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Faculty of Humanities

MASTER'S THESIS

Long-form reading: functions, effects and values

A comparative analysis of reading and other mediums

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Introduction

Ever since the late 19th century reading has been a part of everyday life, so much so that it is impossible to spend a day without any form of reading. This indicates that reading is an indispensable part of life, which would also imply that it should be highly valued. However, the reading statistics of the last couple of years show a different picture. Of course, it is important to make a distinction between short-form and long-form reading, seeing as they have vastly different characteristics and are not comparable to each other. Arguably, short-form reading is always going to be a part of life and no amount of new technology could ever replace it, it is a necessity that people simply cannot go without. Long-form reading, on the other hand, seems to be on a sharp decline, as with every year there are fewer and fewer people who can actually report that they have read a book or even spent some time on reading. Once again, a distinction needs to be made between informative and leasure reading, as while, arguably, both of them are on the decline, it is the decline of leisure reading that has people extremely worried.

Presumably, the downward spiral of reading started with the advent of the Internet and it has only got worse since then.[1] People have so many new, modern activities to choose from that reading was placed on the back burner and it is no longer regarded as a priority. Additionally, the fast-paced nature of today's world also makes it difficult to just sit still and read, especially seeing as reading is not an activity that provides constant stimuli, which seems to be the thing that captures people's attention most nowadays. Regardless of the causes of this decline, what is important is that it makes people worried, which raises a few questions. Why is the decline of long-form reading such a bad thing? What sets reading apart from other mediums? Why is reading held in such a high regard as opposed to other means of information and entertainment? Most importantly, what do people stand to lose with the decline of reading?

The aim of the present thesis is to find answers to these questions and to do that the following topics will be discussed and analyzed in more detail. First, based on various definitions of reading, a more comprehensive overview of what reading is and what takes place when people read will be established with a focus on the skills required for reading. Second, the various functions and purposes of reading will also be discussed in great detail. Third, the effects and the benefits of the reading process will be analyzed, concentrating on how the skills acquired through reading could benefit the readers both during reading and in other areas of life as well. Fourth, taking the list of effects discussed up to that point as a basis, broadcast media and gaming will also be analyzed to

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1   J. Seaboyer & T. Barnett, 'New perspectives on reading and writing across the disciplines', *Higher Education Research & Development,* 38(2019), p. 4.

see whether they have the same benefits or not. Finally, after a brief summary of the contents, a conclusion will be drawn based on the findings of the previous chapters.

Chapter 1: Long-form reading: definitions and functions

In order to fully comprehend the importance and significance of reading, it is essential to first understand what reading really is and also the functions and purposes it fulfills. For that reason this first section is going to focus on various definitions of reading with an emphasis on what actually takes place when people read. Additionally, the various functions of reading will also be discussed in more detail, to get a more comprehensive idea about why people read. The primary focus of this thesis will be on long-form reading, seeing as short-form reading simply does not share the same characteristics as long-form reading, which means that the analysis of short-form reading would require a different set of research questions as well as a research project of its own. For the same reasons, the analysis will also be limited to strictly paper reading.

The most important thing to state, before any formal definitions are given, is that reading is not simply being able to decipher the individual letters and words in a text.[2] The fact that a person can read the actual sentences on a piece of paper does not automatically indicate that comprehension will take place as well. Richard Anderson points out that decoding words can only be referred to as reading if as a result of the reading process some sort of meaning was constructed from the text.[3] As a matter of fact, by definition, 'reading is the process of extracting meaning from written text'.[4] With that said, fluency in decoding is indispensable for successful reading[5] and definitely needed for deciphering texts, but simply being fluent is not enough. The skills required for reading, and more importantly successful reading, are much more complex and intricate than one would think. As was mentioned earlier, constructing meaning is at the core of reading. This is highly reliant on and connected to interpretation and reading comprehension. Readers can only comprehend what they were able to interpret and vice versa, interpretation can only take place after initial comprehension. This indicates that comprehension occurs in two phases. First, readers need to have some basic understanding of the text that they are reading, as that will give them an idea about the directions of the interpretation. Next, after this initial idea has been processed and interpreted, the readers will have a much more inclusive overview of the text, which will result in better and easier comprehension. In short, interpretation and reading comprehension are

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2   P. Freire, 'The importance of the act of reading', *Journal of Education,* 165(1983), p. 5.
3   R. C. Anderson, *Becoming a nation of readers: the report of the commission on reading,* (1985), p. 7.
4   L. Green, 'Two birds with one stone: teaching reading and teaching thinking', *School Psychology International*, 26(2005), p. 110.
5   Anderson, *Becoming a nation of readers: the report of the commission on reading,* p. 10.

supplementary to each other, they can only exist together. In order to correctly interpret and find the meaning of a text, readers need to rely on both the text itself and their own experiences and knowledge about the world as well.[6] According to Anderson, 'reading involves selecting and using knowledge about people, places, and things, and knowledge about texts and their organization'.[7] Katherine Frankel et al. expand on this by stating that 'reading comprehension occurs through interactions among the reader, the text, the activity, and the larger sociocultural context'.[8] This already implies that there are going to be differences in interpretation as well as reading comprehension, based on how much and what kind of background knowledge different readers have and also based on the experiences that they have gained through partaking in various interactions. This idea is supported by Paul Armstrong as well, who states that 'readers read differently according to the presuppositions and interests that guide their interpretive activity'.[9] In other words, the outcome of the reading experience is largely dependent on the readers themselves.

Furthermore, Anderson also stresses the importance of the strategic nature of reading.[10] This means that in order to be successful in reading, readers have to decide which reading strategies to employ to get the best results. Readers have to understand their purpose for reading and then choose the strategies accordingly. The most commonly used example is the difference between reading for pleasure and reading for study purposes. If the same reading strategy is used for both of these purposes then the outcome is going to be the same as well, which is, presumably, not what readers want. Ibrahim Shihab refers to these strategies as metacognitive strategies and he also calls attention to the fact that in order for readers to be able to choose the correct strategies in every situation, they need to have metacognitive awareness.[11] Essentially, the idea behind this concept is that readers need to be aware of the fact that they read differently for different purposes. This awareness will later help them to make conscious decisions and plan their course of action to ensure that the reading experience will be as successful as can be.[12] With time, more experienced readers might be able to skip this step, in the sense that this awareness will slowly become more and more unconscious and they will not have to spend time figuring out which strategies to use every single time they want to read. By that point, they will have enough experience to automatically employ the strategies which proved to be the most effective. This is also one of the reasons why it is so

6   I. A. Shihab, 'Reading as critical thinking', *Asian Social Science*, 7(2011), p. 209.
7   Anderson, *Becoming a nation of readers: the report of the commission on reading*, p. 8.
8   K. K. Frankel, B. L. Becker, M. W. Rowe & P. D. Pearson, 'From "what is reading" to what is literacy?', *Journal of Education*, 196(2016), p. 7.
9   P. B. Armstrong, 'In defense of reading: or, why reading still matters in a contextualist age', *New Literary History*, 42(2011), p. 108.
10   Anderson, *Becoming a nation of readers: the report of the commission on reading*, p. 13.
11   Shihab, 'Reading as critical thinking', p. 210.
12   Green, 'Two birds with one stone: teaching reading and teaching thinking', p. 117.

important to clarify what reading really is and what actually takes place when people read. Nevertheless, as has been indicated previously, it is also important to keep in mind that just as reading strategies vary depending on the purpose of reading, the definition of reading and what is regarded as reading also changes depending on the point of view from which the reading activity is regarded. While there are definitions that provide an overview of what reading could constitute, there is not one universal description that would fit all and every instances of reading. Seeing as many aspects of reading are based on subconscious decisions, it is quite simple to overlook and forget about the complexity of the reading process. Presumably, it is this subconsciousness that makes it easier for people to opt for other, in cases more modern, alternatives. They are simply not aware of the values that can be found in reading, at least not beyond the surface level. This could possibly be explained by the distinction made by Adriaan van der Weel between the purposes and effects of reading. He argues that while the purposes of reading are typically conscious, the effects of reading are 'often incidental'.[13] Thus, it could be argued that readers are aware of the various purposes of reading, but they are unaware of the effects that reading can have on them.

Another important element of reading, according to Anderson, is motivation.[14] However, it is arguable whether motivation is actually vital for reading or not, considering that it is a mindset more than anything else, which would indicate that it is an asset rather than a requirement. Still, before any actual statements can be made about the subject, it is important to make a distinction between intrinsic and extrinsic motivation. Richard Ryan and Edward Deci state that intrinsic motivation 'refers to doing something because it is inherently interesting or enjoyable', whereas extrinsic motivation 'refers to doing something because it leads to a separable outcome'.[15] In the case of reading this would mean that readers who are intrinsically motivated read for fun, while readers who are externally motivated might only read because it is compulsory for a class, for instance. Thus, in the case of external motivation reading is a gateway to academic success rather than a source of enjoyment. In light of this, the previous observation could be amended to state that intrinsic motivation is not vital for reading. However, the same cannot be said about extrinsic motivation. Sticking with the example from above, even if one only reads because it is obligatory, at least there is something that might keep them going, for a while at least. In this case the motivational factor lies in the possibility of a better grade perhaps, but without that people might not even start reading.

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13 A. van der Weel, 'Where will the digital turn in reading take us?', In G. Proot, D. McKitterick, A. Nuovo & P. F. Gehl (eds.), *Lux Librorum: essays on books and history for Chris Coppens,* (Mechelen: Flanders Book Historical Society, 2018), p. 235.
14 Anderson, *Becoming a nation of readers: the report of the commission on reading,* p. 14.
15 R. M. Ryan & E. L. Deci, 'Intrinsic and extrinsic motivations: classic definitions and new directions', *Contemporary Educational Psychology,* 25(2000), p. 55.

If the previous criterion is fulfilled, readers will be able to construct meaning from a text even if they are not intrinsically motivated to do so. Nevertheless, just because intrinsic motivation is not indispensable does not mean that it is not important. Arguably, intrinsic motivation is what separates the average reader from the successful and productive reader. While reading with a lack of intrinsic motivation is still possible, there is only so much that it can do. If the goal is for reading to become an enjoyable activity pursued by the reader rather than a chore that needs to be done, intrinsic motivation really is essential. When it comes to reading there is always a possibility that the reader will lose interest in the topic and intrinsic motivation could be the deciding factor in whether the reader abandons the text or perseveres. With that said, even if there are elements of reading that are not absolutely crucial, the best results can still only be achieved when all of the previously discussed requirements are met at the same time.

Lastly, and probably most importantly, what makes reading so remarkable is the fact that it is not a skill that can ever be fully mastered.[16] It requires continuous effort and improvement on the reader's part, which should definitely be seen as a good thing. The aim of every study process, which is essentially what learning to read successfully is, is to keep getting better and better at certain tasks through practising, to the point where it does not feel like a task that needs to be done anymore but rather an enjoyable activity. This is definitely an aspect of reading that requires intrinsic motivation; however, it could be argued that it is not solely the actual practice of reading that can result in improvements in the reading process and the reading experience in general. As has been discussed previously, some background knowledge is absolutely necessary for reading. Paulo Freire expands on this statement by saying that 'reading the world always precedes reading the word, and reading the word implies continually reading the world'.[17] In order to improve their interpretation skills and with that the amount of information that they can comprehend, readers are advised never to stop studying the world that surrounds them. Expanding one's general knowledge can be as simple as perusing the news or taking part in intellectual conversations, but it will make a world of a difference when it comes to the reading experience. Additionally, by expanding their knowledge, readers will be able to understand more and more of what they read, which could result in an increase in their reading volume and that, in turn, will once again contribute to their comprehension ability.[18] This is the key to unlocking what was meant by the opening statement of this paragraph. Typically, mastering a skill would mean that one learned everything there is to know about it and reached the highest level of expertise in that area. Thus, further pursuit of the activity would not be necessary, only on occasion to

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16 Anderson, *Becoming a nation of readers: the report of the commission on reading,* p. 16.
17 Freire, 'The importance of the act of reading', p. 10.
18 A. E. Cunningham & K. E. Stanovich, 'What reading does for the mind', *Journal of Direct Instructions*, 2(2001), p.146.

maintain that knowledge. However, that is not the case with reading. It is a lifelong skill that gets better every time the reader learns something new, as that will unlock potential new layers of meaning in the texts. Seeing as a person never stops learning, reading is also a skill that will never stop improving.

