels"); (d) feeling competent in reading abilities (e.g., "I was one of the best"); and (e) talking about how they benefited from reading (e.g., "I thought my world widened").

For Unfavourable Competence, the subcategories were not entirely parallel to the Favourable Competence subcategories. For example, regarding the 'reading/ practicing literacyrelated skills' subcategory, the reason might be that people usually do not mention activities that "did not" happen in the past. Similarly, it is not expected that people remember specific reading instruction "not happening" during their childhood. Hence, Unfavourable Competence labelled any of the followings: (a) negatively mentioning own reading skills (e.g., "even though I was in grade 3 or 4 I was probably at a kindergarten level"), (b) feeling incompetent in reading abilities
(e.g., "Everyone in my class was so much better than me and that did impact my confidence"), (c) having reading difficulties (e.g., "I am dyslexic"), or (d) lack of reading comprehension (e.g., "It was always something about the text that I probably didn't understand").

## Autonomy

Favourable Autonomy indicated: (a) engaging in reading-related activities by choice, meaning that reading was performed for one own's sake and not affected by an external force (e.g., "I would dedicate time every day reading books," or "most of my spare time at home was spent reading"); or (b) having the choice in selecting reading materials (e.g., "I wanted to read the books that I was interested in more than the one's the school wanted us to").

Unfavourable Autonomy indicated (a) lack of choice in selecting reading activities or choosing not to read (i.e., avoid reading; e.g., "I remember trying to do anything to avoid reading the books assigned in class," (b) Lack of choice in selecting reading materials (e.g., "we definitely didn't read enough books that suited our genre tastes as teenagers").

## Relatedness

Favourable Relatedness indicated any of the following: (a) positive relationship between participants and others, including family members, teachers, classmates, friends; shaped during or because of reading activities (e.g., "I remember learning to read with my mom"; "I feel like the teacher played a big part in getting us engaged"; "throughout the whole process of learning to read I had a good support system helping me," or "I remember also wanting to read the books I saw my friends reading"); (b) feeling attached to the books or fictional characters. (e.g., "the characters and their fate deeply attracted me," "I didn't sleep all night. I could not stop reading."; "I often shed tears for the joys and sorrows of the protagonists in the novels.").

On the contrary, Unfavourable Relatedness labelled (a) negative relationship between students and others (e.g., "I remember really not liking the special ed [sic] teacher who would work one on one with me," "teachers ask students to read aloud and embarrassed me multiple times by making me read in front of everyone"), or (b) feeling disconnected from books, reading or stories (e.g., "I haven't found a book I can identify with in a long time").

## Affect

Favourable Affect was used to code memories in which the narrator demonstrated positive affection or emotions (e.g., "liked," "loved," "enjoyed," "favourite," "obsessed"); while Unfavourable effect indicated negative feelings and affection (e.g., "hated," "intense," "stressful," "boring," "disliked").

## Other Coding Rules

Use of modifiers, repeating, and emphasizing were considered as additional units of coding for the subcategory in which they appeared. For example, "I really liked reading" was considered as two instances of Favourable Affect category; one for "liked reading" and an additional tally in the same category for emphasizing: "really." Another example of emphasizing would be if participants mentioned specific activities taking place on a regular basis in the past. For example: "we would practice every single day" was coded as two instances of Favourable Competence.

After the completion of coding, all the favourable or unfavourable memories in each prompt were summed to create a composite. Therefore, eight scores were calculated for each participant: Favourable Early, Unfavourable Early, Favourable Elementary School, Unfavourable Elementary School, Favourable High School, Unfavourable High School, Favourable Current, and Unfavourable Current.

## Inter-Rater Reliability

A second rater independently coded approximately $30 \%$ (20 of 67 ) of the written responses to the prompts which were chosen randomly by an online random-number generator (Stat Trek, 2020). Cohen's $\kappa$ was run to determine if there was agreement between the two raters' judgement on the number of participants' favourable or unfavourable memories. There was a statistically significant agreement between the two raters, $\kappa w=.78, \mathrm{p}<.001$. The strength of agreement was classified as excellent according to Fleiss et al. (2003).

## Design

I employed a retrospective correlational design in the present study. Four prompts were used to collect qualitative data about participants' reading experiences, three of which required them to think back to their childhood and adolescence. This included thinking back to when they were learning to read (i.e., early reading), reading during elementary school, and reading during high school. Similarly, the Classroom Practices questionnaires also asked participants to think about their school years (elementary school and high school), and report the frequency of some classroom practices during that time. The forth prompt and the ART, measured participants' present-day reading habits and print exposure respectively.

## Chapter 3: Results

## Descriptive Statistics

Descriptive statistics for all measures and variables of interest are presented in Table 1.

