

Why Millennials and Generation Z Prefer Print Books over E-Books

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Abstract

The aims of this dissertation are to answer the question of whether Millennials and Generation Z tend to prefer print books or e-books, and to investigate the reasons for their preference. Focusing specifically on the United States and the United Kingdom, I investigate the psychological, historical, and economic factors that have influenced Millennials' and Generation Z's perception of value in the two formats, their spending behaviours, and their prioritisation of value for money, all of which culminate in shaping these two generations' overall format preference. My methodology comprised research and analysis of data and information from outside studies on this subject, and a comparison of these to the data from my own survey. My findings uphold those of other studies to conclude that Millennials and Generation Z tend to prefer print books over e-books, despite their identity as the first 'digital-native' generations. The reasons for this preference include psychological phenomena (both those inherent to humans and those caused by Millennials' and Generation Z's particular childhood experiences), major historical events including the Digital Revolution and the Great Recession, and a combination of economic conditions including astronomically rising higher education costs, debilitating student debt, rising housing costs, and stagnant wages relative to inflation. My findings are useful for publishers to better understand their Millennial and Generation Z readers, who will continue to gain a greater share of the consumer market over time and will influence the direction of print and e-book markets for decades to come. My findings are also useful for loosely predicting the format preferences of rising generations who may be affected by similar psychological, historical, and economic circumstances in the future.

Table of Contents

Introduction **1**

The Data on Format Preference **7**

Outside Studies **7**

My Survey **10**

Psychological Reasons **14**

Distraction, Multitasking, Memory, and Comprehension **14**

The Sensory Experience: Haptics and Navigation **19**

Digital Burn-Out, or Screen-Fatigue **24**

Historical Reasons **28**

The Digital Revolution: The Internet and Amazon **30**

The Great Recession: A ‘Once-In-a-Lifetime’ Disaster **37**

Economic Reasons **43**

Higher and Higher: Education Costs and Student Debt **43**

The Housing Costs that Made ‘Generation Rent’ **45**

Ask a Millennial: How to Live on an Unlivable Wage **47**

Conclusion **49**

List of References **53**

Appendix A: Tables from Outside Sources **60**

Appendix B: My Survey **61**

Summary of Survey **61**

Survey Content **62**

Survey Data Analytics **65**

Introduction

The Digital Revolution that began in the latter half of the twentieth century has brought sweeping transformations to all aspects of the publishing business, most noticeably in the form of its product. E-books, the first of which was created by Project Gutenberg in 1971 (Government Book Talk, 2014), were at first a thrilling novelty yet posed a minimal threat to the print market; they were impractical, expensive, and not user-friendly (Welham, 2020). E-book adoption remained low and stagnant through the twentieth century and much of the early 2000s, contributing less than 1% to the total revenues of US trade publishers (Thompson, 2012, p. 321). This status quo remained relatively stable until 2006 when Sony introduced the Sony Reader, with Amazon following hot on its heels with the ‘game-changing’ Kindle in 2007 (Welham, 2020). Now equipped with easier and more affordable means of accessing e-books, consumers pushed e-book sales above 1% of total US trade book revenues in 2008 and launched their exponential climb through to 2010 (Thompson, 2012, p. 321). Many in publishing thought that e-books would overtake and perhaps ‘cannibalise’ print sales altogether (Welham, 2020). The existential moment confronting the publishing industry by 2010, brought on by the success of the Kindle and compounded by Apple’s release of the iPad and the Apple Books store, coincided with increased struggle for brick-and-mortar book retailers such as Borders in the United States and Waterstones in the United Kingdom (Segal, 2019; Welham, 2020).

The future of print publishing seemed unclear. However, the belief among publishers at the start of the 2010s that e-books would entirely replace print now appears unlikely as the decade comes to a close and a new one begins. According to Statista, e-books’ percentage of total trade sales in the US peaked at 26% in the first half of 2014 and has since fallen consistently, arriving at 14.3% in 2019 (Statista, August 2019). A similar scenario has played

out in the UK, where print has made a resurgence and e-book sales have decreased (Sweney, 2017).

Due to extraordinary historical events, print and e-book sales in 2020 will likely tell a different story. The COVID-19 pandemic, which upended the structure of everyday life across the globe, caused bookshops to close, resulting in a deflation of print sales and a surge in e-book sales. In the United States, print sales fell by 10% during the week of 9 March when shops began closing ahead of inevitable state-level lockdowns, as reported by *Publishers Weekly* (Milliot, 2020). At the time of writing in the summer of 2020, year-over-year print sales in the US are also down over 10% from 2019, while e-book sales are up (Robertson, 2020). In the UK, a similar pattern has unfolded; though Nielsen BookScan data show that print sales were up by 6% the week of 16 March, they then fell as a nationwide lockdown was mandated on 23 March (Flood, 2020). Meanwhile, e-book sales in both countries have risen as consumers have sought other ways to fill their socially-distant time.

However, despite this abrupt swing towards digital reading brought on by the crisis, online print sales and orders for curbside pickups from bookshops demonstrate that the reading public's appetite for print remains robust (Robertson, 2020). Furthermore, data from Nielsen BookScan show that in the UK, 33% of those surveyed reported reading more print books during lockdown; in comparison, 18% reported reading more e-books (Nielsen BookScan, 2020). Though the long-term economic and societal effects of the pandemic are difficult to foretell, it can be assumed that print and digital reading will continue to coexist in the future.

The apocalyptic extinction of the printed book and its replacement with a digital successor, a very real possibility in the minds of publishers in 2010, now seems unlikely in 2020. E-books are undeniably here to stay, but the extent to which they may command the book market in the long-term is difficult to forecast.

Insights into the future of print and e-book markets may be drawn from an investigation into younger generations' current book format preferences. Millennials and Generation Z, the largest generations in history, wield considerable economic influence. Their current reading habits and spending habits – on different book formats and in general – and an understanding of how they perceive value in products can provide foresight into which book formats they will spend on in the future.

These two generations have already significantly reshaped the US' and the UK's economies and have brought changes to countless industries. With less money and more debt – largely in the form of student loans – than their parents and grandparents, Millennials and Generation Z tend to spend and own less than preceding generations did at the same age (Goldman Sachs, 2020). Millennials in particular have been labelled 'industry killers', because they often forego many of the ordinary purchases that Generation X and Baby Boomers were better able to afford – from fabric softener, to diamond rings, to cars, to houses, the list goes on (Goldman Sachs, 2020; Taylor, 2018).

Millennials' and Generation Z's spending habits have sprung from a culmination of historical and economic circumstances, which have coincided with their formative years and continue to influence their lives today. The Pew Research Center, a US-based nonpartisan organisation that conducts public opinion polling and demographic research, defines the Millennial generation as being born between 1981 and 1996; it defines Generation Z as being born between 1997 and 2012 (Dimock, 2019). Using this definition, at the time of writing in 2020, Millennials are between the ages of 24 and 39, and Generation Z are between 8 and 23. (See Appendix A, Table A1 for definitions of all currently living generations.) The birth years of the two generations are defined slightly differently among various research organisations, however there is agreement that the late-1990s can be considered the end point of Millennials and the beginning of Generation Z.

The 2007 financial crash, which ushered in the Great Recession and years of subsequent economic hardship, became a life-defining event for both Millennials and Generation Z. It occurred at a time when many Millennials were preparing to enter the workforce, and, as a result, their job prospects and career trajectories have been permanently blighted (Dimock, 2019). For the younger Generation Z, the Recession occurred in their impressionable childhood years, during which they were raised in an environment of either financial hardship or the constant threat of it. Even for children whose parents were not made redundant and whose homes were not foreclosed, nonetheless the words ‘redundancy’, ‘layoff’, and ‘foreclosure’ could be heard in everyday conversation and on the news; the devastation of the Recession came to populate Generation Z’s psychological conception of the world. Referred to by MarketWatch as an individual’s ‘money mindset’, the psychological impact of an economic event like the Recession can stay with an individual for many years if not the extent of their lifetime, holding lasting influence over their financial behaviour (O’Leary, 2020).

The Great Recession exacerbated an already adverse economic landscape, comprising a host of interconnected systemic issues, that was long set to disadvantage these two younger generations in comparison to their predecessors. Over the span of several decades, astronomically rising tuition costs, debilitating student debt, increasingly unaffordable housing, and stagnant wages relative to inflation have combined to hinder Millennials’ and Generation Z’s financial prosperity to such a degree not experienced by Generation X and Baby Boomers – who in contrast came of age during times of favourable economic conditions, particularly in the US. These issues have contributed to proliferating, age-based socioeconomic inequality (Sawhill and Pulliam, 2019).

Together, these historical and economic factors have permanently altered Millennials’ and Generation Z’s relationship with money. They are less likely to make large purchases

such as cars and homes, and they tend to avoid expensive products perceived as non-essential such as luxury items (Goldman Sachs, 2020). The purchases they do make are more discerning, decisive, and calculated. They bring a heightened shrewdness to their perception of value, and they strive to find quality that also maximizes affordability (Goldman Sachs, 2020). Comparing their perception of value in print books and e-books can help publishers to better understand this younger cohort of readers and loosely predict the future of the print and e-book markets.