To summarize, reading is a skill that relies heavily on continuous development and improvement on the reader's part as well as 'cognitive engagement' in general.[19] Freire expands on this by listing some of the tasks understood under cognitive engagement, which are 'critical perception, interpretation, and re-writing what is read'.[20] Moreover, Shihab claims that the reading process has identifiable features from three different categories: linguistic, psychological, and sociological.[21] Based on the previous discussion, this observation appears to be an accurate one. Decoding the words and sentences in a text falls under the linguistic category, while the necessity of motivation and metacognitive awareness under the psychological category. As for sociological features, it could be argued that the requirement of background knowledge, including personal experiences, would be included in this category. According to Armstrong, the reading process could also be described as 'a contradictory, paradoxical experience', in the sense that readers have to utilize their own knowledge and experiences to understand a text that is completely outside of their domain.[22] The following statement made by Armstrong captures the essence of reading perfectly: 'the experience of reading may seem like a uniquely personal immersion in a world independent of the pressures and constraints of everyday life, but only by adopting assumptions, attitudes, and conventions that preexist the individual can one answer the call "Dear Reader..." and produce this illusion of autonomy'.[23]

As has already been mentioned earlier, 'reading proceeds differently depending on the reader's purpose for reading'.[24] To understand these differences and to be able to choose the best strategies for reading later on, it is important to be familiar with the various purposes and functions of reading. According to Judith Langer, all instances of reading fall under either of these two categories: reading for literary or informative purposes.[25] Arguably, even though this digital world offers many alternatives to reading, people still do read for informative purposes. However, the same cannot really be said about reading for literary purposes. That is not to say that nobody ever reads just to read anymore, but the number of people who do is becoming smaller and smaller as people continue to favour digital activities instead. Regardless of the number of readers, it is clear that most instances of reading happen for informative purposes, and considering what constitutes

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19 J. Goodman, 'On reading', *Acta Analytica*, 35(2020), p. 53.
20 Freire, 'The importance of the act of reading', p. 11.
21 Shihab, 'Reading as critical thinking', p. 209.
22 Armstrong, 'In defense of reading: or, why reading still matters in a contextualist age', p. 96.
23 Armstrong, 'In defense of reading: or, why reading still matters in a contextualist age', p. 95.
24 T. Linderholm, 'Reading with purpose', *Journal of College Reading and Learning*, 36(2006), p. 70.
25 J. A. Langer, 'The process of understanding: reading for literary and informative purposes', *Research in the Teaching of English*, 24(1990), p. 252.

informative reading, that is to be expected. Whether people read the newspaper, texts assigned as homework, the users manual of various appliances, or the cooking instructions of a recipe, the aim of the reading process is the same. This kind of reading takes place to get hold of some sort of information, to better understand the tasks at hand, and to expand one's knowledge overall. Presumably, when people read for informative purposes they expect to walk away knowing more than when they started. Clearly, this should also be reflected in the strategies that they choose and implement. According to Tracy Linderholm, if the aim is to obtain as much information as possible - as it is the case with informative reading, readers are more likely to re-read a text multiple times, to paraphrase, and to pay more attention to the material in general.[26] Making sure that they are reading the text in-depth and taking the time to understand the core ideas could also help with recollection later on. As a matter of fact, Linderholm claims that one's need to recall information is one of the main areas in which choosing the correct reading strategies could be beneficial, seeing as implementing the wrong strategies can affect recollection, mostly concerning the amount of information that one can store, and thus recall later on. She also emphasizes how the reader's cognitive processing changes based on the purpose of the reading process.[27] Furthermore, ensuring that the environment where the reading takes place is as calm and distraction-free as can be is also highly important. These all demonstrate just how big of an effect the implementation of the appropriate strategies can have on how successfully the reading process will end.

When it comes to reading for literary purposes a distinction needs to be made between literary reading and reading for the purpose of entertainment.[28] Reading for entertainment is often also referred to as leisure reading, which Christina Clark and Kate Rumbold define as 'reading that we do of our own free will anticipating the satisfaction that we will get from the act of reading'.[29] This means that there is no one set of reading materials that constitutes reading for entertainment, as what one finds entertaining varies with the readers and their preferences. On the other hand, literary reading refers more to pieces of high literature or literary fiction. This includes classic pieces of literature but it could also refer to contemporary works. On the whole, literary fiction is a term used to describe novels that are more character-driven than plot-driven, have a more refined vocabulary and overall, place the focus on the writing style. Seeing as by definition reading for entertainment has to be done of one's own free will, it indicates that literary reading is not always the same as reading for entertainment. Reading the classics, for instance, is often associated with school, as they are typically assigned as compulsory readings. In that case,

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26 Linderholm, 'Reading with purpose', p. 71.
27 Linderholm, 'Reading with purpose', p. 72.
28 M. Kovač & A. van der Weel, 'Reading in a post-textual era', *First Monday,* 23(2018).
29 C. Clark & K. Rumbold, *Reading for pleasure: a research overview, (*National Literacy Trust, 2006), p. 6.

reading the classics would look much more similar to reading for informative purposes, as the students are often tested on what they have read. The aim of the reading process, in that scenario, would be to gain a better understanding of the information presented in the text. Nevertheless, reading literary fiction can also happen in one's leisure time, but the reading process would still look entirely different than in the case of traditional leisure reading. Pieces of high literature contain a much more difficult and diverse vocabulary than pieces of popular literature, which are typically consumed in one's leisure time; thus, readers would definitely have to pay more attention and stay more alert throughout the entirety of the reading process. This would also call for a calmer reading environment that is free of distractions. On the whole, reading for literary purposes is much more similar to reading for informative purposes than reading for pleasure, although the two are definitely not the same.

It goes without saying that the main purpose of reading for pleasure is not to expand one's knowledge and to obtain new information. Even though that does happen occasionally, it is merely a positive side-effect and something that comes with the territory of reading. Having said that, the aim of leisure reading is similar to any other pastime activity: to relax, to unwind, to recharge, and even to escape from the reality of everyday tasks with the help of an instrument that brings joy. This is also indicated in the reading process. Linderholm points out that when people read for pleasure they tend to be more shallow in their comprehension, as they just briefly skim through the pages.[30] As a result, readers will end up with only a surface-level understanding, but considering their purpose that is more than sufficient. Additionally, contrary to informative and literary reading, there really are no strict restrictions regarding the reading environment, seeing as retaining the information is not of high importance for leisure reading. Of course, as was stated above, this mostly refers to the reading of popular literature, which is what makes up the majority of leisure reading. With that said, it is important to mention that there are people who choose to read for informative purposes or read high literaute even in their leisure time. Even so, that does not change the fact that the aim of those reading processess are not the same as of reading for pleasure; thus, the strategies that have to be applied do not change.

As the previous discussion indicates reading serves various functions. It is a tool or activity that can be used for studying, in or outside of the school setting, for broadening one's knowledge as well as for improving one's reading comprehension, provided that the reading strategies that are implemented suit the specific purpose. Moreover, reading can also function as an outlet for relaxation as well as a distraction or an escape, just like any other leisure activity. Keeping all of this in mind together with the complex and intrinsic characteristics of the reading process itself, it is

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30   Linderholm, 'Reading with purpose', p. 71.

clear to see that reading is rather multifaceted. Becoming a successful reader takes a lot of time, attention, patience and diligence, while simply being able to read requires plenty of thinking, continuously expanding knowledge and cognitive engagement in general. As has been demonstrated, there are many areas where the skills required for reading as well as the skills acquired through reading could benefit the reader, which should make reading highly important. However, as was stated in the introduction, reading is on the decline, which implies that there are people who do not share this sentiment. Therefore, the following section will focus on the various effects that reading can have on the reader.

Chapter 2: Long-form reading: effects and benefits

Besides the features discussed in the previous chapter, there is much more to reading that the reader can benefit from. There are various skills and also characteristics that can be acquired through reading. Oftentimes, the acquisition of these traits is not immediately associated with reading, which is why it is so important to emphasize the connection between the two. Thus, this present chapter will concentrate on these exacts skills and advantages that come with reading, while also highlighting how they can benefit the reader and how they are connected to the reading process. As for whether these characteristics are directly correlated to reading or not and whether they can be acquired through the use of other mediums as well will be discussed in a later part of the thesis.

2.1. Vocabulary and general knowledge acquisition

Arguably, one of the most well-known advantages associated with reading is the development of vocabulary.[31] Considering how important being able to construct meaning from a text is to reading, this is not surprising in the slightest. To be successful at reading, understanding what each individual word means is vital. Perhaps when the reading skills of a person are in their earlier stages, the process of recognizing and learning new words is entirely conscious. The reader might stop and look up the words in the dictionary and depending on how difficult certain words are this process might have to be repeated multiple times before it is committed to their memory. It is definitely a lengthy process, but the result will be rewarding. However, more experienced readers might be able to skip this step entirely, or at least shorten it significantly. As Shihab points out, reading is an 'inferential constructive process'.[32] This means that readers who already have some experience as well as a basic vocabulary can make inferences, or assumptions, about what the meaning of certain words could be

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31 Cunningham & Stanovich, 'What reading does for the mind', p. 138.
32 Shihab, 'Reading as critical thinking', p. 209.

based on the words that surround it and the context in which it occurs. The lexical and semantic environment can both help with placing and identifying a word and the more frequently a word occurs in a similar environment the easier it will be to recall their meaning. With time this process of making inferences could become completely subconscious, but it will still result in an extended vocabulary.

According to Barbara Wasik et al., long-form reading is among the most researched activities associated with the development of early vocabulary.[33] It certainly provides ample opportunity for encountering new and unfamiliar words and on top of that it also places them into context, which makes it easy to figure out what the meaning of the words could be. However, as beneficial as reading is to the development of early vocabulary, it could be argued that it is just as useful for more experienced, adult readers. While the number of new words that they will encounter might not be as high as in the case of readers who are just starting out, reading is still definitely a valuable source for learning new words. Another reason why long-form reading can aid vocabulary development in children and adults alike, as claimed by Wasik et al., is that 'books provide opportunities for exposure to vocabulary that is not often found in everyday conversations'.[34] Of course it is largely dependent on the subject and genre of the reading material and on whether it is a piece of literary or genre fiction as well, but in general books do contain a much more elevated language and therefore, do not always use the simplest words that are usually present in people's everyday word usage, but rather a more sophisticated synonym or alternative. Additionally, texts from various time periods will also make use of vastly different vocabulary items. Thus, reading a contemporary book might not enrich the reader's vocabulary as much as, for instance, reading a piece a classic literature. This argument demonstrates why long-form reading is not only beneficial to children, seeing as adults are more likely to read books of a scientific nature or texts focused on one specific subject area in general that has its own set of unique vocabulary items. Clearly, these previous statements will not hold true for books intended for children, as they are known for their simplified and easy to understand language. It could be argued that due to the simplicity of the language there is not much to be learned as the words used in children's books are most probably words that can already be found in their rather limited vocabulary. While that may be true, these words might appear in new contexts that could reveal additional meanings, and continuously encountering certain words could also strengthen their knowledge and help with recall later on.[35]

33 B. A. Wasik, A. H. Hindman & E. K. Snell, 'Book reading and vocabulary: a systematic review', *Early Childhood Research Quarterly,* 37(2016), p. 52.
34 Wasik et al., 'Book reading and vocabulary development: a systematic review', p. 40.
35 K. Cain & J. Oakhill, 'Matthew effects in young readers: reading comprehension and reading experience aid vocabulary development', *Journal of Learning Disabilities,* 44(2011), p. 435.

Furthermore, Anne Cunningham and Keith Stanovich point out that reading volume does not only benefit vocabulary, but 'general knowledge, spelling, and verbal fluency' as well.[36] Arguably, all three of these areas rely on and are influenced by the reader's vocabulary development. This means that depending on how much people read and with that how much their vocabulary develops, individual differences will be quite noticeable in these aspects. It was stated previously that different approaches to reading, be it motivation or the use of reading strategies, could make a huge impact on whether the reader will be successful or not. However, as can be seen, the skills that can be acquired through reading are not only invaluable to the actual reading process, but to other areas of life as well. Knowing the correct spelling of words, being able to speak fluently, having at least some sort of general knowledge at one's disposal, and in general having what Cunningham and Stanovich refer to as 'verbal intelligence' is vital for each and every member of society. Evidently, those who continuously engage in reading activities will have higher levels of verbal intelligence, which will benefit both their reading experiences and their day to day lives.[37] Additionally, 'reading volume facilitates growth in comprehension ability' as well, which is one more area that could prove to be beneficial outside the domains of reading.[38] Therefore, even for these reasons alone, reading should be considered an indispensable activity.

2.2. Critical reading and critical thinking

Another advantage that comes with the territory of reading is connected to critical reading and with that to critical thinking. As stated by Shihab, 'reading involves an interactive process in which the reader actively produces meaning through a set of mental processes'.[39] This indicates that one's mind is heavily involved in the reading process, which means that thinking is essential for reading. It is especially true when it comes to reading for informative purposes as there is plenty of new information that requires careful attention. However, it could be argued that thinking and having a critical mindset is just as important in the case of leisure reading. Even if the book in question is only a fictional work, in order to fully understand the plot of the novel as well as the rationale behind the actions of certain characters it is important to practise critical thinking. In this case the amount or intensity of critical thinking needed might vary depending on the genre and classification of the specific novels. As for what critical thinking consists of and what skills are required for it, Shihab lists the following: 'learning to evaluate, draw inferences and find the

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36 Cunningham & Stanovich, 'What reading does for the mind', p. 143.
37 Cunningham & Stanovich, 'What reading does for the mind', p. 147.
38 Cunningham & Stanovich, 'What reading does for the mind', p. 143.
39 Shihab, 'Reading as critical thinking', p. 212.

conclusions based on the evidence'.[40] The importance of making inferences had already been touched upon in the previous section, but as can be seen it has benefits in multiple areas.