Table 1
Descriptive Statistics for All Measures
Note: The ART = The Author Recognition Test.

| Measures | Mean | S.D. |  |
| :--- | :--- | :---: | :---: |
| Recollections of Past <br> Reading Experiences | Favourable Early | 6.34 | 4.48 |
|  | Favourable Elementary School | 6.91 | 4.85 |
|  | Favourable High School | 5.34 | 3.6 |
|  | Unfavourable Early | .75 | 1.2 |
|  | Unfavourable Elementary School | 1.01 | 1.83 |
| Current Reading <br> Habits | Favourable | 2.27 | 3.76 |
|  | Unfavourable High School | 2.64 | 2.21 |
| Print Exposure The ART | .94 | 1.51 |  |
| Overall Satisfaction <br> of the Quality of <br> Reading Instruction | Elementary School | .16 | .19 |

## Recollections of Past Reading Experiences

A two-way repeated measure ANOVA was conducted with valence (favourable and unfavourable) and time (early, elementary, and high school) as the within-measure variables. There were no outliers, as assessed by examination of studentized residuals for values greater than $\pm 3$. As depicted in Figure 1, the main effect of the valence was statistically significant $F(1$, 66) $=111.94, \mathrm{p}<001$, partial $\eta^{2}=.63$. In contrast, the main effect of time was not significant $F(2,132)=1.29, \mathrm{p}=.28$, partial $\eta^{2}=.02$. This was qualified by a statistically significant two-way interaction between Valence and Time, $F(2,132)=7.48, \mathrm{p}=001$, partial $\eta^{2}=.10$. Therefore, simple main effects were run by conducting two one-way ANOVAs on the favourable and unfavourable memories separately. For the favourable memories, there was a main effect of time $F(2,132)=8.44, \mathrm{p}<001$, partial $\eta^{2}=.11$. Post-Hoc comparison with Bonferroni correction in place found that favourable memories were statistically significantly decreased from Elementary School to High School ( $M=-1.57,95 \%$ CI [2.94, .2], $p=.019$ ). No other comparisons were significant.

Likewise, a simple main effect of time was found regarding the unfavorable memories $F(1$, $66)=8.44, p<001$, partial $\eta^{2}=.14$. Post hoc analysis with a Bonferroni adjustment revealed a statistically significantly increase in unfavourable memories from Early to High School (M $=1.52,95 \%$ CI $[.39,2.65], p=.004)$, and from Elementary School to High School ( $M=1.25,95 \%$ CI [.22, 2.29], $p=.013)$.

Figure 1
Mean Number of Favorable and Unfavorable Memories as a Function of Time


## Memories of Reading and Present-Day Reading Habits

The first research question asked whether memories of past reading experiences (i.e., early recollections, elementary school recollections, and high school recollections) correlate with reading habits into adulthood. Because not all variables were normally distributed (as assessed by Shapiro-Wilk's test ( $\mathrm{p}<.05$ ), Kendall's Tau correlation, as a non-parametric correlation test, was used to discover the link between the variables of interest.

As shown in Table 2, there was no significant relationship between the early memories (favourable or unfavourable) and the participants' ART scores. However, significant positive associations were found between ART scores and both favourable Elementary School memories and High School memories. Therefore, the more fondly adults wrote about their reading experiences during elementary school and high school, the more authors they recognized on the

ART. In contrast, the participants' ART score was not significantly correlated with any of the unfavourable memories.

I was also interested in whether memories of reading experiences correlated with reading habits into adulthood indicated by the self-described current reading habits. Results indicated a significant positive correlation between favourable Current Reading habits and the favourable memories of reading across all the three time periods (i.e., Early, Elementary School, and High School), suggesting that individuals who recognized more authors, remembered reading during their childhood and adolescence in a more complementary fashion.

## Table 2

Bivariate Correlations Between Favourable and Unfavourable Recollections of Reading Experiences and Current Reading Habits

|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. The ART | - |  |  |  |  |  |  |  |
| 2. Favourable Early | .11 | - |  |  |  |  |  |  |
| 3. Favourable Elementary School | $.18^{*}$ | $.36^{* *}$ | - |  |  |  |  |  |
| 4. Favourable High School | $.18^{*}$ | $.33^{* *}$ | $.32^{* *}$ | - |  |  |  |  |
| 5. Favourable Current | $.32^{* *}$ | $.21^{*}$ | $.29^{* *}$ | $.23^{*}$ | - |  |  |  |
| 6. Unfavourable Early | -.09 | -.17 | .11 | .01 | -.05 | - |  |  |
| 7. Unfavourable Elementary School | -.14 | .06 | .08 | .01 | .00 | $.27^{*}$ | - |  |
| 8. Unfavourable High School | -.01 | .06 | $.29^{* *}$ | -.03 | -.09 | $.39^{* *}$ | $.22^{*}$ | - |
| 9. Unfavourable Current | -.14 | .04 | -.05 | .00 | $-.34^{* *}$ | .21 | .14 | $.39^{* *}$ |

Note. The ART = The Author Recognition Test (average of adult, and children and young adult); ${ }^{*} p<.05,{ }^{* *} p<.01,{ }^{* * *} p<.001,2$-tailed.

With regards to the unfavourable memories, only two significant associations were noted. First, a positive correlation between self-described unfavourable Current Reading habits and unfavourable High School memories. Thus, unfavourable memories of reading in high school were linked to participants' unfavourable notions regarding their current reading habits. Second, as expected, a negative association was found between the favourable and unfavourable Current Reading habits.

Interestingly, as shown in Table 2, favourable responses to all the three prompts regarding past reading experiences (i.e., early, elementary school, and high school) were intercorrelated. That is, participants who had more favourable early recollections, also remembered more favourable reading experiences in elementary school, and high school. Surprisingly, there was a significant positive association between favourable Elementary School and unfavourable High School memories. Thus, those with more favourable elementary reading recollections were more likely to describe their reading experiences in high school unfavourably.