One may assume that Millennials and Generation Z would naturally perceive more value in e-books, due to another defining feature of these two generations: they had the unique experience of growing up amid the Digital Revolution. Though access to digital technology varies among individuals due to socioeconomic inequality, the internet was generally an ordinary fixture of everyday life for Millennials and Generation Z as children. Because of this, these generations are the first to be considered ‘digital natives’ (Urban, 2015). Owning personal devices such as smartphones and using the internet at higher rates than older generations, Millennials and Generation Z tend to have a great level of comfort with digital technology; it also suggests that this technology is deeply interwoven into everyday life for them (Vogels, 2019). It is therefore reasonable for one to believe that e-books would be these younger readers’ preferred book format.

Surprisingly, however, this is not the case, according to data from numerous studies. One such study, conducted in 2013 by the youth insights consultancy Voxburner, found that 62% of people aged between 16 and 24 would rather buy books in print instead of digital format (Smith, 2013). In my dissertation I analyse the findings of this and other studies, and I compare them to the data from my own survey; I then examine the reasons for Millennials’ and Generation Z’s format preferences, investigating the psychological, historical and economic factors that contribute to them.

To analyse readers' reasons for preferring either print or e-books, a distinction must be drawn between the two formats. The *Encyclopaedia Britannica* defines a *book* as 'a written (or printed) message of considerable length, meant for public circulation and recorded on materials that are light yet durable enough to afford comparatively easy portability'. A print book is characterised as being recorded on physical, and most often paper, materials. An e-book, in contrast, is not recorded on physical material, but is instead transmitted electronically; the *Oxford English Dictionary* defines an *e-book* as 'a book written and distributed in an electronic format for reading on an e-reader or a computer screen'. An *e-reader* – defined by the *OED* as 'a hand-held electronic device designed to be used for reading and storing digital versions of books, magazines, and other text' – is just one of several means of accessing e-books; despite early popularity of dedicated e-reader devices, they have in recent years been eclipsed by reading on desktop and laptop computers, as well as smartphones, according to data from the Pew Research Center (Perrin, 2016) and my own survey (see Appendix B, *Question 7*).

The findings of my research bring insight into the possible direction of the print and e-book markets, a direction that is susceptible to change due to unexpected trends and economic disruptions, as we have seen with the COVID-19 pandemic in 2020. Nonetheless, my investigation into Millennials' and Generation Z's book format preferences will be valuable for publishers to calibrate their investment in digital adoption according to expected demand as these generations grow older and inherit a greater share of the consumer market. Furthermore, understanding the psychological, historical, and economic factors influencing Millennials and Generation Z, whose money mindsets and perceptions of value have been shaped by several paradigm-altering events including the Great Recession and the Digital Revolution, can also help predict how similar events – such as the COVID-19 pandemic – will affect future generations' money mindsets and perceptions of value for decades to come.

The Data on Format Preference

Outside Studies

The 2013 study by Voxburner, which found a preference for print among younger readers, is one of many studies that have uncovered similar data. In 2016, the Pew Research Center released a Book Reading report that showed, ‘interestingly, young adults are no more likely than older adults to be “digital-only” book readers: 6% of 18- to 29-year-olds read books in digital formats only, compared with 7% of 30- to 49-year-olds and 5% of those 50 and older’ (Perrin, 2016). Pew also compared the percentages of US adults, by age group, who had done each of the following in the previous twelve months: read a book in any format, read a print book, and read an e-book.

Table A2: Percentage of US adults who have read a print book and an e-book in the past twelve months (Perrin, 2016).

Age group	Read a book in any format	Read a print book	Read an e-book
18-29	80%	72%	35%
30-49	73%	65%	32%
50-64	70%	64%	24%
65+	67%	61%	19%

Although these data show that, of the four age groups, 18–29s had the highest percentage of e-book readers among them (35%), they also show that this youngest age group overwhelmingly read print at a higher percentage (72%) than they read e-books.

This pattern among young adults has endured in subsequent years, in both the US and the UK. In 2019, Nielsen BookScan recorded that 63% of all physical book sales in the UK were to people younger than 44; in the US, Pew found that 75% of people between 18 and 29 said they had read a physical book in 2017 – higher than the adult average of 67% (Handley, 2019).

More evidence of younger readers' print preference is examined in *Words Onscreen: The Fate of Reading in a Digital World*, by Naomi S. Baron, professor of linguistics at American University. In her book, Baron analyses data from several studies, as well as her own, to investigate university students' format preferences. One such study, conducted by Bowker in 2012, found that 66% of 13–17s preferred to read print over e-books (Baron, 2015, p. 13).

The preference for print among younger generations not only applies to books read for pleasure, but also education. Baron cites a 2012 survey by the Book Industry Study Group, which found that 60% of students preferred to use print textbooks over e-textbooks (Baron, 2015, p. 79). A Student Monitor survey in 2013 also found a preference for print when they asked students, 'If the price were the same, which textbook format would you prefer?' Of those surveyed, 59% chose a new print textbook, and 14% chose a used print textbook, totalling to a 73% preference for print overall (Baron, 2015, p. 78). Furthermore, Baron addresses a 2012 study on e-textbook usage among (mostly) undergraduate students at Cornell University, Indiana University, the University of Minnesota, the University of Virginia, and the University of Wisconsin: it found that 'students reported doing a bit less than half the assigned reading in the eTextbooks. At Michigan, faculty found that students now using eTextbooks did less reading than those who used print texts in previous semesters'; 'at Cornell, Indiana, Minnesota, and Wisconsin, students expressed a preference for print textbooks over eTextbooks'; and 'at Wisconsin, 54% said they learned more from print' (Baron, 2015, p. 80).

In addition to looking at data from outside studies, Baron conducted her own, creating the American University Reading Habits Project. She carried out numerous reading-related surveys for the project beginning in 2010, collaborating with international colleagues to survey university students in Japan and Germany, as well as the United States. All of the

students surveyed for this project were between the ages of 18 and 26 (Baron, 2015, p. 81). For one survey she asked students what their format preferences were according to genre – ‘serious fiction, light nonfiction, and so on’ (Baron, 2015, p. 83). She found that ‘in all cases except academic journal articles...and newspapers, the overwhelming choice was hardcopy for both academic and pleasure reading’ (Baron, 2015, p. 83).

In a 2013 survey, Baron asked students how much of their reading for school was done in hard-copy, and how much of it was done digitally. She received the following data:

Table A3: Percentage of schoolwork done in hard-copy and digital formats (Baron, 2015, p. 84).

Format used for Schoolwork	United States	Japan	Germany
Hard-Copy	59%	75%	68%
Digital	41%	25%	32%

Baron points out that this data may be influenced by the format of materials most readily available to students or assigned to them by their teachers; in other words, format usage here is not done purely out of choice. However, when Baron asked the students how much pleasure-reading they did in hard-copy versus digital, she found a significant preference for print:

Table A4: Percentage of pleasure reading done in hard-copy and digital formats (Baron, 2015, p. 84).

Format used for Pleasure Reading	United States	Japan	Germany
Hard-Copy	73%	76%	69%
Digital	27%	24%	31%

Unlike the reading done for schoolwork, students’ reading for pleasure more strongly reflects their own format choices. She writes, ‘What is unambiguous is that when it comes to pleasure reading, students in all three countries favored print over digital’ (Baron, 2015, p. 84).

My Survey

I conducted a format preference survey and collected data that closely reflect the outside studies. I received a total of 153 responses between 17 August and 23 August 2020, and respondents belonged to a wide range of age groups. Of the 153 responses, 48 were from Generation Z (who fall into the age group 18–24), and 33 were from Millennials (who fall into the age groups 25–29, 30–34, and 35–39). See Appendix B for complete details on my survey’s age stratification. I isolated the data from Generation Z and Millennials, analysing each generation individually and combined. The following are the highlights of my findings; full information about my survey, its content, and the comprehensive data analytics and graphs can be viewed in Appendix B; the whole of my raw data can be viewed in the accompanying Excel workbook entitled ‘Appendix C_Dissertation Survey Data_Jocelyn Pontes’ (as an interactive document, the Excel workbook best facilitates the viewing of long-answer responses).

In crafting my survey questions, I echoed several of the questions used in other studies. When I asked respondents if they had read at least one print book in the past year, and if they had read at least one e-book in the past year (*Questions 1* and *2*), I received these percentages:

Data from **Tables B2** and **B3**

Age group	Read a print book	Read an e-book
Generation Z (18–24)	96%	65%
Millennials (25–39)	88%	61%
Combined (18–39)	93%	63%

These data demonstrate that both Millennials and Generation Z are more likely to have read a print book than an e-book in the past year, echoing Pew’s 2016 findings. I also asked respondents which format they tend to read more frequently, and which format they tend to

buy more frequently (the following percentages do not always add up to 100% due to rounding):

Question 8: Between print books and e-books, which format do you tend to read more frequently? This may include books you have bought and books you have borrowed.

Data from **Table B9**

Age Group	Print books	E-books	Both equally	Neither
Generation Z (18–24)	81%	10%	8%	0%
Millennials (25–39)	73%	18%	9%	0%
Combined (18–39)	78%	14%	9%	0%

Question 9: Between print books and e-books, which format do you tend to buy more frequently? This may include books you have bought for yourself and for others.

Data from **Table B10**

Age Group	Print books	E-books	Both equally	Neither
Generation Z (18–24)	83%	10%	4%	2%
Millennials (25–39)	73%	18%	3%	6%
Combined (18–39)	79%	14%	4%	4%

Question 8 takes into consideration books borrowed from libraries and friends, and *Question 9* takes into consideration books purchased as gifts for others. When it comes to both reading and purchasing books, Millennials and Generation Z largely favour print.