Evaluation and evidence are two rather important terms in the study of critical thinking and they are also terms that are highly important to the reading process. As a matter of fact, if there was one word that perfectly captured the essence of critical thinking, it would definitely have to be evaluation. Evaluation is the practice of judging and assessing the quality of certain things, in this case the reading materials. Quality does not only refer to external factors such as who the author or publisher is, whether something is peer reviewed or even in which year something was published. While there are instances where these aspects are of high importance, when it comes to the reading process itself, the quality of the internal components, namely those relating to the textual context, are much more important. As the readers proceed through a text they have to judge everything that they read. They have to analyze the claims and statements in the text to make sure that they can be trusted. This is where the importance of evidence comes into the picture. For the readers to be able to decide which ideas are reliable, they have to find evidence that supports the claims that have been made. Ideas can be supported by quotes, references to secondary sources, personal experiences, and also by more detailed explanations. In the case that the reader is unsure about the authenticity of certain claims, it could also be useful to look the information up on their own. The reason why it is so important to practise critical thinking, is that without it it is quite easy for the readers to be manipulated. According to Shihab, 'a good critical reader does not let the writer twist the truth and persuade him to share his opinion'.[41] Thus, a good reader needs to stay sharp and be aware throughout the entirety of the reading process, so as not to miss anything important.

However, thinking in reading is not only required for awareness and to avoid being manipulated, but on top of that 'the reader needs to think while reading and bridge his own prior knowledge and knowledge coming from outside'.[42] This has already been touched upon before when discussing reading comprehension, but not from this perspective. The readers have to recognize when to use their experiences and also how to apply these experiences to the text to get the most out of it. In order to do that they must identify the parts that need further knowledge that cannot be found in the text itself, but it is also important to judge whether something is vital to the understanding of the text or not. Deciding the importance of certain information in a text requires thinking on the reader's part, just as evaluating whether relying on personal experiences is enough for comprehension or if further investigation into the topic is required. Additionally, the reader also has to think in order to be able, say, to follow the plot of a novel. In the case of informative reading,

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40 Shihab, 'Reading as critical thinking', p. 212.
41 Shihab, 'Reading as critical thinking', p. 216.
42 Shihab, 'Reading as critical thinking', p. 212.

too, it is important to keep the already discussed concepts and definitions in mind to be able to understand the more complex ideas that are typically based on the foundation that was laid down at the beginning. Lisa Mendelman also points out that 'critical reading involves a gradual progression from the superficial to the increasingly complex'.[43] This is closely related to the previous statement in that this also indicates the interconnectedness of the reading process. Readers first have to understand the superficial, seemingly unimportant and meaningless parts of a text to be able to fully comprehend the much more complex elements and with that the overall, and sometimes underlying, meaning of the text. While at first glance it might not appear to be the case, this process also requires critical evaluation. The readers have to be able to identify the various elements of the text and also make a distinction between them based on their level of complexity. Furthermore, the inner network of ideas also has to be recognized in order to successfully connect the dots and to decide which parts require more attention. According to Lena Green, the thinking skills required for reading can be summarized in the following list: 'reasoning by analogy, the making of inferences, the prediction of consequences, the generation of hypotheses and the acknowledgment of the need for acceptable evidence'.[44] This once again indicates the multifaceted as well as the interconnected nature of reading. The previous list of skills also shares a lot of similarities with what one would assume are the skills required from lawyers and judges in order to have a successful trial. Just as in the courtroom every statement and claim has to be supported by some kind of evidence, the reader also has to make sure that there is adequate evidence to justify the authenticity of the claims made in the text. Additionally, the reading process is made up of a multitude of smaller elements and only by combining these components can the true meaning of the text fully be revealed. The reader has to work to get to the meaning of the text, similarly as lawyers and judges in the courtroom have to proceed step-by-step to be able to reach a verdict. Lastly, manipulation is another element that is strongly present in both scenarios. While the readers have to continuously pay attention to and analyze what they are reading, lawyers also have to look for any loopholes that could be used against them later on in the process. Arguably, manipulation poses bigger dangers in the courtroom than in reading; nevertheless, being caught unaware can have severe consequences in both cases. That reading, an activity that is often deemed unimportant and even easy can share so many of the same characteristics as courtroom activities, which are undeniably perceived as much more challenging and complex and overall held in a much higher esteem, shows just how truly complex and intricate reading and the reading process itself really is.

As has been demonstrated it is impossible to read without thinking,[45] even though it might not be the first thing to come to mind when thinking about what reading entails. Without a doubt, if

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43 L. Mendelman, 'Critical thinking and reading', *Journal of Adolescent & Adult Literacy,* 51(2007), p. 300.
44 Green, 'Two birds with one stone: teaching reading and teaching thinking', p. 119.
45 Shihab, 'Reading as critical thinking', p. 212.

the pursuit of an activity makes its participants think, it is definitely worth preserving. Furthermore, the thinking skills first required for reading and then further developed through the practice of reading are invaluable skills to have in one's day to day life as well. Becoming a functioning member of society and more importantly, a successful one at that, relies heavily on at least some amount of critical thinking. Perhaps, as has been the case for many of the already analyzed aspects, practising critical thinking is not something that happens consciously. However, for it to reach the point where it takes place subconsciously, the need for having a critical mindset had to be recognized at some point. Just as authors can manipulate readers if they are not aware of this danger, people can be manipulated in real life as well. Manipulation can be present in the news, in workplaces and also in personal relationships. Considering that it can be present in the most mundane everyday things as well, it speaks volumes of how important it really is for everyone to be aware and to practise critical thinking. Reading may not be the only activity the pursuit of which can aid the development of critical thinking skills, but it definitely is a good source for practising.

2.3. Creative thinking and imagination

Other than critical thinking, reading also contributes to the facilitation of creative thinking skills, which based on everything that has been said about reading so far seems like a rather obvious consequence. Amber Wang defines creative thinking as 'the ability to see things in new and original ways, to learn from experience and relating it to new situations, to think in unconventional and unique ways, to use non-traditional approaches to solving problems, and creating something unique and original'.[46] According to this definition it would not be too farfetched to state that creative thinking is almost, if not completely, synonymous with reading, seeing as this previous definition could also be used to describe what reading is. Wang also points out that 'the traits that are encouraged by reading […] appear to have the same characteristics that […] foster creativity, such as the freedom and ability to communicate ideas'.[47] However, that is not the only trait shared by reading and creative thinking. Admittedly, imagination is highly important to both of these skills, perhaps it is even indispensable. Being able to think creatively indicates that the individuals can look beyond what they are presented with and that, in this case, they do not limit themselves to the constraints of the written text. Similarly, when it comes to reading readers must rely on their knowledge and experiences as well as on outside influences. If they only focus on what is visibly spelled out for them in the text, they might miss important bits of information and end the reading

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46 A. Y. Wang, 'Exploring the relationship of creative thinking to reading and writing', *Thinking Skills and Creativity*, 7(2012), p. 39.
47 Wang, 'Exploring the relationship of creative thinking to reading and writing', p. 39.

process without having actually understood the meaning. Both of these rely heavily on the reader's imagination and on their ability to see beyond what is visible.

Arguably, creativity is not a prerequisite of reading, as most texts can be understood without any added creativity, granted only on a surface level, but creativity definitely helps in enriching the reading experience and as the readers engage more frequently in reading activities their creativity and with that their creative thinking skills will undoubtedly be affected. The more time they spend on reading,, the more likely it is that they are going to be able to look at certain parts from multiple perspectives and to connect various elements. Additionally, reading about different characters and situations will provide readers with diverse reading experiences, which will also help with their imagination, considering that they might read texts that revolve around concepts and ideas that they have not yet encountered or thought about. Furthermore, this will also enable them to recall these reading experiences when they are reading a similar text and to rely on this experience to ensure that they understand it to the best of their abilities. As was the case for the previously discussed effects of reading, the skills acquired through reading do not only benefit the reading process but also other areas of life. According to Wang, 'creative abilities are essential in solving complex individual, social, and global problems' as well.[48] This, once again, indicates that the characteristics of reading and the skills that come with the reading process are invaluable.

2.4. Concentration and patience

Another important effect that reading has on the reader is connected to concentration and the attention span of the readers. Christine Wolfgramm et al. make a distinction between attention and concentration by stating that attention is 'alertness and the selection of certain stimuli on which to focus', whereas concentration means 'maintaining attention over a long period of time with intention'.[49] While it could be argued that attention is an integral part of the reading process and even a prerequisite of reading, concentration is something that develops through reading. Nevertheless, with frequent reading and practise, both of them can be improved. According to Chun-Chun Wei and Min-Yuan Ma, 'with more attention invested, people are more likely to remember the information […], thus improving their reading performance, correctness, and comprehension of reading'.[50] This indicates just how important attention is to the reading process, but the problem is with the duration of this attention, also

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48 Wang, 'Exploring the relationship of creative thinking to reading and writing', p. 38.
49 C. Wolfgramm, N. Suter & E. Göksel, 'Examining the role of concentration, vocabulary and self-concept in listening and reading comprehension', *International Journal of Listening*, 30(2016), p. 26.
50 C. C. Wei & M. Y. Ma, 'Influences of visual attention and reading time on children and adults', *Reading & Writing Quarterly*, 33(2017), p. 106.

called attention span. Readers are only able to focus and pay attention to what they are reading for a limited amount of time, and after this time period had passed their comprehension is bound to become more shallow. However, the more time they spend on reading the longer this time period is going to be. Even so, attention is still only temporary and can be heavily influenced by outside factors and influences such as how the reader is feeling at the time of reading, what type of reading material is being read as well as how distracting the reading environment is.

This is where the intention required for concentration comes into the picture. Arguably, in this case intention could be substituted with motivation, which was among the requirements of reading discussed in the previous chapter. As stated above, attention turns into concentration if it is maintained over a longer period of time. That is only possible if the reader has the right intention and with that the proper motivation to preserve, regardless of the topic or their state of mind. Admittedly, this also requires quite a lot of self-discipline on the reader's part. This together with attention and motivation also serves as an explanation as to why there is so much difference between various readers and their reading experiences.[51] Another thing that is worth mentioning here is what Maryanne Wolf refers to as 'cognitive patience',[52] which can also improve quite significantly as a result of reading. In this scenario patience refers to the reader's ability to simply sit still and read without needing constant stimulation. Considering how fast-paced and overly stimulating the world is today, being patient is a much more difficult task than it might seem. In many ways patience is similar to concentration, although the two are definitely not the same. Patience is more something that is necessary for concentration, rather than a substitute. Overall, with the help of the correct motivation the initial attention of readers can be turned into long-term concentration. In turn, this will also encourage readers to practise self-discipline and patience as well, which indicates that the improvement of self-discipline and patience are also benefits of the reading process.

2.5. Personal development

Reading also heavily influences personal development with regards to morals, values and identity in general, which could be due to the fact, as Anne Mangen and Adriaan van der Weel argue, that 'storytelling functions as a form of evolutionarily adaptive behavior'.[53] According to Dennis Sumara, 'identity emerges from relationships, including relationships people have with books and other communicative technologies based on language'.[54] Arguably, this perception

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51 S. J. Samuels & G. Edwall, 'The role of attention in reading with implications for the learning disabled student', *Journal of Learning Disabilities,* 14(1981), p. 361.
52 M. Wolf, *Reader, come home: the reading brain in a digital world,* (Harper, 2018).
53 A. Mangen & A. van der Weel, 'Why don't we read hypertext novels?', *Convergence,* 23(2017), p. 173.
54 D. J. Sumara, *Why reading literature in school still matters: imagination, interpretation, insight,* (Routledge, 2002), p. 9.

mostly holds true for reading that occurs in one's leisure time rather than reading for informative purposes, seeing as books that are read for pleasure revolve around much more diverse topics which in turn evoke a much more diverse range of emotions that could end up shaping the reader's personality. Nevertheless, as will be demonstrated later on, it is not only the content of a book that can influence one's personal development, but the reading process itself as well. In the previous section it had been established that reading and thinking are closely related to each other, in fact it could even be argued that the two cannot exists without each other, or at least not successfully. Reading requires thinking, thinking skills can be developed through reading and in this case thinking is imperative for personal development. It is when one thinks that valuable discoveries can be made both about the world and self. Then, in light of these discoveries perhaps more implicit layers of meaning can be identified in a text, which in turn will once again impact the reader. Evidently, every aspect that has been discussed so far is part of an interconnected network the parts of which work together to result in the best possible outcome.

Nila Smith states that 'it is possible to inculcate either good or bad principles through reading' and she also claims that good morals stem from books, whereas bad ones come from magazines.[55] Arguably, that is more so based on generalizations than on hard facts but the fact of the matter remains the same: reading can instill values in the readers. This is most probably connected to the content and the overall plot of the books; therefore, based on the various subjects and topics that a book deals with the nature of the values might vary. It is also important to mention that deciding which principles to identify with, so to say, or to find value in is strongly dependent on the reader. Of course, the danger of manipulation is present in this case as well in that it might be easy for the readers to lean towards the more negative principles in the text, even if only subconsciously, depending on how the author voices and implements these values. Then again, it might also be a sign of great authorship. Nevertheless, it is up to the readers to critically evaluate the ideas and principles presented in the text and to decide which are the ones that align with their already established values; or they could also decide that what they previously deemed valuable is not important anymore and completely change their course.