## The ART and Classroom Practices

The second research question addressed whether any associations would be noted between the participants' ART scores and their reported Classroom Practices in elementary school or high school. Because the questionnaires' items were based on rank-ordered scales, again, a Kendall's tau-b $\left(\mathrm{r}_{\tau}\right)$ rank correlation coefficient was run to determine the if there is a significant correlation between the variables. As illustrated in Table 3, there was a significant positive correlation between the ART scores and reported frequency of Elementary School Classroom Practices. The more frequently students reported listening to stories, reading in school and in their free time, talking to teachers and other students about books, and having the choice
to pick the books they wanted to read in elementary school, the higher they scored on the ART as adults.

Interestingly, no significant correlation was found between High School Classroom Practices and the ART. Likewise, no relationship was noted between either favourable or unfavourable Current Reading descriptions and reported Classroom Practices. On the contrary, the correlation between elementary school and high school Classroom Practices was significant and positive.

In addition to the initial research questions, I was also interested in the correlations between the participants' overall satisfaction of reading instruction in elementary school and high school and their current reading habits and the reported Classroom Practices (see Table 3). Participants overall satisfaction of reading instruction in elementary school was significantly associated with their ART scores. In other words, participants who were retrospectively more satisfied of the overall quality of reading instruction during their elementary school years, were more likely to score higher on the present-day measure of print exposure, than those who reported less satisfaction. No relationship, to the contrary, was found between the overall satisfaction of reading instruction in high school and the ART. Furthermore, satisfaction of the overall quality of reading instruction in elementary school was also correlated to the reported frequency of the Classroom Practices in elementary school. Similarly, a significant relationship was found between the reported High School Classroom Practices and the participants' overall satisfaction of the quality of reading instruction during high school.

Table 3
Bivariate Correlations Between Classroom Practices and Current Reading

|  | 1 | 2 | 3 | 4 | 5 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 1. ART | - |  |  |  |  |
| 2. Classroom Practices Elementary School | $.28^{* *}$ | - |  |  |  |
| 3. Classroom Practices High School | .14 | $.39^{* *}$ | - |  |  |
| 4. Overall Satisfaction Elementary School | $.34^{* *}$ | $.29^{* *}$ | .08 | - |  |
| 5. Overall Satisfaction High School | .15 | .09 | $.35^{* *}$ | $.26^{* *}$ | - |

Note. $\mathrm{ART}=$ The Author Recognition Test (average of adult score and children and young score adult); Overall Satisfaction Elementary School = Participants' satisfaction of the overall quality of reading instruction in elementary school; Overall Satisfaction High School = Participants satisfaction of the overall quality of reading instruction in high school.
$* p<.05,{ }^{* *} p<.01,{ }^{* * *} p<.001,2$-tailed.

## Stories of Reading

According to the participants' responses to the prompts, one of the most common pleasant early memories (reported by about $60 \%$ of the sample) involved shared-reading with family members, mostly mothers. For example, a participant wrote: "My mom used to read me books before bed. It was one of my favourite activities that my mom and I would do. I remember I would ask her to read me the same story book over and over again." Interestingly, these selfreported responses were based on an open-ended question that asked participants to write their most salient memories of learning to read.

Additionally, many participants remembered teachers reading them storybooks, helping them develop their reading abilities, suggesting them interesting books, and/or incorporating effective reading instruction in the classroom. In some cases, participants wrote about their high school teacher who made them love reading, again, after they had lost their passion for books.

For example, one of the participants wrote: I remember absolutely hating the books the teachers used to assign [...]. I did enjoy reading Macbeth in secondary 4 though but I feel like the teacher played a big part in getting us engaged. (Participant 12)

The majority of the participants' recollections involved at least one of the three elements of the self-determination theory (Deci \& Ryan, 2000). For example, one of the participants described how applying an effective strategy by a teacher reduced her anxiety and increased her performance (Competence). This strategy also helped her enjoy reading once again, after she thought she had lost her connection to the books:

I remember reading the three musketeers [sic] in my senior year in high school, it's a 900 pages novel and I remember being so worried about reading it, because I had lost my love for reading at that point. However, my teacher divided it in three parts and without even knowing it I was absorbed by the adventures of Argos, Portos, Aramis and D'Artagnan, the love stories, bravery and action made my teenager self very intrigued and dreamy. (Participant 83)

One participant stated how special classroom practices fostered relatedness to peers through shared activates and outings related to the books, thereby created a memorable reading experience:

I remember reading to the books of little life on the praire [sic]. I remember it 'cause [sic] we would watch the movies after finishing each book and did a field trip in relation to the books. It made the books come to life and encouraged me to read more.
(Participant 106)
Another student recalled: "I remember really liking SSR (sustained silent reading) when it was added to our schedule every day. I got to find novels on my teachers' shelves and dedicate time
every day to reading them." In this case, finding novels (Autonomy), and connection with teachers around books (Relatedness) and setting aside time to practice (Competence) were the components of the self-determination theory (Deci \& Ryan, 2000) that stood out as being especially relevant to the high school experience.