I also attempted to replicate data from Baron regarding format usage for schoolwork and pleasure reading, by devising a series of questions that used a numerical scale:

Question 3: When you are reading a book for pleasure, how frequently is the book in print format? 1 = never in print format, 7 = always in print format

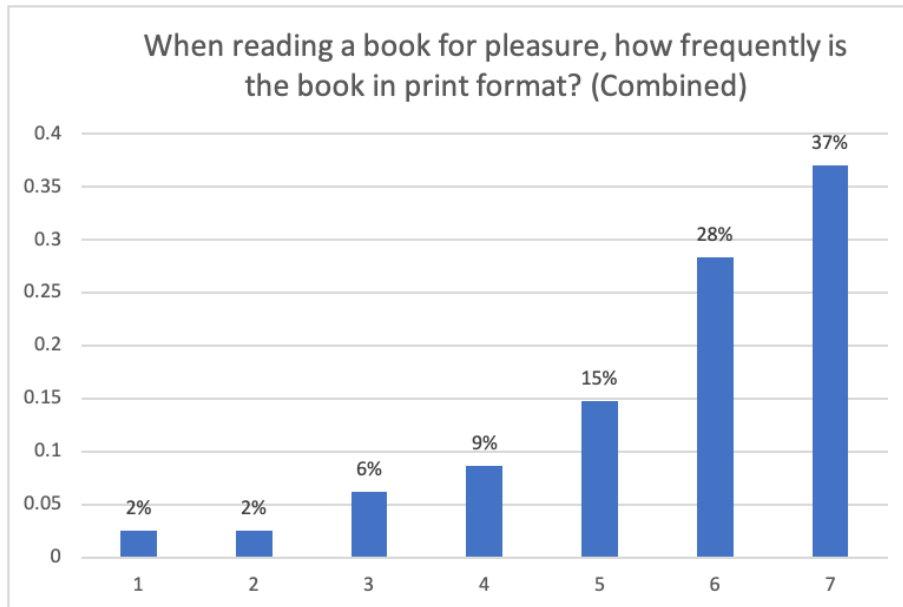


Figure B9

Question 5: When you are reading a book for education (as a student or for professional development), how frequently is the book in print format? 1 = never in print format, 7 = always in print format

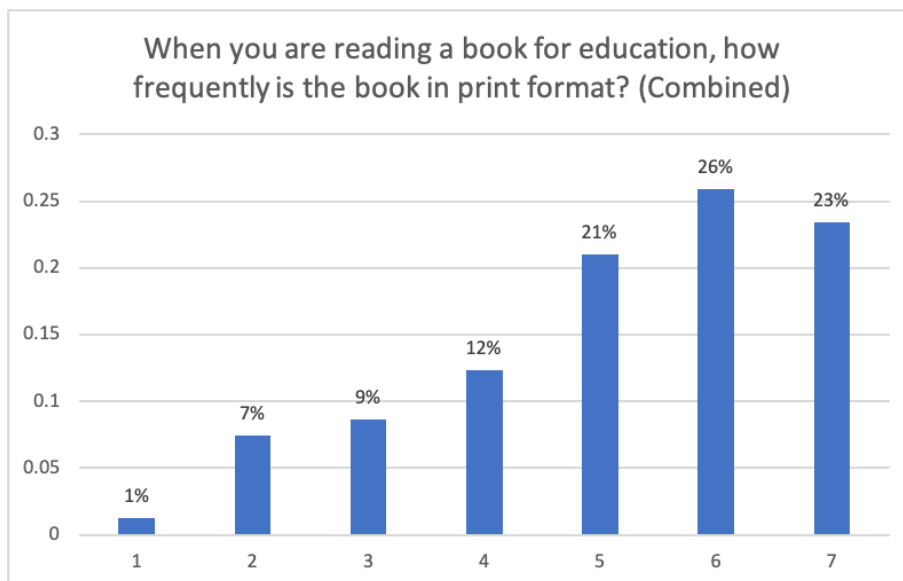


Figure B15

A large majority of Millennials and Generation Z falls to the right of the numerical scale, reading print at least somewhat frequently, and many always or almost always reading print, for both pleasure and education. Regarding e-books, the data is the opposite; for both

pleasure reading and education, Millennials and Generation Z fall to the left of the numerical scale, signifying that they tend to read e-books infrequently, with many rarely or never reading e-books (see Appendix B, *Questions 4 and 6*).

Taken together, the data I have collected from both my own survey and other studies that were conducted throughout the 2010s demonstrate a stable and continuous preference for print among younger readers. For both pleasure-reading and education, Millennials and Generation Z lean towards print to a surprising degree despite being the first ‘digital-native’ generations.

A host of different reasons explains this preference, which can be divided into three categories: psychological, historical, and economic. Much scholarly research has been done on the psychology of reading and how print and digital formats differently affect readers’ levels of focus and comprehension, and the ways in which they interact with the text. For example, throughout *Words Onscreen*, Baron provides responses from surveyed students who frequently noted better comprehension, focus, and closer reading habits among their reasons for preferring print (Baron, 2015). In my analysis of this category, I first address the nature of the mind independent of generational influence, and then narrow the focus to Millennials and Generation Z, bringing into consideration their unique experiences as the first ‘digital natives’ to inform their psychological relationship with print and e-books.

The other two categories, the historical and economic reasons, are closely linked to the psychological, and both are ultimately propelled by underlying psychological phenomena. In contrast to the reasons categorised in the psychological section, however, there is a gap in research concerning how historical and economic factors may affect format preference; although analysis has been conducted by Baron and other researchers on the influences of cost and consumers’ perceived value in the two formats, the link has not yet been directly drawn between Millennials’ and Generation Z’s perceptions of value in these formats and the

historical events and economic conditions that have distinguished them from preceding generations. The goal of my analysis in these two sections is to draw this link.

Psychological Reasons

There are various workings of the human mind that are independent of unique generational experiences. There are others that are directly influenced by such experiences. This section explores the reasons for a print preference from a psychological perspective, taking into consideration the reasons that are inherent to human cognitive functions, as well as those which are influenced by an individual's life history. Though Millennials and Generation Z are known as the first 'digital-native' generations, the following can help to explain why the analogue nature of print books seems to override these younger cohorts' affinity for digital media in just about every other form.

Distraction, Multitasking, Memory, and Comprehension

The issue of distraction is commonly listed among readers' reasons for disliking e-books, for both pleasure-reading and for education. In the 2013 Student Monitor survey, one of students' most frequent explanations for not purchasing an e-textbook was "I get distracted by other things...when I read an eTextbook" (Baron, 2015, p. 78). In one of her 2013 surveys for the American University Reading Habits Project, Baron asked students in the United States, Japan, and Germany if they found it easier to concentrate when reading in print or digital. The percentages of students who believed print better facilitated their concentration are as follows:

United States: 92%
Japan: 92%
Germany: 98%
(Baron, 2015, p. 89)

Baron also posed open-ended questions about reading onscreen versus in hard-copy. When she asked students what they liked most about reading in hard-copy, she got responses like “‘Necessary for focus’”; when she asked what students liked least about reading onscreen, some said “‘I don’t absorb as much’” and “‘I get distracted’” (Baron, 2015, p. 89). In my own survey, 13 individual respondents in the Millennial and Generation Z age groups cited focus/distraction as one of their reasons for either liking print books or disliking e-books.

Below is a sampling of these responses:

‘I find I have an easier time concentrating with a physical book than one on a screen (reminds me of other digital distractions).’ (Respondent 23)

‘It’s easier to get distracted by a notification [when reading an e-book].’ (Respondent 42)

‘I find I am more easily distracted when reading [e-books] because the devices I use are used for other tasks as well.’ (Respondent 141)

It is not surprising that, as e-readers like the Kindle have evolved over time and as digital reading has migrated to other multipurpose devices such as tablets and smartphones (Perrin, 2016; Appendix B, *Question 7*), readers of every age have found it increasingly difficult to focus when reading e-books. The main sources of distraction are the ever-present allure of the internet, other apps, and their notifications. In the early days of e-reading,

dedicated e-readers possessed none of these, as their sole purpose was for reading e-books. Through the late 2000s and 2010s, however, Amazon's Kindle became more technologically advanced and acquired new features such as wireless internet connectivity. In 2009, the new Kindle DX model was equipped with unlimited 3G data, and users could access the internet and conduct Google searches virtually anywhere (Good e-Reader, 2020). When the first Kindle Fire, Amazon's multipurpose tablet computer, was released in 2011, its owners gained endless diversions of entertainment and communication bundled into the same container where they did their reading. Other tablets, as well as smartphones and computers, hold the same potential for constant distraction, and the many features present on these devices promote multitasking. Baron explains,

A surefire way to disrupt careful reading is to multitask. In 2010, I inquired if students were more likely to be multitasking if they were reading in hardcopy or onscreen, or if the amounts were about the same. The results were jaw-dropping: More likely to be multitasking while reading in hardcopy: 1%; More likely to be multitasking while reading onscreen: 90%; Same amount of multitasking with each medium: 9%. (Baron, 2015, p. 88)

These percentages are important because they suggest this: not only does digital reading have the potential to distract, but it indeed does have a distracting effect on readers.

The mental processes of focus, memory, and comprehension are closely linked. According to a study by M. A. Just and P. A. Carpenter, a reader is not able to fully comprehend the meaning of a text without sufficient resources of working memory (Just and Carpenter, 1992). And, as a study by J. C. McVay and M. J. Kane demonstrates, distraction can hinder working memory (McVay and Kane, 2012). Many worry that the distraction

inherent in digital reading can have a negative impact on a reader's recall of the text and therefore their comprehension of its meaning.