Smith also draws attention to the fact that 'reading values are personal and individual'.[56] This means that every reader will attribute different values to the reading process going in and that the outcome of that reading experience will also be influenced by the personal characteristics of the reader. Just as no book can be read in the same way by two different individuals, it cannot have the same effect on them either. Seeing as the emotions that novels evoke in the reader and their

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55   N. B. Smith, 'The personal and social values of reading', *Elementary English*, 25(1948), p. 493.
56   Smith, 'The personal and social values of reading', p. 491.

reactions to these emotions vary from reader to reader, it is not possible to make accurate predictions about the values and principles that are portrayed in them. Similarly to how the interpretation and comprehension parts of the reading process are heavily dependent on the reader's general knowledge and previous personal experiences and encounters, these aspects could also play an important role in what every individual reader will take away from the text. Moreover, these personal encounters could also refer to the reader's previous experiences with books, seeing as most likely each and every book leaves some kind of impression on the reader and that impression is then carried over to the next book as well. Always reading the same type of books, in regards to the genre or the topic, could result in closed-mindedness in that it would continuously expose the reader to the same set of principles. While the values in a book are influenced by personal experience, as has been stated before, there is definitely a limit to what certain genres allow. Therefore, it could be argued that the most beneficial thing for personal development would be to explore various genres, as well as various points of view and representations, and not to limit oneself to only one.

Furthermore, Armstrong brings up another interesting argument by stating that 'the experience of reading can be surprising, pleasurable, or deeply upsetting, as it could not be if it were unified and self-identical'.[57] This once again indicates that the fact that the act of reading can evoke such a diverse range of emotions in the readers and with that also shape their personality as well as the principles that they attach value to is, without a doubt, due to the fact that reading is an extremely personal and completely unique experience to each and every reader. Perhaps, it could also be argued that it is this uniqueness that makes reading so interesting and also different from other mediums. While books are typically already completely written and finished by the time that they get into the hands of the readers, by putting parts of themselves into the story, if only through the expression of certain emotions or the reliance on their personal experiences, readers do shape the storyline of the book. In a sense they also become authors for a short while as they work their way through a book and make the story their own. Overall, reading is a deeply personal experience that has the potential to make a big impact on the readers and their personal development.

Additionally, when discussing personal development it is important to also mention empathy and perspective-taking, as both of these areas greatly benefit from reading. According to Mark Davis, empathy 'refers to the reactions of one individual to the observed experiences of another'.[58] In this case the observation refers to the characters and their actions in a book. This also indicates that empathy is mostly evoked through the reading of fiction as opposed to non-fiction which, according to Matthijs Bal and Martijn Veltkamp, is due to the fact that 'fiction is a simulation of

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57 Armstrong, 'In defense of reading: or, why reading still matters in a contextualist age', p. 95.
58 M. H. Davis, 'Measuring individual differences in empathy: evidence for a multidimensional approach', *Journal of Personality and Social Psychology*, 44(1983), p. 113.

social experiences, in which people practice and enhance their interpersonal skills'.[59] They also add that 'emotional involvement in the story causes the reader to sympathize with the characters, and perhaps even experience the events in the story as if the reader experiences the events him-/herself'.[60] Empathy and perspective-taking are very closely connected to each other, as without seeing things from the perspective of the person who is going through the experience observed, it is close to impossible to feel empathy towards them. This is why reading about these experiences can be helpful, because readers might encounter situations and points of view that they might not have thought about before. Considering that books tend to display a wide array of various experiences and emotions, there is bound to be a plot for every single reader that is likely to affect them. Of course, this can only work if such situations are depicted in a realistic way and are free of any misconceptions, as faulty representation could result in prejudices rather than empathy. Furthermore, as has been stated before, to evoke empathy, readers have to be emotionally involved in the story. However, Raymond Mar et al. point out that to be able to get lost in a book, some sort of initial empathy is necessary,[61] which implies that empathy is a prerequisite of the reading process and not only an additional benefit.

As has been indicated previously, it is not merely the content and the plot of a book that can shape the personality of the readers, but the reading process and the steps the readers need to take in order to understand what they are reading as well. These components of reading might not have as much of an effect on the reader's emotional development, but they could potentially impact self-perception and also help readers to better understand themselves. Considering the fact that reading requires both an extensive amount of thinking as well as some background knowledge and real-life experience, it is evident that self-reflection is a definite part of reading, perhaps even the result of the reading process. Presumably, readers can understand the texts that they are reading the best if they are thinking in the way that the author intended them to, which means that it is in the interest of the readers to analyze how and why they connect certain ideas and to evaluate whether what they are doing is the most effective. Arguably, during this analysis they will inevitably learn a few things about how their mind works and through trial and error they will find the methods that work the best for them, which is sure to benefit their personal development as well. Additionally, the motivation that is required for successful reading also opens the door for further personal development. It is important for the readers to figure out

59 P. M. Bal & M. Veltkamp, 'How does fiction reading influence empathy? An experimental investigation on the role of emotional exportation', *Plos One*, 8(2013), p. 1.
60 Bal & Veltkamp, 'How does fiction reading influence empathy? An experimental investigation on the role of emotional exportation', p. 2.
61 R. A. Mar, K. Oatley & J. B. Peterson, 'Exploring the link between reading fiction and empathy: ruling out individual differences and examining outcomes', *Communications*, 34(2009), p. 421.

what does and what does not motivate them, seeing as once they do they can focus on what is sure to bring out their full potential, which will, once again, lead to personal development.

2.6. Mental and physical health

According to Smith, 'successful mastery of the reading process is of benefit to the individual from the standpoint of mental health' as well.[62] Based on the previous discussion concerning the reader's personal development, this should not come as a surprise. Arguably, the more individuals learn about themselves, which is what personal development facilitates, the more likely it is that they are going to be able to recognize signs indicating concerns related to mental health and their well-being in general. In turn, this will also make it easier for them to take action and to find effective solutions that can help in alleviating some of these concerns. One of these solutions is related to a function of reading that was discussed in the previous chapter, namely the use of reading as an escape from the burdens of everyday life. Josie Billington explains that 'the extended continuity of the narrative mode enable[s] readers to inhabit a life other than their own for a space, away from distracting anxieties'.[63] Admittedly, it is not only the storyline and plot of a book that can act as an escape or distraction, although it definitely is the most prominent factor, but the act of reading itself as well. As has been demonstrated, reading requires the execution of a complex set of actions including thinking, evaluating and constructing meaning, and while readers are preoccupied with these tasks they do not have time to dwell on other possibly stressful matters. However, Cecilia Pettersson points out that this relief offered by reading is only temporary and does not have any long-term benefits.[64] While that may be true to a certain extent, it could also be argued that in the case that reading is pursued as a continuous activity some improvements would definitely be noticeable. To further expand on this notion, when readers encounter characters and plots that they can identify with, for instance elements resembling their real-life struggles, they might be able to gain a deeper insight into the situation or to look at it from a different perspective. Furthermore, reading about how a character deals with the same struggles could also encourage the readers and lead to an improved mental state.

Another effect that reading has on the reader is related to their working memory and in general to their memory and recall skills. Perhaps it is not immediately associated with mental health, but at the end of the demonstration it will become clear why it is mentioned in this section. Peng Peng et al. state that 'working memory refers to the capacity to store information for short

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62 Smith, 'The personal and social values of reading', p. 492.
63 J. Billington, *Reading and mental health*, (Palgrave Macmillan, 2019), p. 72.
64 C. Pettersson, 'Psychological well-being, improved self-confidence, and social capacity: bibliotherapy from a user perspective', *Journal of Poetry Therapy*, 31(2018), p. 132.

periods of time while engaging in cognitively demanding activities'.[65] It has already been established that reading is one of these cognitively demanding activities; therefore, working memory is definitely something that is of high importance to the reading process. Working memory does not only store the information but it also makes use of that information. Mariko Osaka describes this in the following way: 'in reading, incoming information must be decoded perceptually, as it involves retrieving information [...]; then the information must be recognized and integrated with a contextual interpretation'.[66] Admittedly, as readers become better acquainted with the ins and outs of the reading process, the capacity of their working memory will most definitely expand and with that their comprehension skills will improve as well. Even though the positive effects of reading are more often than not linked to the reader's short-term memory, it could be argued that their long-term memory is not left unaffected either. Considering that readers have to rely on their general knowledge and past experiences quite a bit, they are constantly having to call up these memories, which are undoubtedly stored in their long-term memory. Making use of these memories, even if only occasionally, ensures that they will not be forgotten.

Not surprisingly, the ability to recall information goes hand in hand with the reader's memory, in fact the two are essentially inseparable. Lydie Iralde and Philippe Allain point out that recall requires cognitive control, which is why older people have trouble remembering.[67] Cognitive control refers to the ability to consciously take control of one's mind and focus on the end-goal of the action rather than on temporary urges. This is also required for reading, especially in connection with recall, as readers need to be able to select those pieces of information that are relevant to the text in question and not get lost in a sea of unrelated memories. As recall and cognitive control are skills that are necessary for reading, they can also be improved and further developed through the reading process. This is exactly why memory had been mentioned as a part of the discussion about mental health. Considering the fact that continuous reading can lead to improvements regarding memory, the ability to recall as well as the exercise of cognitive control, all of which are skills that start to deteriorate with age, practising reading can also be of benefit to one's mental state. Dementia and Alzheimer's are both mental diseases that affect the patient's memory and thinking skills in general; and arguably, with the help of reading, the likelihood of developing such diseases can be significantly reduced, if not completely prevented.

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65 P. Peng, C. Wang, S. Li, W. Dardick, M. Barnes, W. Wang, H. L. Swanson & S. Tao, 'A meta-analysis on the relation between reading and working memory', *Psychological Bulletin*, 144(2018), p. 49.
66 M. Osaka, 'Reading and working memory', In M. Nakayama, R. Mazuki & Y. Shirai, *The Handbook of East Asian Psycholinguistics*, (Cambridge University Press, 2006), p. 285.
67 L. Iralde & P. Allain, 'Text memory and aging: effect of reading perspective on recall of semantically related information', *European Review of Applied Psychology*, 69(2019), p. 103.

Regardless of how far the benefits of reading reach, their positive influence on mental well-being is undeniable. As a matter of fact their effect is also scientifically proven, seeing as bibliotherapy as an approach is starting to gain wider recognition. Liz Brewster defines bibliotherapy as 'anything […] that uses books as a means of improving people's mental health and well-being'.[68] In this case the use of books does not only refer to fiction novels but to non-fiction books dealing with self-help topics as well. The aim of this approach is to incorporate traditional therapeutic concepts into the process of reading. Overall, bibliotherapy revolves around 'the utilization of books as reassurance and comfort'.[69] In this scenario the books take the place of an actual therapist and prompt the readers, or patients, to think and most importantly, to reflect without having to say anything. Perhaps this takes the vulnerability of the 'patient' out of the equation which makes the process less formal and much more comfortable. On the whole, the healing properties of reading cannot be disputed.

However, it is not only mental health that is positively influenced by reading, but physical health as well. Admittedly, the fact that reading improves mental well-being definitely contributes to an improvement in the overall physical health of the readers as well, but that is not the only reason. Avni Bavishi et al. argue that deep reading, empathy, emotional intelligence, and mostly cognitive engagement all contribute to an extended lifespan. They also point out that these advantages can only be found in long-form reading, as 'books engage readers' minds more than newspapers and magazines, leading to cognitive benefits that drive the effect of reading on longevity'.[70] It could be argued that all of the benefits discussed so far contribute to the longevity of the reader's life, at least to a certain extent, seeing as all of them are connected to thinking and cognitive activities, in one way or another. As long as people think, their mind is going to be in use, which is essentially what keeps them going. The minute the human brain starts to become more and more inactive, the deterioration of health is going to begin as well. Therefore, considering how cognitively demanding reading is, it is clear to see how it could improve longevity and physical health in general.

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68 L. Brewster, 'Reader development and mental wellbeing: the accidental bibliotherapist', *Australasian Public Libraries and Information Services,* 22(2009), p. 13.

69 Brewster, 'Reader development and mental wellbeing: the accidental bibliotherapsit', p. 14.

70 A. Bavishi, M. D. Slade & B. R. Levy, 'A chapter a day – association of book reading with longevity', *Social Science & Medicine*, 164(2016), p. 45.

2.7. Writing skills

Lastly, another area that reading can have a huge influence on is the development and improvement of writing skills. Reading and writing are frequently mentioned in connection with each other, which makes sense seeing as both of them are an essential part of everyday life and also because they share many of the same qualities and characteristics. Arguably, it is not possible to read without being able to first recognize the letters and then write, but just as writing is an indispensable part of reading, reading is also a fundamental part of becoming a better writer. Natalie Olinghouse and Jacqueline Leaird draw attention to the fact that the larger, and more diverse, one's vocabulary is, the better the quality of their writing will be as well.[71] Considering that the positive effects of reading on the reader's vocabulary have already been discussed in great detail, it is evident that reading can contribute to an extended vocabulary, which would also greatly benefit one's writing skills. Furthermore, imagination and creativity are also necessary for writing, perhaps they are even more important than the ability to form grammatically correct sentences. While the latter can be taught, the former can only be improved if there is already a base on which to build. Similarly to how real-life experiences can shape one's thought process and ideas, reading can also inspire the reader and act as sort of a detonator that sparks the reader's imagination, which then will come to life on paper. The relationship between reading and writing is quite reciprocal, in the sense that first writing benefits reading and then later on reading will also benefit writing.