Indeed, classroom practices that combined all three elements of self-determination theory were vividly recalled as positive. For example, students recalled teachers merging frequent reading practice (Competence), with students' choosing their own books (Autonomy), which promoted connection to peers (Relatedness):

In Secondary 3, I had a teacher who incorporated D.E.A.R. (drop everything and read) into our classroom (where we chose our own books to read and wrote journal entries about what we had read). This was the first time I had read for pleasure in a classroom since the 5 th grade! Multiple times a week, you could find my friends and I in the library choosing books to read during our lunch hour. We would make games out of choosing books (for instance, sometimes we each chose a book for someone else to read).
(Participant 90)
On the contrary, participants showed negative feelings when they remembered being forced to read books that they did not enjoy. A participant noted: "I hated reading books that were necessary for class however, as these stories were often not what I found interesting." Another participant wrote:

In high school, reading was mixed. There were many books that were forced upon us which I still disagree with. For example, they forced us to read a Shakespeare book every year which I find completely useless. I have never encountered or used any of that since
the last Shakespeare book I read. [...] In high school they gave us too little time to read our books. (Participant 92)

Furthermore, reviewing the prompts showed that the majority of the participants, even those who had many positive memories from elementary school, disliked reading the assigned books during high school. This was especially the case for the classic books assigned. One participant wrote: "Although I enjoyed reading some of the classics, at times the reading material was very dry and uninteresting, which lessened my love for reading. I also found myself reading less for enjoyment purposes and more for school assignments."

This was echoed again when a student explained:
I did not enjoy Shakespeare mostly because that form of writing seemed boring to me and it often felt like teachers were teaching it for the name rather than to teach us any powerful messages. [...]. It often seems as if the reading material is the same for every high school class for decades at a time and it often feels like it [stumps] a readers' growth. (Participant 141)

## Chapter 4: Discussion

Prior studies have noted the importance of teachers' reading knowledge, habits and attitudes on their students' later reading enthusiasm (Applegate \& Applegate, 2004; De Naeghel et al., 2016; Martin-Chang et al., 2019; Miller, 2015). The Matthew effect states that early reading success paves the way to future reading habits (Stanovich, 1986). The data reported here support and extend these notions. However, here, I also measured participants' recollections of past reading experiences, and investigated the interplay between participants' recollections, present-day reading habits, and the lifetime print exposure.

In support of the Matthew effect, I found that favourable early memories of reading were significantly correlated with the positive self-described reading habits, indicating that those who recalled more positive memories from early childhood reading were more likely to be enthusiastic when describing their present-day reading habits. These findings highlight the importance of creating favourable reading experiences for children early in life. Tremblay et al. (2020) found a similar result with adolescents, suggesting that childhood shared-reading with parents correlates with adolescents' print exposure and literacy skills. I would argue that the significance of early family communication around books is critical in childhood (see Patel et al., 2020) and furthermore, might well persist into adulthood.

Surprisingly, and in contrast to school reading memories, recollections of early reading (favourable/unfavourable) were not related to the ART. These results are essential in at least two major respects. First, although reading experiences prior to the school years are pivotal in creating a positive attitude toward reading, reading experiences during school years play a more crucial role in preparing students to read books for pleasure. It seems that positive memories of early reading are fundamental, yet not adequate for nurturing voracious readers when compared to school reading experiences. These results reflect those of Sparks et al. (2014), who also found that first graders' reading ability did not predict variance in Grade 10 print exposure, even after controlling for the 10th-grade reading skills.

Second, the association between favourable memories of reading during school years (both elementary school and high school) and print exposure over the lifetime is in accordance with Applegate et al.'s (2014) notion that reading habits of preservice teachers were heavily influenced by the positive and negative experiences they encountered during their own schooling. In keeping with this idea, I also found that participants who voluntarily shared
positive memories of reading during elementary and high school were also more likely to be enthusiastic when describing their present-day reading habits (as measured by the Current Reading prompt). These findings are also consistent with those of Locher et al. (2019), who found a positive association between Grade 9 students' book reading experiences and their concurrent reading motivation. My results extend this idea and suggest that previous school book reading experiences could continue to be related to students' reading motivation years after finishing school.

On the contrary, only unfavourable memories of reading in high school (and not unfavourable memories of early reading or reading in elementary school) were associated with unenthusiastic current reading descriptions. Therefore, having negative memories of reading was related to negative current reading habits, only if the negative memories in question referred to reading experiences in high school. The fact that having positive memories of reading was associated with the positive current reading habits, regardless of the time period in which those memories took place, is in line with the fading affect bias. The fading affect bias suggests that people forget memories of negative emotions faster than those of positive emotions (Meltzer, 1930; Ritchie et al., 2015). Hence, the findings of the current study underline the value of creating positive views of one's past and present reading experiences; people who have favourable reading habits now also remember reading in school years positively, whereas those who reported reading less currently, are more likely to remember negative experiences during high school.

Notably, according to the participants' responses to the prompts, it seems that teachers play a crucial role in forming positive reading memories via various ways including helping students improve their reading skills, introducing them to appropriate books, and/or
incorporating effective reading-related strategies in the classroom. In some cases, participants remembered having a high school teacher who turned unfavourable high school reading experiences into favourable ones.

The participants' recollections also broadly support the self-determination theory (Deci \& Ryan, 2000). This suggests that supporting students' psychological needs for competence, autonomy, and relatedness is critical in nurturing habitual readers (De Naeghel et al., 2016; Fisher \& Frey; 2018; Fletcher et al., 2012; Miller, 2015). On the contrary, participants showed negative feelings when these psychological needs did not meet in their classroom. Having said that, the lack of autonomy to select reading materials in high school combined with the more commonly reported autonomy-supportive reading activities in elementary school might be one of the factors that explains the positive association between the favourable memories of reading in elementary school and the unfavourable memories of reading in high school. That is, participants who responded positively to writing their most salient memories of reading from elementary school, were more likely to respond negatively when asked about reading in high school.