Since reading on screens first became possible in the 1970s, researchers have conducted many studies on how digital reading may differently affect readers' focus, memory, and comprehension when compared with reading from print materials. In 2013 Sara J. Margolin, *et al.*, investigated whether reading comprehension changes depending on the format. Their participants were university students between the ages of 18 and 25. They found that 'in comparing paper, computers, and e-readers, results from this study indicated that these three different presentation modes do not differentially affect comprehension of narrative or expository text'; they also found that 'readers were not consistently compensating for difficulties with comprehension by engaging in different reading behaviors when presented with text in different formats' (Margolin, *et al.*, 2013, p. 512). This would appear to disprove the idea that readers of digital content 'don't absorb as much', as one of Baron's surveyed students claimed. So why do Baron's results and my own suggest that a difference exists? Several influential factors must be taken into consideration.

One factor is the materials that Margolin, *et al.*, used to get their data. Participants who were assigned to read from e-readers used the second-generation Amazon Kindle (Margolin, *et al.*, 2013, p. 515), which was released in 2009 before the DX, and which did not have additional features such as apps or the capability to browse the web; it only had the ability to download books from the Kindle store (Good e-Reader, 2020). Thus, many of the sources of distraction that readers often report were absent.

For participants who were assigned to read from desktop computers, which do have such distracting features, the lack of difference in comprehension may be explained by another factor: the participants knew they were part of a study and altered their reading

behaviour accordingly, only focusing on the text and ignoring any urge to multitask, visit other apps, or browse the internet as they pleased.

Furthermore, regardless of whether or not format actually has an influence on readers' retention and comprehension, the reader's perception of such an influence is what matters for the purpose of my investigation. If a reader believes they will have better focus, memory, and comprehension when reading print, then this is the format they will more likely choose to read. This seems to be the case with Baron's study on memory; when she asked students to self-assess how much content they believed they could remember depending on the content's format, 52% claimed they could remember more when reading print, 2% said they could remember more with digital, and 46% thought that the format of the content did not make a difference in their memory (Baron, 2015, p. 83). The (albeit small, but meaningful) majority of respondents thought print was the better choice, and this is reflected in their preference for the format. Several Millennial and Generation Z respondents from my survey also believed their memory and comprehension were stronger when reading print; 9 respondents cited either memory or comprehension as a reason for liking print or disliking e-books, a few of which are quoted below:

'I can't process the content as well [with e-books] as I can a physical book.'

(Respondent 63)

'[I] think I pay attention better when reading hard copy.' (Respondent 85)

'I always prefer to buy books in print because turning physical pages helps my brain when I'm reading for education.' (Respondent 92)

‘I feel I can’t retain the information as easily [when reading e-books]...[I] can easily get distracted on Instagram if I’m reading on my phone.’ (Respondent 143)

The issues of distraction, memory, and comprehension are of great concern for respondents when both reading for pleasure and education, and this concern has been proven to have a significant influence on their format preferences.

The Sensory Experience: Haptics and Navigation

Another major qualm many readers have with e-books is their lack of physicality. When Baron posed open-ended questions on what her respondents liked and disliked about print books and e-books, some students’ aversion to e-books was due to “‘lack of physical interaction with reading material’”; meanwhile, print was favoured by some students because they liked “‘having a tangible copy of the text’”, “‘physically turning the pages’”, and “‘being able to physically handle the text myself, and see in paper how much I have read or have left to read’” (Baron, 2015, pp. 87–88, 144). Other researchers have received similar responses, including Voxburner; one of their 2013 survey participants explained, “‘The only reason I haven’t bought an e-reader is because I love the feeling of holding a book in hand and seeing the creases in the spine when I’m done. It’s like a little trophy’” (Smith, 2013). In my survey data, the ability to flip physical pages was cited by 37 Millennial and Generation Z respondents (46%) as one of the reasons why they liked print.

Print books seem to offer a kind of sensory experience for the reader that e-books do not, engaging the senses of touch and smell, as well as sight. Smell in particular seems to be a significant part of ‘booklore’, as Baron calls it: ‘Physical books have a smell to them, and with a surprising degree of frequency, readers comment on it’ (Baron, 2015, p. 140). Smell was a particularly common feature favoured by my survey’s respondents. Besides smell, the

sense of touch is also frequently cited. Being able to touch the paper, turn the pages, and, in some cases, feel the raised texture of a beautifully designed cover are integral components to the whole of the reading experience, in the opinion of many readers. Why do people – even Millennials and Generation Z whose lives are deeply immersed in digital technology and intangible content – continue to gravitate toward print books for their physical characteristics? The science of touch, or haptics, plays an important role.

According to the American Psychological Association *Dictionary of Psychology*, the scientific definition of *haptics* is ‘the study of touch, particularly as a means of actively exploring and gaining information about the environment, and the applications of this study in communication systems’. The sense of touch is an adaptation deeply ingrained in humans as a species, regardless of one’s age or the generation one belongs to. Using touch as a means of gathering information, even subconsciously as is often the case, contributes to a reader’s overall experience of the content they are taking in; not only the texture of the paper and cover, but also the weight of the book and the feeling of its thickness are useful pieces of information that contribute to one’s overall understanding of the book (e.g., how long it is, and how much time it will take to read it). These features are lost with e-books. Although readers of digital books can often view their progress with a percentage marker, such as on the Kindle, this can feel like a trivial number with as little tangibility as the e-book itself. Baron quotes one student who said of print books, “I like to watch how many pages I have covered and how many are left [by comparing the physical thickness of each]” (Baron, 2015, p. 91). Numerous respondents to my survey said they liked being able to ‘feel’ or ‘hold’ a book, suggesting that interaction with the physical container is important to the reading experience. The dimensions of a print book’s physicality not only provide additional useful information to the reader, but also a heightened sense of personal accomplishment as the reader progresses through the text.

A print book's tangibility – another word which appeared frequently in my respondents' reasons for liking print – provides readers with a richer understanding of the book as a whole, and it also more readily facilitates the reader's capacity for spatial memory as a means of navigation. Navigation and ease of use appeared in 14 of my respondents' reasons for liking print, and spatial memory was mentioned by 2 respondents. One explained, 'I retain more from a printed book because I visually remember where text is on which pages' (Respondent 21). Another said they liked 'the ability to remember where a certain paragraph existed on a page and flip back through to find it' (Respondent 150). Readers are able to directly interact with a print book's content and, using spatial memory, form a mental map of that content based on the container's physical form, as Baron explains:

A book's tangibility...lets you use it in particular ways. You can stick three fingers into different parts of the volume to easily shuttle back and forth in the text. You can find your way back to a passage by remembering it's about a quarter way through, on the upper left-hand side, just before the end of a chapter. (Baron, 2015, p. 131)

Forming a mental map of a digital text is much more difficult, if not impossible, due to its nature as being impermanent, fleeting, and not existing in the physical realm. When reading an e-book, there is no sense of the work as a whole, for the reader only 'encounters its parts piecemeal' (Baron, 2015, p. 151). According to Anne Mangen at the University of Stavanger, 'By definition, the digital erases all traces of tangibility...The constancy, the temporal and spatial permanence, of a tactile object...has distinctively different sensory-motor affordances, then, than something intangible' (Mangen, 2008, p. 408). Though most digital reading platforms are equipped with navigational tools such as a menu bar, a hyperlinked table of contents, and a search command, many readers find these inferior and sometimes more

complicated than old-school methods for navigating a print work; some of Baron's surveyed students gave these remarks concerning navigating onscreen text: "I hate not being able to dog-ear pages and flip back and forth" and "It's harder to keep your place online" (Baron, 2015, p. 89). I received similar answers from my respondents, who also liked being able to dog-ear pages and flip easily between them.

Navigating a print text is similar to traversing a city on foot: one is fully immersed in the environment and is easily able to gaze about their surroundings, to take mental note of landmarks along their route, and to peer down side streets as they pass by, just as they can catch glimpses of words and images on a book's pages as they flip through. In contrast, navigating an e-book is like traveling through a city via an underground subway system: it can be faster and more efficient than walking, the stops are clearly mapped out and labelled, and the rider can hop from one to the next with ease, however they travel through darkness and their sense of direction is obliterated; the city above them exists only theoretically in the rider's mind, and they experience mere snippets of it at a time on the occasions they emerge from the underground. There are benefits and drawbacks for both, however in the case of books, the majority of readers still prefer to take the scenic route.

Besides the cognitive processes of haptic perception and spatial memory that are inherent to the human brain, another related factor may further influence Millennials' and Generation Z's preference for print books: print was the book format they most often encountered as children. Before the Kindle was introduced in 2007, e-books were neither popular nor easily accessible; therefore, while growing up most Millennials and Generation Z read (or were read) just about all of their books in physical format during their most impressionable years. This conditioning may have had an influence on their mental conception of what a *book* is, and therefore what the experience of reading a book should be like. According to psychologists J. Gerlach and P. Buxmann, 'Based on past reading

experiences with physical books, an individual may hold certain beliefs about how reading a book should feel like. Different haptic experiences of reading an e-book might conflict with those existing beliefs and create uncomfortable tension' (Gerlach and Buxmann, 2011, p. 3). Gerlach and Buxmann use the term 'haptic dissonance' to describe this phenomenon, basing their hypothesis in the Cognitive Dissonance Theory which states that 'individuals perceive inconsistency between dissonant cognitions as unpleasant and strive for reduction of those dissonances' (Gerlach and Buxmann, 2011, p. 3). To reduce the dissonance created by the vastly different haptic experience of reading an e-book, Millennials and Generation Z may gravitate toward print instead. This theory is supported by several of my survey respondents:

'I like to be able to turn pages. It's what I grew up with...I like the comfortable familiar feeling of reading [print books] that I've done throughout my life.' (Respondent 21)

'I grew up reading print books and therefore have some nostalgic love for them.'
(Respondent 75)

'I would rather buy a print book because it is what I have grown up with.' (Respondent 107).