However, the similarities between the two do not end here. Baptiste Barbot et al. define writing, and more so creative writing, as a process that 'include[s] intelligence, particularly verbal intelligence; working memory, which allows the recall of knowledge in a workable form; evidence-based inferencing, the process of drawing logical conclusions from factual details; and knowledge'.[72] If writing would be substituted with reading at the beginning of the previous sentence, the definition would still hold true. Writing is just as complex and cognitively demanding as reading is; therefore, there is a high probability that writing has similar effects on people to reading, and that most of the benefits and advantages that come with reading can also be found in writing. Nevertheless, as has been stated previously, writing simply cannot exist without reading, which means that despite all of the similarities between the two, the one cannot replace the other. Both of them are vital parts of everyday life and should be regarded accordingly. Finally, writing can also serve as an outlet for expressing oneself, and with an ever extending vocabulary and

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71 N. G. Olinghouse & J. T. Leaird, 'The relationship between measures of vocabulary and narrative writing quality in second- and fourth-grade students', *Reading and Writing,* 22(2009), p. 563.

72 B. Barbot, M. Tan, J. Randi, G. S. Donato & E. L. Grigorenko, 'Essential skills for creative writing: integrating multiple domain-specific perspectives', *Thinking Skills and Creativity,* 7(2012), p. 210.

increased levels of creativity, it should make it easier for the writers to fully express themselves without having to worry about verbal and other self-imposed limitations. Seeing as the verbal and creative aspects of the writing process are heavily influenced by reading, it could be argued that on top of every positive effect that has been discussed so far, reading also facilitates self-expression.

2.8. Socioeconomic success

As has been reiterated multiple times, the skills acquired through reading can benefit people in many areas of life, which implies that reading also has a huge impact on one's socioeconomic success. Stuart Ritchie and Timothy Bates state that one's socioeconomic status is influenced by one's 'social status of origin, intelligence, academic motivation, and educational duration'.[73] Arguably, the last three of the ideas mentioned are all connected to each other and even build upon each other, with intelligence being at the core of the process. Based on the previous observations, reading contributes to the expansion of one's vocabulary and with that to the improvement of their comprehension ability. It also encourages and improves the practice of critical reading and critical thinking skills, which further contribute to improved comprehension and analytical skills. Reading also heavily influences the creative thinking skills of the readers and their creative abilities in general with a focus on imagination. Additionally, readers are also thought to be better at concentrating on things for a longer period of time without getting distracted and with that they also tend to be more patient and self-disciplined. The writing skills of readers also tend to be much more advanced, which contributes to their ability to express themselves as well. Moreover, people who read also show signs of emotional intelligence and empathy. These effects of reading all contribute to the general intelligence of the readers, which will then influence their advancement in life.

How motivated one is academically is based on how well developed these skills are and on how intelligent one is in general. Thus, the better one performs in these areas the more likely it is that one will be motivated to continue on with their studies, which will determine the duration of their academic career as well. According to the observations of Ritchie and Bates, 'individuals with greater academic skills are likely to be more successful in occupational contexts because their abilities afford them improved chances of career development'.[74] Therefore, it can be argued that people who read are more likely to be successful later on in their lives, especially regarding their career. Nevertheless, the possession of these skills can also be useful in one's personal relationships

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73 S. J. Ritchie & T. C. Bates, 'Enduring links from childhood mathematics and reading achievement to adult socioeconomic status', *Psychological Science*, 24(2013), p. 1301.
74 Ritchie & Bates, 'Enduring links from childhood mathematics and reading achievement to adult socioeconomic status', p. 1301.

and overall, it can help people become successful members of society. On the whole, reading has the potential to improve one's socioeconomic status and with that one's socioeconomic success.

2.9. Summary

Taking everything into consideration reading can be summarized, in the words of Clark and Rumbold, as 'an important gateway to personal development, and to social, economic and civic life.'[75] This statement alludes to the fact that the continuous development of one's self and personality is of high importance to any improvement and attainment in other areas of life as well. Thus, however indirectly, it could be argued that reading is also an essential part, perhaps even a prerequisite, of being a part of society. The skills that are required for reading and then further developed through the pursuit of reading as well as the advantages that come with reading, which do not merely benefit the reading process itself but everyday life as well, serve as further support for the previous statement. Undoubtedly, as the previous discussion perfectly demonstrates, there is much more to reading than one would assume. It is an especially versatile and multifaceted skill and activity, the pursuit of which can result in the acquisition of invaluable skills as well as experiences such as the development of vocabulary, critical and creative thinking skills as well as writing skills; improvements in one's level of concentration and patience; personal development and a much improved mental and physical state, which all contribute to one's socioeconomic success. The following section will focus on the same effects that have been discussed in this chapter, but from the perspective of other mediums to see whether they are unique to reading or if they are present there as well.

Chapter 3: Long-form reading versus broadcast media and gaming

The previous two chapters dealt with the definitions, purposes and functions as well as effects of long-form reading. As has been established, reading is exceptionally multifaceted and valuable. Considering the number of articles and essays that had been published in the last couple of years about the decline of reading, focusing on what could have caused this decline and also on what this decline could mean for the future, it would indicate that others share this opinion as well. The fact that the decline of reading has people extremely worried is undeniable, it is, however, unclear whether they are actually aware of the previously discussed benefits of reading or simply want to preserve the activity due to tradition. The assumption appears to be that what reading has to offer, also in terms of the many additional skills that can be acquired through the reading process, is

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75   Clark & Rumbold, *Reading for pleasure: a research overview*, p. 5.

completely unique and exclusive to reading. However, considering that vocabulary and general knowledge, critical and creative thinking skills, imagination, concentration, patience, personal development, empathy, mental and physical health, writing skills and socioeconomic success are skills and conditions that can be influenced by a multitude of various factors, that does not seem likely. Arguably, the value lies in the multifaceted nature of reading, meaning that what makes reading so valuable is that all of these effects and skills can be found in one place. To find out whether this supposition is true or not, the following mediums and activities will be analyzed in more detail: television media, radio media and gaming. The reason why the analysis will focus on these three mediums is that even though they are different from reading they do have the same purpose at their core: to convey information in one way or another. Furthermore, book, television and radio consumption as well as gaming all fall under the category of entertainment media.

Admittedly, television, radio and gaming are vastly different from reading, especially in the ways in which they are consumed, which at times will definitely be noticeable in the comparisons as well, but in order to ensure that the results are as comparable as possible, the discussion will concentrate solely on the already introduced effects to see whether the consumption of these mediums results in the same benefits as reading. This also means that this chapter and analysis will be much more impressionistic in nature than the previous two chapters, which is mostly due to how specific some of the comparisons are and also to the fact that many of the analyses and comparisons will be based on the findings of the previous sections. As for the structure of this analysis, it will follow that of the previous chapter, so the already discussed benefits will be analyzed once again one by one, but this time from the point of view of television media, radio media and gaming, focusing on the differences and similarities between the findings of the previous analysis on reading and the following analyses on the other mediums.

Before diving into the analysis of the various effects, it is important to establish what is understood by television media, radio media and gaming, at least in the scope of this thesis. Television media is a type of broadcast media, which refers to any mediums that have to be consumed by means of watching and listening to what is presented. In this day and age television consumption is neither limited to the actual device, nor is it limited to the programmes that are broadcast at a scheduled time. Other than television programmes, there are multiple online streaming subscriptions, such as Netflix, Hulu, Disney+ and the like, that have similar characteristics to the traditional television. Similarly, YouTube can also be considered a type of television media, seeing that it has to be viewed as well. Even though YouTube is often grouped together with other social media platforms, based on the characteristics that this current analysis is focused on, it fits much better with television media. Television, streaming platforms and YouTube

are mentioned together because at their core they are essentially the same, considering that they all present information in the form of moving images. The main difference is in the amount of commercials that are present on these various platforms.

Radio media is another branch of broadcast media, that is consumed by means of listening, as in this case any type of information is provided in audio format only. As the broadcast radio is starting to become rather outdated, although it is still consumed by some, it is slowly but surely starting to be replaced by podcasts. These are a more modern version of traditional radio shows, the main difference between the two being that podcasts are much more niche oriented than radio stations and programmes.

Lastly, gaming refers to video games played either on computers or on mobile phones and although they have always been rather popular, perhaps they are more popular now than ever. As video games contain both visual and auditory elements, it could be argued that gaming is a subdivision of television media. What distinguishes the two is the interactive element that is an essential part of gaming. Video games are also available in a wide variety of genres from educational and strategic games to action games.

The reason for this brief introduction was to demonstrate how television media, radio media and gaming are somewhat similar to reading, at least in relation to content. Similarly to how in reading there are various genres that readers can choose from that will expose them to different contents, styles and experiences and with that will also have a different impact and influence on them, the various platforms of television media and radio media as well as the different genres of video games that the consumers can choose from will expose them to different concepts and ideas, regarding both quality and content, which will influence just how much and in what ways the consumption of these mediums will influence the consumers, in regards to the effects discussed. Of course, these similarities only refer to the variety in the content and not to any similarities or differences relating to the formal affordances of these mediums. Mangen and van der Weel point out that 'screens have different inherent properties and affordances than print on paper' and while they are talking about screen reading, arguably, the same could be said about television, radio and gaming as well.[76] Moreover, they also draw attention to the fact that screens, and presumably the same is true for radio as well, will offer 'new multimodal capabilities, a loss of fixity and material integrity and a replacement of the sensorimotor, ergonomic and audiovisual affordances of paper'.[77] On top of that, Mangen and van der Weel point out that reading is both embodied and it is a

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76   A. Mangen & A. van der Weel, 'The evolution of reading in the age of digitisation: an integrative framework for reading research', *Literacy,* 50(2016), p. 120.
77   Mangen & van der Weel, 'The evolution of reading in the age of digitisation: an integrative framework for reading research', p. 120.

human-technology interaction as well, which will serve as a basis for the comparison of the mediums with regards to their formal characteristics.[78] These differences in the substrates will be discussed in a bit more detail in the following sections, primarily in connection with how these differences might influence the analyzed effects.

3.1. Vocabulary and general knowledge acquisition

When it comes to lexical development and the acquisition of new vocabulary items, the most important thing to observe is the mediums' reliance on language, be it written or spoken, and while television media, radio media and gaming all rely on texts or words to a certain extent, it is much more prevalent in television and radio than in gaming. Words play the biggest role in radio media, as it is the only way in which information can be transmitted through that medium. When it comes to television media, however, information is presented both through words and visual representation. As for gaming, text and language use is mostly present in the form of short instructions, but a majority of the information is presented through visual elements, so much so, that it could even be argued that text does not play a vital role in video games. Of course, this might vary based on the type of video games consumed. Still, this indicates that if the consumption of any of these three mediums would result in improvements regarding one's vocabulary, that would either be television or radio media. However, as has already been mentioned, books do tend to contain a much more elevated language, which is evidenced by Cunningham and Stanovich who point out that people are 'more likely to be exposed to new 'rare' words when reading than when watching television'[79] and presumably, also when listening to the radio. Nevertheless, just as it was the case with books, the type of vocabulary items that appear in various television and radio programmes can vary with genre and intended audience as well. A documentary on modern technologies will contain a much more curated vocabulary than a reality show, just as a radio station focused on global issues will make use of more elevated vocabulary items than one focused on popular culture. Still, even in the case that the consumer encounters unfamiliar words, the likelihood of them actually remembering that word and later looking it up is slim to non-existent. Whereas in the case of reading, the fact that the word is already written down makes it easier to follow up on its meaning. Furthermore, due to the fast-paced nature of television and radio programmes, even if there are unfamiliar words there is a possibility that the consumers will not catch them because of

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78 Mangen & van der Weel, 'The evolution of reading in the age of digitisation: an integrative framework for reading research', p. 119.
79 Cunningham & Stanovich, 'What reading does for the mind', p. 139.

the speed,[80] and even though it is possible to go back and watch or listen to parts of the programmes again, it is not likely that the consumers will actually do that. Nevertheless, in the case that they do catch the words they might be able to figure out the meaning of the words based on what they see on their screen and that could potentially benefit their vocabulary. Of course, this is only possible in the case of television, as in the case of radio media the visual representation is not available, which makes it difficult to make assumptions about the possible meanings of words. Admittedly, visual representation is not part of reading either, however, it is important to mention that in the case of reading the whole text is in front of the reader, so they are able to refer back to previous sentences and chapters, whereas in the case of radio one only hears the current sentences, which means that whether listeners can use the preceding and following words, or the context as a whole, as guides to figuring out the meaning of unknown words, relies heavily on the memory of the listeners and their ability to recall what they have heard before.