Furthermore, participants believed that reading boring books in high school may have negatively influenced their enthusiasm for reading. To put it another way, it seemed that high school somehow removed the joy from a previously joyful activity. While speculative, similar findings have been observed by Locher et al. (2019) who also found a negative association between the reading of classic literature and nine-graders' reading motivation. Thus, my results indicate the importance of choice- and autonomy-supportive reading activities especially during high school years.

Additionally, participants who reported higher frequency of Classroom Practices during both the elementary and high school years, were more likely to also report higher levels of
relative satisfaction when thinking about the overall quality of their reading instruction. The frequency of reported Classroom Practices in elementary school was significantly associated with the participants' reading amount as indicated by their ART scores. These results, once more, seem to be consistent with previous research on the effectiveness of adopting motivational teaching strategies on students' reading habits (De Naeghel et al., 2016; Fisher \& Frey, 2018; Miller, 2015; Woodford, 2016). More specifically, providing classroom discussion (Fisher \& Frey, 2018) and peer interaction around books (Woodford, 2016), emphasizing students' choices (Miller, 2015) and making reading safe and fun (Fletcher et al., 2012) not only seem to be effective classroom practices in increasing students' reading motivation during elementary school years, but seem to be related to students' print exposure as adults.

## Strengths

To my knowledge, this is one of the first studies in the field to use a mixed-method research design. Integrating quantitative and qualitative research methods allowed for a deeper understanding of the results. Qualitative data enabled me to further explain the results using the participants' own narratives. Also, open-ended questions (i.e., the prompts) and the questionnaires each provided a unique opportunity to compare and analyze the data. Participants' free recollections highlighted the past reading experiences that stood out as being impactful and allowed for a wide variation in responses - including positive vs. negative affect, competence, relatedness, autonomy. While the questionnaires created an opportunity to compare a uniform set of classroom practices selected based on motivational theory (i.e., self-determination theory; Deci \& Ryan, 2000) as well as the satisfaction of the overall reading instruction. Moreover, the fact that the questionnaires were administered after all three school prompts, increased my confidence that the suggested activities did not influence the participants' recollections.

The current investigation considered three different time periods (early, elementary school, high school). Therefore, responses provided a broad overview of the participants' life reading experiences. Similar to Applegate et al. (2014), I employed self-report measure of reading habits. However, a novel contribution of this study was the addition of the ART, which is recognized as a more objective proxy of reading habits over the life time.

## Limitations

Despite its contribution to the literature, there are some limitations associated with the sample and design of the present study that should be considered in future research. First, participants were all university students' in Canada and therefore, were presumably skilled readers and writers. Hence, being proficient readers might be the reason that the participants recalled more positive than negative memories of reading. Additionally, I used an online survey to recruit participants, therefore, my sample was comprised of digitally competent adults. Also, the participants could leave the survey if they did not want to continue. Thus, this study perhaps needs to be replicated with a more selective sample of participants in order to be generalizable to the general population.

The current study was correlational in nature; therefore, I was not able to comment on the direction of the relationships. People who read now and enjoy it are more likely to remember past reading experiences positively than those who do not. However, the positive correlation between favourable elementary and unfavourable high school recollections increases my confidence that the participants were able to discriminate between good and bad memories. Finally, the data was collected during one session and the tasks mostly required participants to think back to their past experiences. Therefore, a longitudinal research design is needed to establish the validity of my findings further.

## Conclusion

This investigation aimed to assess the relationship between past reading-related memories and concurrent reading habits. It was expected that positive experiences with reading during childhood and adolescence shape positive reading-related memories that last through adulthood and positively impact one's decision to read for pleasure. Participants had the opportunity to analyze their past reading experiences and reflect on their own practices, emotions and motivations, which led to a rich data set.

More specifically, this investigation's findings complement those of earlier studies (Applegate \& Applegate, 2004; Applegate et al., 2014), demonstrating a significant positive association between positive memories of reading during school years and auspicious presentday reading habits. Surprisingly, only negative memories of reading during high school were correlated with poor current reading habits. Moreover, favourable recollections of reading in elementary and high school, the frequency of autonomy, competence, and relatedness-supportive classroom practices in elementary school, and the overall satisfaction of reading instruction during elementary school were associated with participants' concurrent exposure to print, as indicated by the ART.

## Implications

Findings from the present research have significant implications for understanding how positive and negative experiences (especially in elementary school) may impact students' memories of reading. My findings underlined the importance of increasing teachers' knowledge about motivational strategies that meet students' needs for autonomy, competence and relatedness. More specifically, analysis of participants' recollections of reading instruction during high school suggested that the lack of autonomy might partially explain the decline in students'
amount of reading after the elementary school years (Twenge et al., 2019). In their narratives, students wished for greater freedom in selecting reading materials, while at the same time, less mandatory reading of classic novels.