'There is something to be said about the nostalgia...of reading printed books. I grew up with printed books and so they feel more comfortable for me...I've noticed that a lot of my affection towards printed books comes from my childhood where my mom would read to me.' (Respondent 109)

Unlike the other psychological effects previously discussed, haptic dissonance is dependent upon an individual's conditioning as a result of personal experiences. Therefore, if children in successive generations encounter e-books more regularly as they become increasingly ubiquitous, then these children will not experience this haptic dissonance as they grow older; thus they will be more likely to choose digital over print. But are children today encountering e-books as frequently as one may assume?

A 2013 survey by the Pew Research Center reported that 'more than nine in ten parents of minor children say it is important to them that their children read print books' (Zickuhr, 2013). Studies by Bowker (2012) and Harris Interactive (2013) received similar findings. Furthermore, sales figures show that parents are not buying e-books for their children very frequently; children's e-books contribute only a small fraction of total e-book revenues in both the US and UK (Richtel and Bosman, 2011; Statista, 2019). Although digital picture books can now be viewed in full colour on increasingly vibrant screens, and although the format allows for interactive animation and other innovative features, nonetheless many parents still prefer to have their children read print. This finding, combined with the understanding of conditioning and haptic dissonance, is useful for helping publishers to anticipate the popularity of e-books among future generations as they grow older. It allows for the reasonable prediction that e-books will likely continue to be less popular than print for at least several more decades.

Digital Burn-Out, or Screen-Fatigue

In a great twist of irony, Millennials' and Generation Z's affinity for print books may also be a result of their high usage of digital technology. In the US, the Pew Research Center found that 93% of Millennials own smartphones; this is the highest rate among the generations surveyed, with 90% of Generation X and 68% of Baby Boomers owning smartphones

(Vogels, 2019). Another disparity exists in the US regarding internet usage: just about 100% of Millennials use the internet, while 91% of Generation X and 85% of Baby Boomers use it; Pew also found that 86% of Millennials use social media, compared with lower rates among the two older generations (Vogels, 2019).

Table A5: Technology usage among different generations in the US (Vogels, 2019).

Do you...	Millennials	Generation X	Baby Boomers
Own a smartphone	93%	90%	68%
Use the internet	~100%	91%	85%
Use social media	86%	76%	59%

In the same year, Statista asked US adults in various age groups if they would describe themselves as being online ‘almost constantly’; they received this data:

18–29: 48%
 30–49: 36%
 50–64: 19%
 65+: 7%
 (Statista, September 2019)

Data on internet and technology usage in the UK are similar. The Office for National Statistics reported in 2019 that 99.2% of people aged 16–44 are internet users; this compares with lower percentages for older age groups:

16–44: 99.2%
 45–54: 97.5%
 55–64: 93.2%
 65–74: 83.2%
 75+: 46.8%
 (Office for National Statistics, May 2019)

The ONS have also gathered data on the frequency of internet usage, among those who are internet-users:

Table A6: Frequency of internet usage among internet-users in the UK (Office for National Statistics, August 2019).

Frequency of Internet Use	16–24	25–34	35–44	45–54	55–64	65+
Daily or almost every day	100%	99%	98%	93%	83%	61%
At least weekly	0%	1%	1%	4%	5%	10%
Less than weekly	0%	~0%	0%	1%	1%	5%
Not used in the last 3 months	0%	0%	1%	2%	10%	24%

Younger generations in both countries are highly active online, not only turning to digital technology for personal communication and entertainment, but also utilising it for work. The internet has become an integral tool for nearly every occupation, in one form or another, and has become enmeshed in the workplace. It is also used regularly for education; many schools, at various educational levels, have acquired personal laptops or tablets for students, to be used regularly both in the classroom and for homework. In addition, many academic sources assigned by teachers for reading and scholarly research are often only available to students in digital format.

One would assume that as ‘digital natives’, younger generations would not be bothered by the increasing omnipresence of digital technology in daily life, and that they would prefer all of their content to be digital. But when it comes to books, the opposite is the case. Steve Bohm, research director at Nielsen Book Research UK, spoke on this topic ahead of the 2017 London Book Fair, saying, ““We are seeing that books are a respite, particularly for young people who are so busy digitally”” (Cain, 2017). Stephen Lotinga, chief executive of the Publishers Association, has said the same: ““People are clearly making decisions on when they want to spend time with their screens....There is generally a sense that people are now getting screen tiredness, or fatigue, from so many devices being used, watched or looked at in

their week. [Printed] books provide an opportunity to step away from that.” (Sweney, 2017). My survey data suggest the same conclusion; of the 81 Millennial and Generation Z respondents, 34 (42%) said that one reason why they did not like e-books was because they disliked reading from screens, or because they felt they had too much screen time in their daily lives and wanted to ‘unplug’ from electronics. One said, ‘I’m sick of looking at computers all the time’ (Respondent 104).

Why does digital technology cause such fatigue, even for Millennials and Generation Z who are most accustomed to using it regularly? The phenomenon of digital burn-out has become a prevalent problem for people of all ages, and it comprises both physical and emotional symptoms. In Baron’s surveys, many students cited eyestrain as a reason for disliking e-books – in fact, a surprising 30% of complaints from students in the US concerned this, saying that reading on a screen hurt their eyes and/or caused headaches (Baron, 2015, p.88). Thirty (37%) of my 81 respondents also cited eyestrain and/or headaches as reasons for disliking e-books and preferring print.

A study by Erik Wästlund at Karlstad University in Sweden showed that reading on screens can also make readers feel more tired and stressed than reading print (Jabr, 2013, p. 4). This is caused largely by the nature of digital reading, as Ferris Jabr explains: ‘In general, screens are more cognitively and physically taxing than paper. Scrolling demands constant conscious effort, and LCD screens on tablets and laptops can strain the eyes and cause headaches by shining light directly on people’s faces’ (Jabr, 2013, p. 2). Complaints of tiredness appeared several times among my respondents’ reasons for disliking digital reading.

Some dedicated e-readers diminish this problem with e-ink technology, which replicates the appearance of a physical page and is not as harsh on the eyes. However, as mentioned earlier, data show that readers are increasingly using multipurpose devices such as computers and smartphones to access e-books, instead of e-readers (Perrin, 2016). I found

this when I asked my respondents to select the device(s) they used to access e-books (Appendix B, *Question 7*). The highest percentage of Millennials and Generation Z used desktop or laptop computers for reading e-books (64%), and the second highest percentage used smartphones (53%). These devices do not use e-ink technology, and their screens can cause the eyestrain and fatigue that many readers report. With everyday life being increasingly occupied by looking at screens – much of it out of necessity, such as for one’s job or education – it is not surprising that Millennials and Generation Z are seeking breaks by intercutting that time with printed content.

In summary, the psychological factors that can influence format preference are numerous and interconnected. They largely stem from cognitive processes that are either hardwired in human neurology (working memory, susceptibility to distraction, haptics, spatial memory, digital burn-out), or are conditioned as a result of personal experiences (haptic dissonance). These factors help to explain why even young ‘digital natives’ tend to lean towards print instead of e-books.

Historical Reasons

Thus far, this work has primarily explored the reasons why Millennials and Generation Z tend to prefer print books despite their distinct generational experiences (excluding the discussion of haptic dissonance). Now begins an investigation into the reasons why these generations prefer print as a result of these experiences. The Millennial and Z generations, in both the UK and the US, have been defined by a series of significant historical events that have altered the course of their lives, behaviours, and worldviews. As summarised in the introduction, these events include the creation of the internet, Amazon’s release of the Kindle, and the Great Recession, among others. Before delving into the details of these

events and how they have uniquely impacted Millennials and Generation Z, it is important to establish an understanding of what generational research is, and the relationship between historical events and generations.

Generational research tracks and analyses people's views over time, according to their generation, or 'age cohort' (Pew Research Center, 2015). There are three main factors that explain generational differences; the one that is most relevant for this work is the 'cohort effect', as it is referred by Pew (2015). It states that members of a certain age cohort can be more significantly affected by a historical event or period in time than other age cohorts also experiencing the event or period; Pew says it 'may be because [the event or period] occurs during a key point in the life cycle, such as adolescence and young adulthood, when awareness of the wider world deepens and personal identities and value systems are being strongly shaped' (2015). History and the formation of distinct generations are closely linked, as Yoshie Nakai explains:

Society compris[es] a continuous succession of age cohorts in which each cohort shares a common historical and cultural process....The group of individuals who exist at the same 'location' of time, culture, and development would share an experience of some historical events. That is, they live in the same historical period, are bounded by a similar set of values and societal norms, are similar in chronological age, and share a common incident in the history. (Nakai, 2015)

Events that take place during individuals' impressionable years can cause 'generational imprinting', and they are 'more likely to be recalled as critical in their lives' (Schuman and Scott, 1989; Nakai, 2015). The events of the 1990s and 2000s have left a lasting imprint upon Millennials and Generation Z; these events help explain these generations' relationship with

money, their perception of value in products, and even something as specific and seemingly irrelevant as their book format preferences.