      As has been established, gaming does not really have much to offer in terms of new and unfamiliar vocabulary items, however, according to Timo Gnambs and Markus Appel, gamers tend to have a larger receptive vocabulary,[81] which means that they are able to understand what certain words could mean even without fully knowing their meaning and it also means that they might not be able to recall these words when they encounter them, say, outside of the gaming environment. Presumably, this is due to the fact that the instructions in these games are accompanied by visual aids, which makes it easy to make assumptions about the potential meaning of words. This also indicates that people will associate these words with the actions that they see on their screens, and when they happen upon these words in a different environment, it might be difficult for them to recall their meaning. However, it is debatable whether an improvement in one's receptive vocabulary also contributes to the improvement of one's overall vocabulary, seeing as this newly acquired knowledge can only be utilized in a specific environment. Based on the previous observations it could be argued that out of the three mediums, television has the most potential of improving one's vocabulary, but definitely no to the same extent as in the case of reading.

      Considering that the acquisition of vocabulary is connected to the acquisition of general knowledge as well, the previous discussion can already raise some assumptions about how consuming television and radio media or playing video games can affect the expansion of one's knowledge. As has been mentioned many times during the previous two chapters, how book consumption affects the readers is highly dependent on the genre of the reading materials being

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80 J. L. Singer & D. G. Singer, 'Television and reading in the development of imagination', *Children's Literature*, 9(1981), p. 128.
81 T. Gnambs & M. Appel, 'Is computer gaming associated with cognitive abilities? A populations study among German adolescents', *Intelligence*, 61(2017), p. 16.

consumed. Similarly, the amount of knowledge one can acquire through gaming, television or radio consumption depends on the genre and the subject of the programmes or the video games. This idea is also supported by the observations of Cunningham and Stanovich who state that 'although television viewing can have positive associations with knowledge when the viewing is confined to public television, news, and/or documentary material, familiarity with the prime television that defines mass viewing in North America is most often negatively associated with knowledge acquisition'.[82] The above mentioned reality shows, or radio programmes focused on popular culture and even noneducational video games are typically consumed in one's leisure time with the purpose of relaxing. When people want to unwind they do not necessarily want to spend that time studying. Nevertheless, as has been established, when people read for pleasure knowledge acquisition can still take place, albeit unconsciously. However, it is debatable whether the same could be said about gaming, television and radio consumption that occurs for entertainment purposes.

As the previous discussion demonstrates, the consumption of television and radio media as well as gaming can have a high impact on one's knowledge, granted that the appropriate programmes and games are being consumed. Even so, the previous statement made by Cunningham and Stanovich brings light to a perhaps even more pressing concern. They state that a majority of consumers prefer to watch prime television instead of these potentially educational programmes. Considering the popularity of video games such as Call of Duty or Grand Theft Auto, which are not exactly known for their educational purposes, or the ratio between radio stations concerned with political or economical issues versus ones dealing with popular culture, it is safe to assume that the statement would hold true for these mediums as well. This indicates that gaming, watching television or listening to the radio would, in principle, have the same benefits – regarding general knowledge and vocabulary – as reading, but this option is simply not taken advantage of. Perhaps this could be explained by the fact that the consumption of these mediums is not associated with education, whereas reading and books have a long standing tradition of being considered tools of education. Reading is also held at a much higher esteem and considered to be more prestigious than these other three mediums, which definitely has an influence on how people approach and think of various mediums. It could also be argued, that it is because of this prestige that is associated with reading regarding education that people do not really turn to books and reading for entertainment purposes, at least in this day and age. Books are perhaps too intertwined with education to be considered tools of entertainment by consumers, whereas gaming and television and radio consumption are primarily associated with leisure time and entertainment, which could make it difficult for

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82 Cunningham & Stanovich, 'What reading does for the mind', p. 145.

people to turn to these mediums for educational purposes. Nevertheless, this does not change the fact that the consumption of broadcast media and gaming can definitely contribute to the improvement of one's knowledge.

3.2. Critical thinking

In the case of reading the discussion concerning critical thinking focused on the evaluation of the content that is presented through the reading material as well as on the awareness that is needed for the reading process, so this discussion will focus solely on these aspects, even though there might be other areas where critical thinking could be important in these other mediums as well. When it comes to critical thinking, and thinking in general, in connection with television consumption, Jerome Singer and Dorothy Singer point out that 'reading involves a far more complex task than the processing of the visual images of the television screen'.[83] According to this observation, watching television is not as cognitively demanding as reading; thus, arguably, there is not a lot of thinking involved in the activity, which would also imply that consumers do not have to stay alert and focused through the entirety of the process. However, that does not necessarily mean that thinking, and most importantly the practice of critical thinking, would not be beneficial to the process either. Just as manipulation was present in reading, it is a large part of television media as well. Similarly to reading, where manipulation could be found both in informative and leisure reading, manipulation is also present both in public and commercial television, either in the content or in the way the content is presented. However, the difference between reading and television consumption, in this regard, would be that while critical evaluation and critical thinking skills improve as a result of the reading process, in the case of television they are more so a prerequisite than a result of the process. Furthermore, while readers are required to make use of their previous experiences and their background knowledge, and more importantly to recognize when this input is needed, to fully understand what they are reading, in the case of television the visual representation fills in these gaps of missing knowledge for the consumers. Arguably, television consumption does not necessarily induce any type of thinking, with the exception of certain genres of course, and could only improve critical thinking skills if one already had an initial understanding and knowledge of the bias and manipulation that is present in television media.

Critical thinking, or critical listening, comprehension and analytical skills are all parts of radio consumption as well, which would imply that these skills can be improved through the listening process. However, being aware and staying focused, which are rather important for

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83 Singer & Singer, 'Television and reading in the development of imagination', p. 131.

critical thinking and evaluation, might be even harder in the case of radio, because while in the case of television consumption the visual representation has the potential of capturing the attention of the viewer and the nature of reading also demands constant attention from the reader, in the case of radio consumption it is far too easy for the listeners to zone out and only catch certain parts of the message. This could lead to misunderstandings and manipulation, which confirms the need for listeners to be focused on the task and to practise critical listening. As for thinking in general, it could be argued that radio consumption might require even more thinking than reading, because while in reading it is also important to recognize the elements that will be vital for the understanding of the overall plot, if readers did not catch them the first time around they can still go back and read those parts again, whereas in the case of radio consumption people have to evaluate whether something is essential information upon first hearing them, which has the potential of improving their critical thinking and evaluational skills. However, due to the lack of attention on the listener's part, this might only be wishful thinking.

When it comes to gaming, Gnambs and Appel state that 'by playing computer and video games on a regular basis people casually train their cognitive abilities'.[84] These abilities refer to one's attention, memory and thinking skills, which could potentially improve their critical thinking skills as well. Arguably, manipulation is not a danger to look out for in video games, at least not to the extent as in the case of television media, so it is likely that the improvement of one's critical thinking skills will only be a result of other benefits of gaming. One of these benefits is related to reasoning and one's analytical skills, which develops as a result of backtracking, an option that is available in most video games. This makes it possible for gamers to trace back their steps and to analyze where they went wrong and figure out which steps to take to achieve the desired outcome. According to Rosa Bottino et al., backtracking 'gives concrete support for anticipating processes as well as those of formulation and validation of hypotheses'.[85] Essentially, backtracking helps with the improvement of one's evaluational skills, which is at the core of critical thinking. This is where gaming and reading are similar to each other, as readers can also turn back a few pages whenever they feel as if they have missed something, which gives them the possibility to analyze what they have missed the first time around.

The formal characteristics and inherent properties of these mediums could also serve as an explanation as to why these various mediums have different effects on critical thinking and evaluational skills. As Mangen and van der Weel point out, '[c]ognition, hence reading, is

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84 Gnambs & Appel, 'Is computer gaming associated with cognitive abilities? A population study among German adolescents', p. 4.
85 R. M. Bottino, L. Ferlino, M. Ott & M. Tavella, 'Developing strategic and reasoning abilities with computer games at primary school level', *Computers & Education*, 49(2007), p. 1280.

embodied', which means that cognition, and the instillation of cognitive skills, are also a result of some kind of interaction with a device.[86] Considering that television and radio consumption are not, primarily, interactive activities, it could be assumed that it is gaming, and of course reading, that has the most potential of improving cognitive skills, which critical thinking and evaluation essentially are. This supposition seems to be supported by the previous discussion as well.

3.3. Creative thinking and imagination

As has been observed, 'reading has special advantages in the development of imagination and of the imagery process as a whole',[87] and it could even be argued that reading and imagination are inherently connected to each other. Out of television, radio and gaming, it is radio media that shares the most similarities with reading, at least with regards to imagination, which is most probably due to the fact that both reading and radio consumption rely heavily on words and language. Patricia Greenfield et al. define imagination as 'any form of representational activity that creates entities or events not found in the present or immediately preceding stimulus situation'.[88] Considering that radio programmes rely solely on auditory communication, it is evident that imagination is required to fully enjoy the experience. This indicates that listening to the radio has the potential to improve one's creativity. Bonnie Miller describes this creative process in the following way: 'the visual dimension of the medium is participatory in nature, calling upon listeners to draw from their own repertoire of images cultivated through personal experience, memory and wider media consumption in designing their own individualized 'stage set''.[89] This is precisely what takes place in reading as well, in fact in both of these cases the visual experience is recreated in one's mind, resulting in a similar experience to watching television. Miller also argues that even though radio is often referred to as a blind medium, 'this label obscures its profound capacity for [stimulating] visualization'.[90] All things considered, it is undeniable that radio consumption can heavily influence one's imagination and creativity, which is also supported by Greenfield et al., who state that 'radio is more stimulating to imaginal processes than is television'.[91]

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86 Mangen & van der Weel, 'The evolution of reading in the age of digitisation: an integrative framework for reading research', p. 119.
87 Singer & Singer, 'Television and reading in the development of imagination', p. 133.
88 P. Greenfield, D. Farrar & J. B. Roos, 'Is the medium the message?: an experimental comparison of the effects of radio and television on imagination', *Journal of Applied Developmental Psychology,* 7(1986), p. 202.
89 B. M. Miller, 'The pictures are better on radio: a visual analysis of American radio drama from the 1920s to the 1950s', *Historical Journal of Film, Radio and Television,* 38(2018), p. 323.
90 Miller, 'The pictures are better on radio: a visual analysis of American radio drama from the 1920s to the 1950s', p. 323.
91 Greenfield et al., 'Is the medium the message?: an experimental comparison of the effects of radio and television on imagination', p. 214.

The answer as to why the consumption of television media is not as stimulating when it comes to imagination can also be found in the previous definition given by Greenfield et al., which stated that imagination requires people to envision ideas that are not presented to them in any shape or form. This would imply that the moving images and visual representation that is present in television consumption is a disadvantage to the imagery process rather than an advantage. Singer and Singer point out that 'television provides a wealth of content, but the danger seems to be that the rapid-paced format and the piling up of material in this medium may actually preclude much effective practice of imaginative capacities'.[92] Consumers are presented with an end-product that had already been 'imagined' for them by the creators of the programme. Arguably, this removes every creative element from the activity, as consumers are looking through the lens of somebody else's imagination as opposed to their own. Even though books are also created by someone else other than the reader, how they envision certain scenes, settings, characters and emotions is still the task of the reader. Of course, how creative and imaginative the readers have to be also depends on the type of reading material being consumed, as literary fiction typically contains more figurative language, such as metaphors or similes, which require a bit more imagination from the reader than, say, the transparent descriptions frequently found in popular, genre fiction. However, when it comes to television, this task is taken away from the consumer, which possibly explains why movie adaptations are not a big hit among the reading community. It could be argued that television programmes promote a more uniform way of thinking, whereas books promote, and maybe also reward, personal interpretation, and with that individuality.

Considering the visual representation of video games it would be possible to draw the same conclusion as in the case of television, that video games reduce imagination and creativity. However, that is not the case. While video games do make use of visualizations they also provide many opportunities for players to explore their creativity, which mostly stems from the interactive nature of gaming. During the discussion on reading, creative thinking was defined as 'the ability to see things in new and original ways, [and] to learn from experience and relating it to new situations'.[93] Based on this definition the previously mentioned backtracking could definitely induce creative thinking in the players and could potentially also contribute to one's overall creativity.

A similarity that is shared by gaming, television and radio consumption alike is that based on the subject of the various television or radio programmes and video games one might also come upon concepts and ideas that one might not have encountered before, just as was the case with reading. This definitely influences the imagination, but it is debatable whether this

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92 Singer & Singer, 'Television and reading in the development of imagination', p. 133.
93 Wang, 'Exploring the relationship of creative thinking to reading and writing', p. 39.

alone can have a significant impact on one's creativity and creative thinking skills, so it could be stated that radio consumption and gaming are more likely to improve people's creativity than television consumption.