My results suggest that promoting best reading practices in schools is critical. Whether or not the retrospective accounts reflect actual classroom practices and experiences, participants' memories of reading instruction remain emotionally laden into adulthood. The most salient memories can impact individuals' decision-making and behaviours (Strijbosch et al., 2019). Hence, by creating an active, engaging, and positive classroom atmosphere, teachers can impact their students' future reading habits and attitudes, and thus play a leading role in people's life stories.

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## Appendix A

## Demographics

1. How do you currently describe your gender identity? *

Please choose only one of the following:
Ofemale
OMale
Oother
OI prefer not to answer
2. Please provide your $\mathbf{\text { GGE: }}$
3. Please provide your NATIVE language:

Please choose only one of the following:
Onglish
OFrench
Oother (please specify) : $\qquad$
4. Do you speak any other languages? If yes, please specify.
5. Please state your ethnicity.
6. What is the highest degree you hold (e.g. BA, BEd, MEd...)? Please indicate the degree, and from where it was obtained.

Degree: $\qquad$ Obtained at: $\qquad$
7. What degree are you pursuing now, and in what university? (e.g. M.A. in Child Studies at Concordia University) $\qquad$
8. Have you participated in any Professional Development surrounding reading instruction in the last five years?

Oyes
$O_{\text {No }}$
9. What electronic device are you using to answer this questionnaire?

Please choose all that apply:
$\square$ Computer
$\square$ Tablet/ipad
$\square$ Smart phone
$\square$ Other:

## Appendix B

The prompts

1. Please take a few minutes to write down your most salient memories of learning to read. Feel free to answer with the first thing that comes to mind. (This should take 2-3 minutes. A good guideline is 1-2 paragraphs. Don't worry about spelling or grammar.)
2. Please take a few minutes to write down your most salient memories of reading during elementary school (both in and out of school). Feel free to answer with the first thing that comes to mind. This should take 2-3 minutes. A good guideline is 1-2 paragraphs. Don't worry about spelling or grammar.
3. Please take a few minutes to write down your most salient memories of reading during high school (both in and out of school). Feel free to answer with the first thing that comes to mind. This should take 2-3 minutes. A good guideline is 1-2 paragraphs. Don't worry about spelling or grammar.
4. How would you describe your leisure reading habits now?

## Appendix C

The ART

## Author Checklist

Below you will find a list of names. Some of these names are popular authors and some are not. Please read the names and check the names that you recognize as being real authors.

Please do not guess. Remember, some of the names are not real, so guessing can be easily detected. Please do not consult outside resources.

For example, if you knew that Dr. Seuss was an author, then you would check the box beside his name. If you weren't sure whether Jane Doe or John Smith were authors, then you would NOT check the box beside their names.

Please choose all that apply:
$\square$ Sherman Alexie
$\square$ Jay Asher
$\square$ Jean M. Auel
$\square$ Leigh Bardugo
$\square$ Pierre Berton
$\square$ Elliot Blass
$\square$ Dan Brown
$\square$ Katherine Carpenter
$\square$ Cassandra Clare
$\square$ James Clavell
$\square$ Jackie Collins
$\square$ Edward Cornell
$\square$ Roald Dahl
$\square$ Kate Di Camillo
$\square$ Janet Evanovich
$\square$ John Flanagan
$\square$ Diana Gabaldon
$\square$ Sue Grafton
$\square$ V.C. Andrews
$\square$ Isaac Asimov
$\square$ David Baldacci
$\square$
Lauren Benjamin
$\square$ Thomas Bever
$\square$ Judy Blume
$\square$ Jennifer Butterworth
$\square$ Agatha Christie
$\square$ Arthur Clarke
$\square$ Andrew Clements
$\square$ Suzanne Collins
$\square$ Patricia Cornwell
$\square$ James Dashner
$\square$ W. Patrick Dickson
$\square$ Andrew Fielder
$\square$ Gayle Forman
$\square$ Elizabeth George
$\square$ John Green

$\square$ Katherine Applegate $\square$ Margaret Atwood<br>$\square$ Christopher Barr<br>$\square$ Carol Berg<br>$\square$ Maeve Binchy<br>$\square$ Ann Brashares<br>$\square$ Meg Cabot<br>$\square$ Tom Clancy<br>$\square$ Suzanne Clarkson<br>$\square$ Eoin Colfer<br>$\square$ Stephen Coonts<br>$\square$ Sharon Creech<br>$\square$ Robertson Davies<br>Robert Emery<br>$\square$ Timothy Findley<br>$\square$ Cornelia Funke<br>$\square$ Holly Goldberg Sloan $\square$ Sheryl Green

$\square$ John Grisham
$\square$ S.E. Hinton
$\square$ E.L. James
$\square$ Laurie King
$\square$ Sophie Kinsella
$\square$ Gordon Korman
$\square$ Ursula LeGuin
$\square$ Pittacus Lore
$\square$ Robert Ludlum
$\square$ George R.R. Martin
$\square$ Marissa Meyer
$\square$ Rohinton Mistry
$\square$ L.M. Montgomery
$\square$ Patrick Ness
$\square$ RJ Palacio
$\square$ Dav Pilkey
$\square$ Mordecai Richler
$\square$ Katherine Paterson
$\square$ Kate Pullinger
$\square$ Miriam Sexton
$\square$ Sidney Sheldon
$\square$ Lemony Snicket
$\square$ Mark Strauss
$\square$ Maxwell Wayans