The Digital Revolution: The Internet and Amazon

One of the most transformative events that distinguish the Millennial and Z generations from their predecessors is the creation and mainstreaming of the internet. Having grown up with one of mankind's most consequential achievements readily at their disposal, these generations have been uniquely shaped in their perception of this technology, how they value it, and how they value the content it delivers them.

The creation of the internet comprised a gradual merging of a patchwork of individual networks, such as the NPL network and ARPANET, which were initially utilised by governments and scientific institutions; this merging process began in the 1970s and led to the development of an increasingly interconnected infrastructure (Ryan, 2010). The first web browser, the World Wide Web, began in 1989 as a project at CERN, created by British computer scientist Tim Berners-Lee (Pew Research Center, 2014). When CERN put the World Wide Web into the public domain in 1993, the internet became widely accessible to the public; anyone with a computer and a telephone could dial up and wade into the continually growing sea of hyperlinked digital documents, chatrooms, and communication services that changed information sharing forever (Pew Research Center, 2014; Ryan, 2010). The internet is regarded by many as a democratisation of knowledge, because unquantifiable volumes of information became freely accessible to a growing audience of thousands, millions, and eventually billions, of people across the world. Though this notion of democratisation was, and continues to be, limited to those who are financially and geographically privileged, the birth of the internet marked a major leap toward such a utopian ideal.

The internet boom of the 1990s and early 2000s coincided with the childhood years of most Millennials and Generation Z. They have been referred to as ‘digital natives’ frequently throughout this work, signifying that they were the first generations in history to grow up with the internet. In fact, many members of these generations have no memory of the world before it existed. The data on their internet usage today, presented earlier in the discussion of digital burn-out, demonstrates the effect that has resulted from childhood exposure to this technology: these generations are highly accustomed to using the internet regularly and regard it as an ordinary fixture of everyday life.

A difference in perception of the internet exists between younger and older generations. When the internet was first introduced, older generations (often called ‘digital immigrants’) marvelled at the internet’s remarkable ability to retrieve information near-instantaneously; in contrast, most Millennials and Generation Z have never known a world without it, and they have always regarded it as standard. A blog post by Southern Phone Company, a provider of telephone and internet communication services, elaborates on this difference in perception:

For those who can remember their first television set (not to mention the first personal computer), there’s still something inherently miraculous about modern technology. Gen Z, and even Millennials, view mobile phones, internet, and smart devices with far more complacency. These elements are a normal part of life; not subject to their incredulity. (Southern Phone Company, 2018)

Millennials’ and Generation Z’s perception of digital technology has an influence on how they perceive value in e-books. While older generations may gravitate toward e-books in part because they are a fascinating wonder of technology, Millennials and Generation Z tend to be less impressed, and, to them, the drawbacks may outweigh the benefits. The fact that they

generally lack any sense of awe or incredulity for the internet and digital technology, taken together with the numerous disfavoured aspects of e-books previously investigated in this work, may culminate in an overall lower perception of value in e-books.

It is fair for one to assume that, being so accustomed to instant content delivery via the internet, Millennials and Generation Z would perceive greater value in an e-book because it can be quickly purchased online and downloaded immediately, without having to leave home or wait for it to arrive in the post. These are indeed extremely valuable aspects of e-books that print cannot offer. However, there is another fundamental characteristic of the internet that may actually have the opposite effect and subconsciously push Millennials and Generation Z further towards print books: most of the content on the internet is free, while most e-books are not.

The internet's great 'democratisation of knowledge' has allowed connected individuals to obtain seemingly endless content for free. Many Millennials and Generation Z have had this connection since childhood, whether through a computer at home, at school, or at a public library. Childhood exposure to freely available digital content may have conditioned Millennials and Generation Z to mentally associate *digital* with *free*. Like the issue of haptic dissonance, there may be an element of digital dissonance at play in younger readers' conceptualisation of e-books. By applying J. Gerlach's and P. Buxmann's logic on haptic dissonance to this issue, it can be reasoned that an individual may hold certain beliefs about what digital content should cost based on past experiences, and the inconsistency presented by the cost of e-books may 'conflict with those existing beliefs and create uncomfortable tension' (Gerlach and Buxmann, 2011, p. 3). E-books comprise only raw content, in a format which younger generations have been conditioned to expect for free, and therefore they perceive less value in it.

This idea would help explain the findings of various studies on consumers’ perceptions of e-book pricing. The 2013 Voxburner study discovered that only 8% of the 16- to 24-year-old respondents believed that e-book pricing is fair, and 28% believed e-books should be ‘half their current price’; it also reported that one of the most important factors in younger readers’ print preference is ‘value for money’ (Bury, 2013). A poll conducted by Good e-Reader in 2018 came to the same conclusion: 65.3% of its respondents believed e-books were too expensive and should cost less (Kozlowski, 2018).

When I asked my respondents if they believed e-books are fairly priced (Appendix B, *Question 13*), the data I received seems on the surface to contradict the outside studies (again, due to rounding, percentages do not always add up to 100%):

Data from **Table B14**

Age group	Yes	No	Unsure/Depends
Generation Z (18–24)	54%	17%	29%
Millennials (25–39)	36%	15%	48%
Combined (18–39)	47%	16%	37%

High percentages of the Generation Z and Millennial respondents believed e-books are fairly priced, but an explanation for this can be found in the reasons they gave for their views.

Among those who believed e-books are fairly priced, many explained that in their personal experience, the e-books they have bought were often cheaper than their print counterparts, and the lower price justified their purchase. The possibility of digital dissonance as a factor in these results adds to the simple fact that people tend to believe the production of a physical book costs significantly more than the production of a digital one, and therefore the price of a physical book is more justifiable (Thompson, 2012, pp. 337–338; Welham, 2020). My respondents’ explanations reflect this. One said, ‘I think ebooks are fairly priced. They are more affordable than the print option. I find that reasonable because you won’t have the cost

of physical production' (Respondent 19). Another said, 'I think e-books are generally cheaper than print books...I do believe e-books should always be cheaper than print books since they're not using any physical materials to print the books on' (Respondent 54). It is true that e-books cost less to produce than print books, but only slightly so:

'The costs associated with the production of the physical book...are in fact a relatively small proportion of publishers' costs....This does not go down especially well with consumers, for whom the perceived value of an ebook is significantly lower than that of a print book simply because it lacks the physical traits.' (Thompson, 2012, pp. 337–338)

This pattern of belief among readers that e-books should be significantly cheaper than print only further bolsters the idea that e-books tend to be perceived as having less value.

Furthermore, the considerably large percentages of my respondents who were unsure whether e-books are fairly priced shows that there is generally little knowledge among the public regarding how e-book pricing works.

Besides the internet itself, Amazon's history of low e-book pricing has had an enormous influence on consumers' belief that e-books should cost less than print. With its 2007 release of the first Kindle, Amazon set the price of all digital new releases and bestsellers at \$9.99 (Thompson, 2012, pp. 370–371). This created the impression in readers' minds that \$9.99 should be the standard price for all e-books, an impression which is scientifically explainable through a psychological phenomenon called 'anchoring'; according to psychologists Amos Tversky and Daniel Kahneman, 'when people don't know what a fundamentally new product should cost, they are strongly influenced by the first price they

encounter...like the way a baby chick decides that whatever creature it sees first is its mother' (Poundstone, 2010).

Because the Amazon Kindle mainstreamed e-books and served as the means through which most readers – Millennials and Generation Z included – first encountered e-books, Amazon's original pricing strategy continues to influence how much value readers perceive in e-books today. Now that many e-books are priced higher than they once were – and are often comparable in price to their print counterparts – Millennials and Generation Z readers may feel that print offers more value for the money: it not only provides the content, but also a richer reading experience with heightened haptics, less distraction, less eyestrain, better memory and comprehension (or perception of such), easier navigation, and the host of other previously discussed benefits that younger readers believe print offers.

Voxburner's discovery that younger readers place great importance on 'value for money' aligns with the findings of other studies. The 2013 Student Monitor survey, mentioned earlier, also suggests that value for money is a significant determining factor: it asked students, 'If the price were the same, which textbook format would you prefer?' and it received a 73% preference for print (Baron, 2015, p. 78). This demonstrates that those surveyed believed they would receive greater value from a print book than an e-book for the same amount of money, and therefore could better justify the cost. Baron received similar results through her own 2013 survey when she asked students, 'If the cost were identical, which medium would you prefer?'; she found that 89% of US students would prefer using print for schoolwork, and 81% would prefer using print for pleasure-reading (Baron, 2015, p. 86). To further investigate the issue of value for money, I asked my respondents to rate how important the factor of price was in their book-buying decisions, using a numerical scale of 1–7, where 1=very unimportant and 7=very important:

Question 10: When you buy a book to read for pleasure, regardless of its format, how important is the factor of price in your decision whether or not to buy the book?