3.4. Concentration and patience

During the discussion on reading it has been established that initial attention is required for concentration, which means that if a medium cannot capture the attention of the consumers or the attention of the consumer is not required for the enjoyment of the activity in the first place, it cannot really contribute to the improvement of one's concentration. Thus, considering what has been discussed so far in connection with television consumption, namely that the vocabulary present in television programmes more often than not resembles everyday speech, that the general knowledge that could be acquired through these programmes is often already known to the consumer and that the visual representation takes away the active role of the consumer and reduces them to passive users, it is clear to see that watching television cannot be considered a mentally challenging activity. Therefore, it could be argued that paying attention is not a major requirement of television consumption, which would also indicate that concentration cannot really be improved through the process either. This is further evidenced by the fact that while in the case of reading readers have to pay close attention to the material in order to understand it, when it comes to watching television consumers do not have to focus intently on the screen to be able to follow the plot. Admittedly, this is why watching television is often regarded as a background or multitasking activity. Moreover, contrary to how readers have to work, meaning to read pages upon pages and chapters upon chapters, to uncover the plot and to reach the climax of the storyline, considering how much shorter a movie or a television programme is than a book as well as the fast-paced nature of storytelling, television consumers are given the same answers without really having to put in the work for it. Of course, the amount of work, in this case meaning attention and concentration, required on the part of the viewers can vary depending on the genre and the subject of the programmes as well. Overall, it could be argued that whereas reading promotes delayed gratification, watching television promotes instant gratification, the former of which contributes to improved levels of patience, while the latter possibly leads to even more impatience.

Similarly to the previous comparison drawn between reading and television consumption, in the case of radio consumption listeners have to work much harder to understand certain concepts than television viewers, because they do not have the benefit of having the concepts visualized for them. In this aspect listening to the radio is much more similar to reading than watching television,

as in both of these scenarios people have to rely on their own imagination. This would also indicate that listeners would have to pay attention and concentrate on what they are listening to. However, as has been established during the discussion on critical thinking, it is far too easy to lose the attention and interest of the listeners, and as is the case with most activities, the benefits of radio consumption can only be fully utilized when listeners are completely focused on the task. The idea that listeners do not pay as much attention to the radio is also supported by the observations of Hilde Voorveld and Margot van der Goot, who state that 'traditional radio is often a typical background medium',[94] which means that it is consumed alongside other activities, essentially as a part of multitasking. This could serve as an explanation as to why it is so easy to lose the attention of the listeners, as it is simply too difficult to stay focused on the task amidst all the distractions.

So far it has been established that television consumption does not necessarily require the attention of the consumers and while radio consumption does require the attention of the listeners, it often has difficulties with capturing or maintaining it. When it comes to gaming, however, the pursuit of the activity does not only require but also captures and maintains the attention of the players. Similarly to reading, gaming cannot be pursued as a background activity as opposed to television and radio media, which, once again, stems from the interactive nature of the activity. Gamers have to be fully present and focused on the game that they are playing, considering that they are expected to, say, make choices, answer questions and to take part in a two-way interaction in general. This indicates that playing video games can have a positive influence on one's concentration and attention span as well.[95]

The answer as to why it is easier to capture the attention of gamers and readers than of television and radio consumers can be found, once again, in the formal affordances of the mediums. As has been stated above, reading is a human-technology interaction, which, arguably, is also true for gaming, but less so for radio and television consumption, as in those cases consumers are not actively interacting with the mediums. Mangen and van der Weel draw attention, in particular, to the haptic nature of reading, meaning that one's hands, and the sense of touch in general, plays a significant role in the interactivity of the reading process.[96] The fact that in the case of reading and also gaming people have to use their hands to turn the pages or to

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94 H. A. M. Voorveld & M. van der Goot, 'Age differences in media multitasking: a diary study', *Journal of Broadcasting & Electronic Media*, 57(2013), p. 404.

95 D. Bavelier, R. L. Achtman, M. Mani & J. Föcker, 'Neural bases of selective attention in action video game players', *Vision Research*, 61(2012).
    D. Chiappe, M. Conger, J. Liao, J. L. Caldwell & K. P. L. Vu, 'Improving multi-tasking ability through action videogames', *Applied Ergonomics*, 44(2013).
    M. J. Stroud & S. K. Whitbourne, 'Casual video games as training tools for attentional processes in everyday life', *Cyberpsychology, Behavior, and Social Networking*, 18(2015).

96 Mangen & van der Weel, 'The evolution of reading in the age of digitisation: an integrative framework for reading research', p. 120.

press certain buttons ensures that their attention is on the task at hand. Perhaps, it could be argued that it is this lack of interaction in radio and television consumption that leads to difficulties with attention and concentration, which would also indicate that it is due to the inherent properties of television and radio that these difficulties might arise.

3.5. Personal development

Arguably, the pursuit of every single medium has the potential to influence one's personality, which means that the important question to ask is not whether the consumption of gaming, television and radio media has an effect on the personal development of the consumers, but whether this influence is positive or negative. As has been made clear before, reading definitely has a positive effect on the personal development of the readers, which is just as much a result of the content and material being consumed as the reading process itself. The previous discussions already offer some indications about how the process of consuming these mediums can affect the personal development of the consumers. It has been established, for instance, that gaming has many positive benefits such as improved creativity, imagination, concentration and critical thinking skills which all have the potential to contribute to one's personal development as well. Radio consumption was found to improve critical thinking skills and imagination and even though this is a shorter list, it still has the potential to impact personal development. However, in the case of television consumption none of the analyzed aspects contributed to significant improvements, not even in critical thinking or thinking in general, which would be the most essential for personal development, as during the discussion on reading it has been established that it is through thinking that people can discover new ideas, which is how one can really grow as a person. The fact that television consumption does not require thinking and does not even induce thinking through the process implies that the consumption of television media does not necessarily have a positive impact on personal development, at least based on the viewing process itself.

When it comes to the content and the values that are presented both in broadcast media and gaming, it is a bit more difficult to clearly state whether they influence the consumers positively or negatively. This is mostly due to the fact that video games, television programmes and radio programmes all cover such a wide range of different topics and subjects that it is not possible to decide whether the positive or negative influence is more prevalent, as it depends on a large variety of factors. Nevertheless, regarding the content of video games the discussion is typically focused around the topic of violence and how it is often present in these games. According to Jeanne Funk et

al., 'violent video games condone, promote, and justify the use of violence while concealing realistic consequences'.[97] Violence is frequently portrayed in a glorified manner that can give players the wrong impression and also has the capacity to instill negative values. Funk et al. add that such frequent exposure to violence promotes desensitization and affects one's moral evaluation as well.[98] As a consequence, one's empathy is also going to be affected and not in a positive way. Of course, as mentioned above, not every single video game contains violence, as there are many games created for the purpose of education and skills development as well. Moreover, the impact violent video games have on players is also largely dependent on age and on the amount of time spent playing. As was mentioned above, violent video games could have a negative effect on the empathy of the players, however, there is another aspect of gaming that could potentially impact empathy in a positive way. The fact that in many video games players have to choose an avatar or a character that they are going to play as for the entirety of the game, could contribute to the improvement of the players perspective-taking skills. Similarly to how in the case of reading readers see and experience the story through the lens of the protagonist of a book, in the case of gaming players do this through the lens of the characters that they are playing as. In both of these scenarios one has to place oneself in the place of another, which does not only help with perspective-taking, but empathy as well. As it can be seen, it is really not that easy to tip the scale in one direction, as there is evidence to support both sides of the argument. The same could be said about video game consumption as a whole, as whether it has a positive or negative effect on people is heavily influenced by the type of games being consumed, the amount of time spent gaming as well as the age of the consumers.

When it comes to television consumption, the difference between negative and positive values is, once again, influenced by the nature of the programmes being consumed. Nevertheless, as has been stated previously, prime television is much more frequently consumed than public television, and considering that prime television is made up largely of reality shows, it indicates that the values and morals represented are not necessarily of the positive kind. However, to ensure the accuracy of the analysis, it is also important to make a distinction among the consumers based on their age. While in the case of reading it became evident that the benefits and influences of the reading process do not necessarily vary with age, it does not seem to be the case with television consumption. It could be argued that when it comes to younger consumers, mostly children, watching television plays a much bigger role in the development of their personality and the ideas that they will eventually find value in, than in the case of young adult

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97 J. B. Funk, D. B. Buchman, J. Jenks & H. Bechtoldt, 'Playing violent video games, desensitization and moral evaluation in children', *Applied Developmental Psychology*, 24(2003), p. 416.
98 Funk et al., 'Playing violent video games, desensitization and moral evaluation in children', p. 415.

and adult consumers. Karla Barth and Nicoleta Ciobanu point out that children have the tendency to want to imitate their favourite characters and that refers to their personality traits and the values and morals that they represent as well.[99] Considering how television programmes targeting a younger audience are mostly focused around the representation of moral values, it would imply that they impart positive values. However, Barth and Ciobanu also draw attention to the fact that cartoons are, unfortunately, starting to become more and more violent,[100] which would question the accuracy of the previous statement. Just as it was the case with gaming, this exposure to violence could affect one's moral evaluation and decrease empathy as well. Even so, it is important to stress again that the values presented in television programmes vary with the subject, genre and quality of the contents.

When it comes to perspective-taking, however, the answer might be more conclusive. During the discussion on reading it has been established that in order for one to be able to take on the perspective of someone else, one has to be invested in the story in the first place.[101] This requires the consumer to pay attention and to concentrate on what they are seeing, which based on the previous observations is not a strong suit of television consumption. While the visual representation of television has the potential to capture the intial attention of the consumers, as has been discussed previously, it might run into difficulties with turning this initial attention into prolonged concentration, which is what would be needed for the consumers to be able to immerse themselves in the programmes that they are watching. Thus, arguably, how television consumption influences personal development, empathy and perspective-taking depends largely on both the content of the programmes consumed as well as on how focused the consumers are. The same could be said about radio consumption as well, seeing as in this case it is perhaps even more difficult to maintain the attention of the listeners, due to the already discussed distractions.

As has been discussed previously, the differences in attention and concentration can be explained by the formal characteristics of the mediums, which would, once again, indicate that the reason why the consumption of television and radio media does not have as big of a positive influence on the personal development of people as reading, is, at least partly, due to the affordances of the mediums. However, the cognitive and emotional dimensions of reading discussed by Mangen and van der Weel should also be taken into consideration when talking about personal development.[102] Arguably, the cognitive and emotional aspects of reading are both connected to the interactive nature of reading and they also both have a huge influence on the personal development

99 K. M. Barth & N. R. Ciobanu, 'Mass media influence upon personality development of children', *Education and Applied Didactics*, 1(2017), p. 22.

100 Barth & Ciobanu, 'Mass media influence upon personality development of children', p. 22.

101 Mar et al., 'Exploring the link between reading fiction and empathy: ruling out individual differences and examining outcomes', p. 421.

of the readers. It has been discussed previsouly that it is the cognitive dimension of reading that requires readers to think while they are reading and to connect the ideas that they encounter to their own personal experiences. This is where the emotional dimension of readng comes into play, as through the reliance on previous experiences the reading experience becomes extremely personal, which then gives place to personal development. As stated above, the cognitive and emotional dimensions of reading are connected to the interactive nature of reading. Considering how it has been stated previously that television and radio are not fundamentally interactive mediums, it could serve as a further explanation as to why the consumption of these mediums does not necessarily contribute to much personal development, as personal development depends largely on how consumers interact with the content that they are presented with, both cognitively and emotionally. As for gaming, it has already been established that, just as reading, it is interactive and it does also have a cognitive dimension, which would imply that it has the potential to influence the personal development of gamers. However, it is debatable whether the emotional dimension is as strongly present in gaming as it is in reading. Based on these observations it could be concluded that the formal affordances of various mediums play a big part in determining how and to what extent the consumption of these mediums will influence one's personal development.

3.6. Mental and physical health

One of the first things that was mentioned about the connection between reading and mental health, was that reading can be used as an escape, seeing that it can transport the readers and make them forget about their difficulties, if only for a short while. This indicates that one has to pay attention, because it can only work as an escape if one is completely focused on the task. Out of the observed mediums, it is gaming that most requires its consumers to fully concentrate on the task, which is largely due to its interactive nature. Based on this it could be argued that the consumption of video games can be used as an escape and with that, it might also contribute to some improvements in one's mental well-being, if consumed in moderation, but more on that later. Considering that television and radio media have a harder time capturing the attention of the consumers, which, as has been discussed above, is partly due to their inherent properties, it is also more difficult for them to be used as an escape. Based on this observation, gaming has the most potential to improve one's mental state, however, whether an activity can be used as an escape or a distraction is not the only thing that influences mental well-being.

As has been observed in the previous chapter, the most important thing that has to be analyzed when talking about mental health, is how much the pursuit of an activity relies on the

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102 Mangen & van der Weel, 'The evolution of reading in the age of digitisation: an integrative framework for reading research', p. 121.

memory of the consumer. It has been established that reading greatly contributes to the improvement of the reader's working memory and Singer and Singer explain this connection by stating the following: 'control over the reading process creates the possibility of stopping, elaborating more fully one's visual or auditory images in connection with the material being read, and labeling these images further, thus increasing the possibility of storing the materials in the brain in an effective fashion'.[103] Based on this observation the differences between book and television and radio consumption are evident, which might also imply that watching television or listening to the radio will not have the same effect on the consumer's memory as does reading. First of all, contrary to reading, people do not have as much control over listening to the radio or watching television, as both of them are continuous processes. Second, this continuity also indicates that consumers do not have to process what they see or hear step-by-step, or more accurately, they do not have the time. In the case of television, this might be compensated for by the fact that viewers have everything visualized for them. While in the case of reading people have to remember how certain settings or characters have been described previously to be able to follow along with the plot and to recognize to whom certain names refer, when it comes to television, viewers do not really have to rely on their memory to be able to remember who the various characters are, because they see them on their screens. However, in the case of radio consumption it is exactly this continuity that will benefit the memory of the listeners. Considering that listeners only hear what is presented through the radio once, they have to store these pieces of information to be able to see the full picture and to understand the ideas discussed. It could be argued that radio consumption has the capacity to improve one's memory even more than reading, seeing that while in the case of radio consumption listeners really do only hear the information once, readers have the possibility to turn back a few pages and reread certain parts. Of course, it is important to reiterate that it is only possible to utilize these benefits if the listeners are completely focused on the task.