Mimi Hall<br>$\square$ Anthony Horowitz<br>Robert Jordan<br>Stephen King<br>Naomi Klein<br>Louis L'Amour<br>Priscilla Levy<br>Lois Lowry<br>Alex Lumsden<br>Ann Marie McDonald<br>$\square$ Stephenie Meyer<br>$\square$ Christopher Moore<br>$\square$ James Morgan<br>Lauren Oliver<br>$\square$ Christopher Paolini<br>Philip Pullman<br>$\square$ Rick Riordan<br>$\square$ M. Scott Peck<br>Louis Sachar<br>$\square$ Destin Shaw<br>Robert Siegler<br>Jerry Spinelli<br>$\square$ Amy Tan<br>$\square$ Nicola Yoon

$\square$ Laurie Halse Anderson
John Jakes
$\square$ Frank Kiel
Jeff Kinney
$\square$ Dean Koontz
Madeline L'Engle
C.S. Lewis
$\square$ Marie Lu
$\square$ Ann M. Martin
Morton Mendelson
$\square$ James Michener
Michael Moore
Alice Munro
Kenneth Oppel
$\square$ Gary Paulsen
$\square$ Anne Rice
$\square$ J.K. Rowling
$\square$ David Perry
$\square$ Robert J. Sawyer
$\square$ Sara Shepard
$\square$ Hayward Singh
$\square$ Danielle Steel
$\square$ Miriam Toews

## Appendix D

Reading Frequency and Classroom Practices Questionnaire

## Please mark the answer that describes your experiences: *

1. Please choose the appropriate response for each item:

|  | Somewhat <br> Very difficult <br> difficult | Average | Somewhat |  |
| :--- | :--- | :--- | :--- | :--- |
| easy | Very easy | I don't |  |  |
| remember |  |  |  |  |

Learning to read
Reading in
elementary school
Reading in high
school
2. Did you attend school (primary and secondary) in your native language? If no, please list the language you attended school in: Yes. No
3. In elementary school, how often did:

Never \begin{tabular}{ccccc}

Rarely \& Sometimes \& Often \& Very often | I don't |
| :---: |
| remember | <br>

0 \& $O$ \& $O$ \& 0 \& 0
\end{tabular}

Teachers suggest fiction
books to you
Teachers suggest non-
fiction books (e.g.,
biographies; memoirs,
"How to" books,
inspirational and
motivational books) to
you
Teachers share their
reading preferences with
you
You have the choice to
pick the chapter books
you want to read
4. Please name some of the chapter books you remember being assigned in elementary school:
5. What was your favorite book(s) from elementary school (in or out of school):
6. In high school, how often did: *

|  | Never | Rarely | Sometimes | Offen | Very offen | $\underset{\substack{\text { I don't } \\ \text { remember }}}{\text { a }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Teachers read fiction books (Story books, Novels) to you | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | O | $\bigcirc$ | $\bigcirc$ |
| Teachers read nonbooks (e.g., biographies; memoirs "How to" books, motivational books) to you | 0 | $\bigcirc$ | $\bigcirc$ | O | $\bigcirc$ | $\bigcirc$ |
| You read fiction <br> ooks in school | 0 | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
| You read non-fiction books in school | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | O | $\bigcirc$ | $\bigcirc$ |
| You read fiction books in your free time (out of school) | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
| You read non-fiction book in your free tim (out of school) | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | O | $\bigcirc$ | O |

Never Rarely Sometimes Often Very often | I don't |
| :---: |
| remember |

You talk about fiction books in small groups




You talk about nonfiction books in small groups
You participate in classroom discussions on fiction books
You participate in classroom discussions on non-fiction books
Teachers suggest
fiction books to you
Teachers suggest nonfiction books to you
Teachers share their reading preferences with you
You have the choice to pick the books you want to read












7. Please name some of the chapter books you remember being assigned in high school.
8. Please name your favorite book(s) from high school (in or out of school):
9. How would you rate each of the following:
Extremely

dissatisfied \begin{tabular}{c}
Moderately <br>
dissatisfied

$\quad$

Slightly <br>
dissatisfied

$\quad$ Average 

Slightly <br>
satisfied

 

Moderately <br>
satisfied

 

Extremely <br>
satisfied

$\quad$

I don't <br>
remember
\end{tabular}

The overall quality of
 elementary school:

The overall quality of reading instruction in high school:
10. What books/book genres did you wish you had read more in school (elementary/secondary)?
11. Would you make any changes in reading activities in elementary or high school? Explain.

## Appendix E

Descriptive Statistics for Classroom Practices Questionnaires Results

|  |  | Mean | S.D. |
| :--- | :--- | :--- | :--- |
| Elementary <br> School <br> Classroom <br> Practices | Teachers read chapter books <br> to you | 3.60 | 1.17 |
|  | You read chapter books in <br> school | 4.01 | .10 |
|  | You read chapter books in <br> your free time (out of <br> school) | 3.58 | 1.36 |
|  | You talk about chapter <br> books in small groups | 2.78 | 1.37 |
| You participate in classroom <br> discussions on chapter books | 3.01 | 1.31 |  |
| Teachers suggest fiction <br> books to you | 2.78 | 1.44 |  |
| Teachers suggest non-fiction <br> books (e.g., biographies; <br> memoirs,"How to" books, <br> inspirational and <br> motivational books) to you | 2.31 | 1.41 |  |
| Teachers share their reading <br> preferences with you | 2.37 | 1.42 |  |
| You have the choice to pick <br> the chapter books you want <br> to read | 3.57 | 1.25 |  |
| los |  |  |  |

12. 