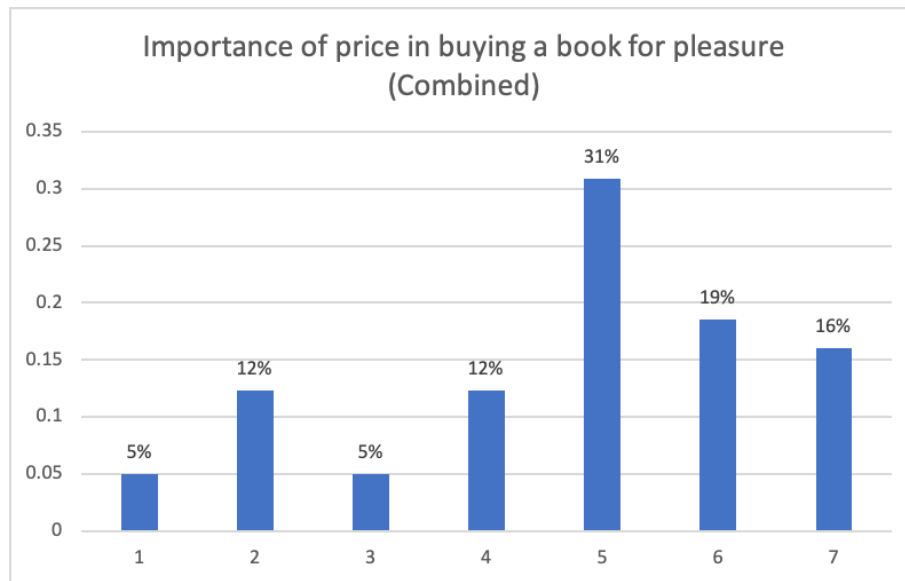


Figure B30

Question 11: When you buy a book to read for education (as a student or for professional development), regardless of its format, how important is the factor of price in your decision whether or not to buy the book?

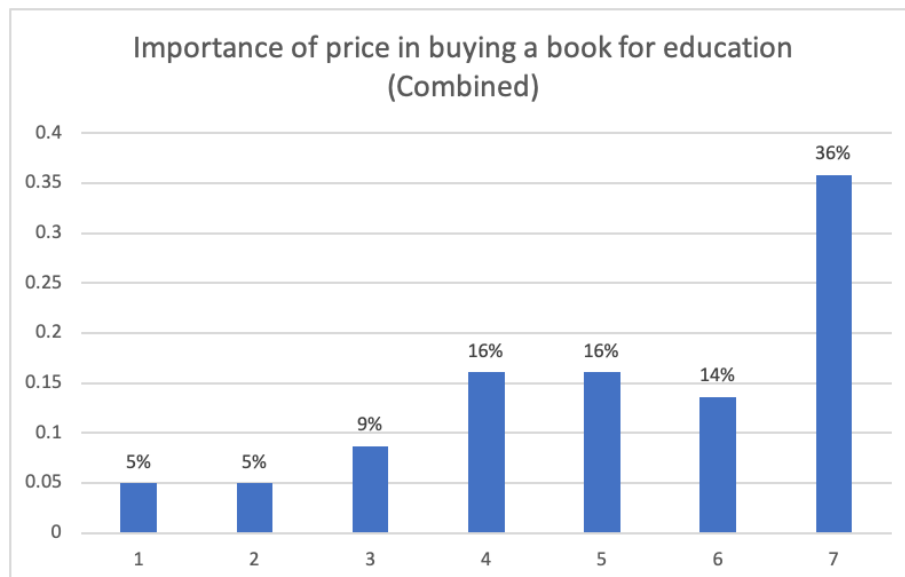


Figure B33

For both questions, Millennials and Generation Z tend to fall to the right of the numerical scale, indicating that price is at least a somewhat important factor in their book buying

decisions, and for many it is a very important factor. Why is value for money such an influential aspect of Millennials' and Generation Z's format preferences, particularly regarding books used for education? It can be partially attributed to the stages in the life cycle which Millennials and Generation Z currently occupy; because they are younger, these generations are less financially secure than older age cohorts who have had more time to establish careers and accumulate wealth. This is a fact of every generation regardless of historical influences. However, a second, equally significant explanation can be found through an analysis of another major historical event that has come to define the Millennial and Z generations: the 2007 financial crash and the resulting Great Recession.

The Great Recession: A 'Once-In-a-Lifetime' Disaster

Millennials and Generation Z are distinct from preceding generations in that they came of age amid the particularly adverse economic climate known as the Great Recession. While Baby Boomers and Generation X grew up in times of relative prosperity (particularly in post-war US), the childhood and adolescent experiences of many Millennials and Generation Z were marked by financial struggle or the prolonged, looming threat of it. The effects of the Great Recession were significant in both the US and the UK; both countries sustained considerable economic damage during the late 2000s and much of the 2010s. This event's lasting impact is evident in the financial behaviour of Millennials and Generation Z. It has altered their relationship with money, how they spend it, and how they justify their spending. It has created two cohorts of individuals who place value for money at a considerably high level of importance when deciding whether or not to make a purchase, even a small one such as a book.

The initial financial crisis that precipitated the Great Recession began in late 2007; it was caused by a 'severe contraction of liquidity in global financial markets...as a result of the

bursting of the U.S. housing bubble’ (Duignan, 2019). Widespread unemployment resulted, and in the US the unemployment rate rose from 5% in December 2007 to 9.5% in June 2009, which is considered the official end of the Recession in the US; it then continued to rise amid the Recession’s aftereffects to peak at 10% in October 2009 (U.S. Bureau of Labor Statistics, 2012, p. 2). In the UK, unemployment followed a similar pattern, rising from 5.3% in 2007 to peak at 8.1% in 2011 (Statista, 2020; Office for National Statistics, 2018). Job vacancies evaporated, and the growing number of unemployed individuals were forced to compete for ever-narrowing positions. Redundancies (referred to as ‘layoffs’ in the US) occurred in mass numbers in both countries, and consumer spending consequently dropped as individuals became more frugal (U.S. Bureau of Labor Statistics, 2012, pp. 14–15; Office for National Statistics, 2018). Home and property values also dropped, and millions of people lost their homes due to foreclosure.

As was briefly summarised in the introduction, the Great Recession affected both Millennials and Generation Z, but for different reasons and at different stages of the life cycle; the height of the recession occurred when many Millennials were entering adulthood and attempting to join the workforce, and it occurred when many members of Generation Z were in the impressionable childhood stage of the life cycle. This section will explore how the concurrence of the Recession with each of these life-cycle stages affected the respective generation, their financial behaviour, and their money mindsets.

The 2007–2009 crisis and the following decade of sluggish recovery created a difficult job market that was particularly hostile for young people seeking their first job. In the US, job vacancies were ‘at least 20 percent below their pre-recession peak for nearly five years, and the hiring rate remained significantly depressed until late 2014’ (Rothstein, 2019, p. 1). While unemployed older adults had years of previous experience and seniority that would benefit their applications, Millennials had none and were less likely to be hired; this made

them more vulnerable in the Recession than older age groups (Porter and Yaffe-Bellany, 2020). In 2012 – when the aftereffects of the Recession were still severe and when Millennials were between the ages of 16 and 31 – the Pew Research Center surveyed average Americans regarding young people’s finances and reported,

Large majorities of the public say it’s harder for young adults to reach many of the basic financial goals their parents may have taken for granted. More than eight-in-ten (82%) say finding a job is harder for young adults today than it was for their parents’ generation. And at least seven-in-ten say it’s harder now to save for the future (75%), pay for college (71%) or buy a home (69%). (Pew Research Center, 2012)

In this study, Pew also asked individuals to rate their personal financial situation and discovered that since the Recession, the percentage of people aged 18–34 who rated their personal financial situation as ‘excellent’ or ‘good’ had dropped by 17 percentage points, from 50% in 2004 to 33% in 2011; meanwhile, older age groups were less severely affected (Pew Research Center, 2012). From 2007 to 2010, the US poverty rate for young adults aged 18–24 rose to about 22%, an increase of about 4.7 percentage points (Duignan, 2019).

Not only did the Recession place Millennials in a challenging financial position at the time, but evidence shows that it has altered their finances and career trajectories for many years to come. This is a phenomenon referred to as ‘scarring’, in which those trying to enter the workforce amid a period of job scarcity have higher unemployment rates and tend to settle for unwanted jobs with lower pay and poorer benefits; these disadvantages can prolong unfavourable financial circumstances for even 10 to 15 years and have negative lifetime effects on the development of one’s career, salary, and accumulation of wealth (Rothstein, 2019, p. 1; Yaffe-Bellany and Peiser, 2020).

Such effects on Millennials were still evident as of 2019 (10 years after the Recession ended), when Jesse Rothstein at the University of California, Berkeley, found that ‘college graduates whose careers started in 2010 and 2011 have employment rates two percentage points lower than the age- and time-adjusted employment rates of pre-recession cohorts, and those who work have annual earnings that are two percent lower’ (Rothstein, 2019, p. 2). What’s more, Rothstein also reported that the employment rate of post-recession cohorts will be lower than pre-recession cohorts ‘in every year of their careers...after adjusting for any differences in time effects’; it shows a ‘large, permanent scarring effect, totalling four to five percentage points’ (Rothstein, 2019, p. 11). The coinciding of the Great Recession with Millennials’ young adulthood has caused many economists to deem them a ‘lost generation’ who will ‘remain poorer than earlier generations for the rest of their lives’ (Duignan, 2019).

Millennials have received much attention (and often ridicule) from older generations for their ‘slow start’ in life; this generation is known for its members’ tendency to delay major life events including moving out of their parents’ house, getting married, buying a home, and having children (Dimock, 2019; Pew Research Center, 2012). This is attributed by many studies to their financial disadvantages as a result of the Recession. Millennials have also been called ‘industry killers’; they avoid purchases deemed unnecessary, even relatively small purchases such as paper napkins and fabric softener, and they less frequently engage in some leisure activities, such as dining at restaurant chains, than older generations (Taylor, 2018). Taking into account the Recession’s vast impact on Millennials’ finances and spending behaviours, it is clear why this generation places great importance on the factor of value for money when making purchases. Just as they tend to perceive too little value for the cost of paper napkins and fabric softener, they may also perceive too little value for the cost of e-books.