When it comes to gaming, how much certain video games rely on the memory of the players depends largely on the type of video games being consumed, which means that in this aspect it is hard to reach a verdict on whether gaming has a positive influence on one's memory. However, seeing as it is not only an improved memory that contributes to mental well-being, but continuous cognitive engagement and mental activity as well and that it has been established that gaming requires critical thinking and evaluation on the part of the player, it could be argued that the consumption of video games has the potential to have a positive impact on one's mental state. While that may be the case, there is also a negative side to gaming, which presents itself in the form of addiction. Granted, compared to healthy gamers the percentage of

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103 Singer & Singer, 'Television and reading in the development of imagination', p. 132.

video game addicts is very low,[104] it is still a real problem that should be addressed. Greir Brunborg et al. point out that people who are addicted to video games are more likely to show signs of depression[105] and Rune Mentzoni et al. expand on this by adding anxiety and lower satisfaction with life to the list of negative implications of gaming addiction.[106] In this case the mental health of the players would definitely be negatively affected, but this addiction is undeniably connected to how much time people spend on gaming.

As for physical health, Bavishi et al. state that reading contributes to an improved life expectancy, which is mostly due to the cognitive engagement that is an important part of the reading process.[107] This reliance on cognitive engagement ensures that one's mind is actively used and involved in the process and as has been established before, physical well-being is heavily influenced by the condition of one's mind. Taking this observation as a basis, it could be argued that the activities the pursuit of which requires cognitive engagement and with that, contributes to the improvement of one's mental health, could, potentially, have a positive influence on one's physical health as well, especially regarding longevity. If it is indeed the case, the previous discussion would indicate that gaming has the capacity to improve physical health, radio consumption as well, granted that the listeners are focused, and in the case of television consumption it depends largely on the genre, type and overall quality of the programmes being consumed. However, considering that cognitive engagement directly correlates with longevity and that it has been established previously that television and radio media are, inherently, not as cognitively demanding as reading, it could lead to the supposition that the consumption of television and radio media does not have a significant influence on one's physical health. While gaming does have a cognitive dimension, as has been reiterated many times before, it is still susceptible to addiction, which does have a significant influence on both mental and physical well-being. It could be argued, that there is such a thing as being addicted to reading as well, and while that may be true, it would hardly result in the same negative consequences as a video game addiction, which indicates that reading is the superior medium when it comes to improvements in mental and physical health.

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104 R. A. Mentzoni, G. S. Brunborg, H. Molde, H. Myrseth, K. J. M. Skouverøe, J. Hetland & S. Pallesen, 'Problematic video game use: estimated prevalence and associations with mental and physical health', *Cyberpsychology, Behavior, and Social Networking,* 14(2011), p. 594.

105 G. S. Brunborg, R. A. Mentzoni & L. R. Frøyland, 'Is video gaming, or video game addiction, associated with depression, academic achievement, heavy episodic drinking, or conduct problems?', *Journal of Behavioral Addictions,* 3(2014), p. 30.

106 Mentzoni et al., 'Problematic video game use: estimated prevalence and associations with mental and physical health', p. 595.

107 Bavishi et al., 'A chapter a day – association of book reading with longevity', p. 45.

3.7. Writing skills

The reason why reading was found to be so beneficial to one's writing abilities, was that writing skills rely heavily on imaginative and creative skills as well as on a diverse vocabulary, all of which are improved through the reading process. Starting off with imagination and creativity, it has been established that out of gaming, radio and television consumption, radio is the one that has the most potential of improving the creative abilities of its consumers, which is due to the fact that radio is only auditory and therefore, requires more imagination form the listeners. This experience that listeners gain by having to create their own visualizations for what they hear will definitely benefit the writing process later on. As for television consumption and gaming, even though the visual representation in both cases limits the amount of creative input that is required from the consumers; similarly to reading, simply watching television programmes and playing video games could also broaden the creative horizons of the consumers. Depending on how unique some movies or games are, the consumers could certainly be inspired when it comes to world building or character development, which are fundamental aspects of the writing process. This is an area where consuming a wide range of genres could benefit the end-user in reading, television and radio consumption and gaming alike.

Based on this observation it could be assumed that the consumption of any of the observed mediums has the potential to positively influence one's writing abilities, however, it is not only imagination and creativity that is required for successful writing, but a large and diverse vocabulary as well. Considering everything that has been said about vocabulary acquisition so far, it is evident that in this aspect reading is definitely superior to the other three mediums, which brings up an interesting question. Does it make any difference if the consumption of broadcast media and gaming contributes to improved creativity if this creativity cannot be articulated and formulated in writing due to a lack of vocabulary skills? Arguably, both imagination and vocabulary skills are essential parts of the writing process, which would indicate that in order for the pursuit of an activity to contribute to improved writing skills, improved imagination and vocabulary skills would both have to be results of the activity. Furthermore, reading was also found to improve one's spelling, another important aspect of writing, which is due to the fact that readers actually see the words written down. Seeing as that is not a part of either broadcast media or gaming, or at least not to the extent as it is in reading, it would be safe to assume that the consumption of these mediums does not necessarily contribute to improved spelling either.

3.8. Socioeconomic success

Based on the definition provided by Ritchie and Bates, socioeconomic status and socioeconomic success is mostly determined by one's intelligence.[108] As has been stated towards the end of the previous chapter, all of the effects discussed in this thesis contribute to one's intelligence to some extent. This means that to find out how gaming and the consumption of television and radio media influence one's socioeconomic success, the findings of the previous analyses have to be observed, which can also serve as a summary of everything that has been discussed in this chapter.

When it comes to television consumption, it can be stated that 'television may produce difficulty [...] in developing the more active aspects of memory, in developing social interchange [...] and in developing an attitude of playfulness and imaginativeness'.[109] Furthermore, it does not contribute to the expansion of one's vocabulary and it does not facilitate the acquisition of knowledge either, at least not significantly. Television consumption also has a negative influence on the attention span, concentration levels and patience of the consumers and its contribution to personal development is also debatable. Of course, it is important to keep in mind that these results can vary with the genre and type of programmes being consumed as well as with how much time one spends on watching television. All of these combined already give some indications about how socioeconomically successful television consumers can be. Arguably, consuming television media as a primary source of acquiring the above mentioned skills will not contribute too much to one's intelligence. Considering that intelligence determines academic motivation and with that it also influences the duration of one's academic career, it can be assumed that television consumption does not correlate positively with socioeconomic success. It might be too farfetched to state that television consumption lessens the chances of one's achieving socioeconomic success, but it definitely does not improve them.

As for radio consumption, the following can be said about its effects on the consumer: it does not significantly contribute to the acquisition of new vocabulary items or the acquisition of general knowledge, it does, however, has the potential to positively influence one's patience and concentration and due to the auditory nature of the medium it also improves creativity and imagination. Based on this list it could be argued that radio consumption could prove to be beneficial when it comes to one's socioeconomic success but only to a certain extent, due to the lack of vocabulary and knowledge acquisition associated with the process. Considering how important intelligence is in determining how successful one will be and its connection to general knowledge

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108 Ritchie & Bates, 'Enduring links from childhood mathematics and reading achievement to adult socioeconomic status', p. 1301.
109 Singer & Singer, 'Television and reading in the development of reading', p. 130.

as well as vocabulary, it is clear to see that only consuming radio media is not sufficient in this aspect. It is also important to mention that, as has been established, many benefits of radio consumption are conditional, which means that they can only be utilized when the listener is completely focused on the task, and seeing how difficult it is to capture, or easy to lose, the attention of the consumer, it is debatable how beneficial radio consumption really is. Nevertheless, it does have enough positive characteristics to make radio consumption a valuable activity, but it definitely has to be consumed in connection with other mediums to achieve the desired outcome.

Lastly, when it comes to gaming it has been established that it contributes to improved analytical and critical thinking skills, creative thinking skills, concentration and patience. It also proved to be beneficial to one's personal development, more so regarding perspective-taking than empathy. However, when it comes to vocabulary and knowledge acquisition it is debatable whether gaming has a significant influence, as it largely depends on the type of video games being consumed. Based on this list it is clear that gaming could have a positive effect on socioeconomic success, but similarly to television and radio consumption it should be consumed in connection with other mediums to get the best results. Having said that, Brunborg et al. draw attention to the fact that gaming could also lead to 'decreased academic achievement',[110] but presumably, that only applies in the case of prolonged video game consumption. After discussing all of the mediums in greater detail, the only thing left to do is to compare and analyze the findings of the previous chapters, which will take place in the final part of the thesis.

Conclusion

Before taking a look at what the differences and similarities between the discussed mediums could mean, a recapitulation of the previous sections is in order. The aim of this thesis was to find the answers the following questions. What makes reading so valuable and what sets it apart from other mediums? What do people stand to lose with the decline of reading? At the beginning it was established that the thesis will focus on long-form, paper reading and thus, the discussion proceeded accordingly. After a brief introduction of what reading is, the requirements of the reading process were also listed, with the analysis focusing on intrinsic motivation and cognitive engagement. The linguistic, psychological and sociological aspects of reading were also discussed in more detail. Lastly, the 'strategic' nature of reading was analyzed with regards to the various functions and purposes of the reading process. A distinction was made between reading for informative and entertainment purposes with the latter being divided into further two categories: reading literary and

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110 Brunborg et al., 'Is video gaming, or video game addiction, associated with depression, academic achievement, heavy episodic drinking, or conduct problems?', p. 31.

popular fiction. Following this brief introductory chapter the effects and benefits of the reading process were discussed in great detail. According to the observations made, long-form reading has a positive influence on the following: vocabulary and general knowledge acquisition, critical and creative thinking skills, writing skills, concentration, patience, self-discipline, personal development, empathy, mental and physical health as well as socioeconomic success.

Sticking to this previous list of effects, television, radio and gaming were similarly analyzed to see whether they provide the same benefits. The most important thing to mention here is that while in the case of reading the correlations with these positive effects and reading were evident, in the case of these other mediums there is a lot of grey area, in that in many cases no decisive conclusion could be reached as to whether these mediums have a positive or negative influence on the skills and achievements identified in the case of reading, considering that there was evidence to support both sides of the argument. Moreover, even though there were times when a positive effect was evident, it was not the case for every single aspect that was analyzed as opposed to reading. When it comes to critical and creative thinking skills, concentration, patience, personal development, empathy, mental health, physical health and socioeconomic success, at least one of the three mediums has the capacity to facilitate improvements in these areas. However, considering that none of the three mediums contribute significantly to the improvement of one's writing skills, vocabulary and general knowledge acquisition, it could be argued that even if all three of these mediums were consumed simultaneously it would still not result in the same benefits as long-form reading, at least not as comprehensively.

This is exactly where the value of long-form reading lies: it is multifaceted, which means that even if reading and books were the only medium that one consumes, one would be able to acquire some of the most important skills needed for a successful life. That is not to say that benefit could not be gained from the consumption of other mediums as well, but while in the case of broadcast media and gaming the best results can be achieved if both are consumed, reading is sufficient on its own. Furthermore, while in the case of reading the benefits of the reading process were rarely tied to any conditions – and if they were it was only regarding the content and quality of the reading materials – in the case of radio and television consumption many of the benefits were found to be conditional not only regarding content and quality but also regarding the age of the consumer and the amount of attention paid by the consumer. Nevertheless, it is important to reiterate that the discussed benefits only refer to long-form and paper reading. During the discussions concerning the formal affordances of the mediums it became evident that many, if not all, of the benefits of reading are tied to the substrate, meaning the physical book. Arguably, whether one plays video games on a computer or on a phone, watches television on a laptop or on a

tablet, or listens to a traditional radio or to an online one will not make a difference in the effects that the consumption of these mediums will have on the consumer. However, the same cannot really be stated about reading, considering that reading on a screen, be it an e-book reader or a tablet, or listening to an audiobook will definetely have different implications and effects on the reader than reading the physical copy of a book. This inextricable connection between substrate and effect definitely sets reading apart from other mediums.

A possible area for future research could be to see how broadcast media and gaming could be improved to result in the same, or similar, benefits as reading and also to see how these effects could be recreated in the different mediums. However, whether they should be recreated is debatable, considering that even if over time it would be possible to imitate the same effects, the negative characteristics of those environments would still be present, and thus would not be able to replicate the actual reading experience. As has been made clear, the positive effects of reading are, in many cases, strictly tied to the substrate, which indicates that the concern concerning the decline of long-form reading, especially of the literary kind, seems to be valid. Reading should be considered valuable and important for the reading experience alone, but as the above discussion perfectly demonstrates there is much more on the line than the experience itself. This should make the preservation of long-form literary reading a pressing issue.

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