High School
Classroom
Teachers read fiction book
2.81
1.41

Practices
(Story books, Novels) to you
Teachers read non-fiction books (e.g., biographies; memoirs, "How to" books, 2.67
1.34 inspirational and motivational books) to you
You read fiction books in school

| You read non-fiction books in <br> school | 3.42 | 1.21 |
| :--- | :--- | :--- |
| You read fiction books in <br> your free time (out of school) | 3.42 | 1.50 |
| You read non-fiction books in <br> your free time (out of school) | 3.15 | 1.35 |
| You talk about fiction books <br> in small groups | 3.06 | 1.40 |
| You talk about non-fiction <br> books in small groups | 2.78 | 1.32 |
| You participate in classroom <br> discussions on fiction books | 3.19 | 1.17 |
| You participate in classroom <br> discussions on non-fiction <br> books | 2.90 | 1.12 |
| Teachers suggest fiction <br> books to you | 2.90 | 1.22 |
| Teachers suggest non-fiction <br> books (e.g., biographies; <br> memoirs, "How to" books, <br> inspirational and motivational <br> books) to you | 2.87 | 1.18 |
| Teachers share their reading <br> preferences with you | 2.76 | 1.24 |
| You have the choice to pick <br> the chapter books you want to <br> read | 3.13 | 1.31 |

13. Note. Elementary School Classroom Practices = Reported frequency of classroom practices in elementary school, all the items start with "How often did..."; High School Classroom Practices = Reported frequency of classroom practices in high school, all the items start with "How often did...".

## Appendix F

Consent form

## INFORMATION AND CONSENT FORM

Study Title: Stories of reading: Is recollection of reading instruction related to current print exposure?
Researcher: Manzar Zare
Researcher's Contact Information:
manzarsadat.zareashkezari@mail.concordia.ca
Faculty Supervisor: Dr. Sandra Martin-Chang
Faculty Supervisor’s Contact Information: s.martin-chang@concordia.ca

You are being invited to participate in the research study named above. This form provides information about what participating would mean. Please read it carefully before deciding if you want to participate or not. If there is anything you do not understand, or if you want more information, please ask the researcher.

## A. PURPOSE

The purpose of this research is to investigate the relationship between the recollection of early reading experiences and print exposure.

## B. PROCEDURES

The study will be fully conducted remotely. If you participate, you will be asked to provide written responses to four short prompts about your reading experiences. You will also be asked to fill out a demographic questionnaire, and answer some questions regarding your reading experiences and reading habits. In total, participating in this study will take about 20 to 30 minutes.

## C. RISKS AND BENEFITS

There is minimal risk to your involvement in this study. Upon survey completion, you will receive a $\$ 15$ CAD e-gift card as compensation.

## D. CONFIDENTIALITY

The questionnaire will be completely confidential, and a participant number will be used beyond this point. We will destroy the information five years after the end of the study. We intend to publish the results of the research. However, it will not be
possible to identify you in the published results. Only group data from this project will be published.

## F. CONDITIONS OF PARTICIPATION

You do not have to participate in this research. It is purely your decision. If you do participate, you can stop at any time. You can also ask that the information you provided not be used, and your choice will be respected. If you decide that you don't want us to use your information, you must tell the researcher before August 1st, 2020. There are no negative consequences for not participating, stopping in the middle, or asking us not to use your information.

## G. PARTICIPANT'S DECLARATION

I have read and understood this form. I have had the chance to ask questions and any questions have been answered. I agree to participate in this research under the conditions described.

NAME (please print)
SIGNATURE

DATE $\qquad$

If you have questions about the scientific or scholarly aspects of this research, please contact the researcher. Their contact information is on page 1 . You may also contact their faculty supervisor.

If you have concerns about ethical issues in this research, please contact the Manager, Research Ethics, Concordia University, 514.848.2424 ex. 7481 or oor.ethics@concord

## Appendix G

Integrated Results

| The ART | Early | High School |
| :--- | :--- | :--- |
| Low Print Participant <br> Exposure 118 | "...I needed extra help when I started <br> reading. One of my teachers was <br> helping me outside the classroom $\}$ <br> once a week, i $[s i c]$ was in a special <br> group. It took me time and i 2as [sic] $]$ <br> always behind my age group | "... because I never used to read just <br> for fun on my time. Most if the books I <br> read in my life were because I was <br> obligated to read them for a class." |
|  |  |  |
| capabilities..." |  |  |


| High <br> Print <br> Exposure | Participants <br> 23 | "During my primary school, my <br> favorite teacher recommended some <br> good books to us. When she <br> recommended them, she always <br> introduced to us what her favorite <br> content was, and then let us read and <br> tell her the difference between what <br> we like and what she likes." |
| :--- | :--- | :--- | | "When I was in high school, I liked the |
| :--- |
| library of our school best. This was the |
| first time I felt that I was so close to so |
| many books. After studying, I always |
| liked to read in the library and feel |
| close these works." |

Note. I integrated quantitative data (Low and High print exposure) and qualitative data (responses to the prompts) to provide a more comprehensive description of the relationship between student's recollections of reading experiences and current reading habits.