The impact of the Great Recession upon Generation Z was different in nature but will likely yield similar results in adulthood regarding relationship with money. In 2007 when the Recession began, members of Generation Z were aged 10 and younger. As such, this generation grew up amid the initial 2007–2009 crisis and the following decade of lingering damage. Many children experienced greater hardship during this time. Just as the poverty rate for young adults in the US increased during the Recession, so too did childhood poverty: it increased by 4 percentage points to reach roughly 22% by 2010 (Duignan, 2019).

The childhood stage of the life cycle is particularly impressionable, according to psychological theory: ‘Youths are sensitive and easily reactive to external environments, and these characteristics may influence the formation of attitudes and behaviours.

Impressionability is a concept that has been used by researchers to mean vulnerability and sensitivity to an environment’ (Gwon and Jeong, 2018). External environments of financial hardship, scarcity, or the prolonged threat of such conditions can psychologically influence individuals’ spending behaviours and relationship with money for years and perhaps their lifetimes. These behaviours and relationships compose one’s ‘money mindset’, which is ‘informed by personal histories, experiences, and family circumstances. They play into every aspect of a person’s life – relationships, goals, fears, careers, successes, struggles, and ultimately higher-order needs’ (O’Leary, 2020). Because of the impressionability of childhood, one’s money mindset is largely formed during this stage of the life cycle, according to financial psychology expert Dr. Brad Klontz, and it is “shaped from both direct and indirect messages we receive about money from our parents, other significant people in our lives, our circumstances, and society as a whole” (O’Leary, 2020).

Evidence of the environment’s influence on one’s money mindset in childhood can be seen in members of other generations who also experienced adverse economic conditions in their youth, most notably those who grew up during the Great Depression of 1929–1939, and

those in the UK who grew up during and after World War II. Members of this cohort were known for being frugal and thrifty throughout adulthood, even in times of economic prosperity, ‘because their experience growing up during a period of widespread hardship and deprivation shaped them’ (O’Leary, 2020). Thus it is reasonable to predict that Generation Z’s childhood immersion in the particular economic environment created by the Great Recession will similarly have a lasting (and perhaps lifetime) influence on their money mindsets, prompting more frugal behaviours and a heightened concern for the factor of value for money when making purchases. Even for Generation Z children whose families were not personally afflicted with financial hardship, nonetheless the experience of simply growing up amid that particular time period shaped Generation Z’s psychological conception of the world, thus influencing their money mindsets.

The Great Recession was so shockingly devastating that many regarded it as a ‘once-in-a-lifetime’ disaster. However, at the time of writing in the summer of 2020, as many in Generation Z are now arriving at the young-adult stage of the life cycle and are attempting to enter the workforce, they find themselves trapped in the second, possibly even more devastating, economic crisis of their lifetimes: that caused by the COVID-19 pandemic. Now confronted with a situation mirroring that faced by Millennials roughly a decade ago, Generation Z’s career prospects appear frighteningly bleak and are likely to follow a similarly blighted trajectory, depending upon how long the pandemic’s economic damage lasts.

Having analysed the long-term effects of the Great Recession on Millennials’ careers, finances, and spending behaviours, one can reason that similar consequences will result from the pandemic’s economic ruin, having a permanent impact on both Generation Z and their successors – Generation Alpha, who are children now. Understanding the historical reasons for Millennials’ and Generation Z’s spending behaviours and concern for value for money

can help to explain their avoidance of e-books, when taken into context with the other disfavoured aspects of e-books themselves. This understanding can also be applied to future generations like Generation Alpha who experience similar historical events during these critical childhood and young adult stages of the life cycle.

Economic Reasons

The Great Recession worsened what was already set to be a fraught financial situation that Millennials and Generation Z would be forced to confront as young adults. This situation includes the following factors, which have developed over the span of several decades: astronomically rising tuition costs, debilitating student debt, increasingly unaffordable housing, and stagnation of wages relative to inflation. These factors are closely interconnected, influencing each other and combining with the added disadvantages brought by the Great Recession to position Millennials and Generation Z in overall much more dire financial straits than preceding generations at the young-adult stage of the life cycle. This section investigates the contribution that each of these factors makes to further constricting Millennials' and Generation Z's spending behaviours and further heightening their prioritisation of value for money.

Higher and Higher: Education Costs and Student Debt

Much of Millennials' and older Generation Z's financial woes stem from the continuously rising costs of higher education, in both the US and the UK. In the US, average tuition has skyrocketed to dizzying levels over the past few decades. Between the 1987–1988 academic year and the 2017–2018 academic year, the cost of attending a public four-year institution has on average increased by 213%; the cost of attending a private four-year institution has on

average increased by 129% (Martin, 2017). In the UK, tuition fees have also continually risen. According to BBC News, university fees tripled in 2006 and tripled once again by 2012; the most recent increase occurred in 2017, from £9,000 to £9,250 (Coughlan, 2017). ‘Paying your way through school’ with summer jobs and university work-study programmes, as many Baby Boomers and Generation X were able to do, is now virtually impossible for Millennials and Generation Z.

Although there is still great economic value in a university degree (the median income of those with a degree in the US is 63% higher, and the unemployment rate is 8% lower, than those without a degree), nonetheless the burden of student debt greatly restricts graduates’ ability to maintain financial security and accumulate wealth (the median net worth of US graduates is 7 times lower than the median net worth of those without a degree), trapping them in a financial Catch-22 when deciding whether or not to pursue higher education (Munnell and Hou, 2018, p. 2; Fry, 2014). Nearly half of US Millennial households, between the ages of 25 and 35, have student debt; furthermore, that outstanding debt on average amounts to over one-third of their earnings; ‘Not surprisingly, then, the short-term finances of those with a college degree are more fragile than one would generally expect’ (Munnell and Hou, 2018, pp. 2, 6–7). Student debt in the UK is also drastically higher than in previous generations; with the interest rate for student loans having increased to 6.1% as of 2017, the average debt for a student graduating in England that year was £50,800, a number which had doubled from just four years earlier (Coughlan, 2017).

Compared with previous generations, Millennials and older Generation Z are significantly more burdened with student debt because of higher tuition. And, because the upward trend of costs shows no sign of changing in the near future, younger Generation Z will also have this burden as they grow older and begin pursuing higher education too. Susan Dynarski, professor of public policy, education, and economics at the University of

Michigan, describes this situation as ‘a three-part disaster’ in conjunction with the Recession, in which young adults ‘borrowed to make their tuition payments; many went to for-profit schools for which the return has been shown to be zero; and, finally, after finishing their education and laden with debt, they hit a labor market of high unemployment and low earnings’ (Dynarski, 2019, p. 13).

The impact of outrageous costs for higher education is starkly evident in students’ purchases of textbooks. In the 2012–2013 academic year, the average US student needed to pay roughly \$1,200 for textbooks and supplies, and the price of new textbooks had increased by 82% from just 10 years before (Baron, 2015, p. 75). Prices have only continued to increase in the years since this data was collected. E-textbooks are often favoured by students because they sometimes cost less than the print version, although they can still be quite expensive too. Conversely, many students prefer to buy print textbooks so that they can then re-sell them at the end of the semester and make some, if not all, of their money back. Many other students, however, simply do not buy the textbooks at all, and instead either borrow them from their school library or, if unavailable there, resort to online pirating. Value for money is, again, shown to be a significant factor in young adults’ purchasing habits, and it is having a direct impact upon book markets, in this instance that of educational publishing.

The Housing Costs that Made ‘Generation Rent’

In addition to the financial squeeze from higher education, the cost of housing is yet another influential factor in younger generations’ frugality and perception of value for money.

Millennials are often called ‘Generation Rent’ because a greater percentage of this cohort lives in rented accommodation than any other generation did at the same stage in the life cycle. Only about 1 in 3 US Millennials under the age of 35 owned a home as of 2018, and this is 8 to 9 percentage points lower than previous generations at the same age (Leonhardt,

2019). Similarly, in the UK, less than 30% of Millennials owned a home by the age of 30, compared with almost 45% of Generation X and over 50% of Baby Boomers by the same age (Hemming, 2019). As of 2019, first-time home buyers in the US were paying 39% more than their older counterparts were paying 40 years earlier (Hoffower, 2019).

Renting rather than buying is often not a choice despite popular belief, as Gary Hemming, Commercial Lending Director of ABC Finance Limited, explains: ‘The truth is that many don’t have the means to save for a deposit [on a house]....It’s less of a generational attitude and more down to the fact that property ownership is out of most [Millennials’] grasp’ (Hemming, 2019). Data show that, because of the struggle to save enough for the initial deposit, ‘up to 1/3 of Millennials...may never be able to own their own home and have no other option aside from renting property their entire lives’ (Hemming, 2019).

Renting is more affordable than making the first deposit on a home for most Millennials and older Generation Z, however prices for rented accommodation have also consistently risen relative to inflation over the last few decades. Data show that, after adjusting for inflation, young adults in the US today spend more on rent than older generations did as young adults, according to MarketWatch: ‘Between the ages of 22 and 30, the median total amount Millennials spent on rent was \$92,600....That’s \$10,400 more than the inflation-adjusted amount that members of Generation X paid at the same age, and \$21,600 more than Baby Boomers spent’ (Passy, 2018). In fact, between just 2008 and 2018, the average monthly rent for an unfurnished apartment in the US increased by nearly 50% (Rudden, June 2020).

With higher rent, a lower average net worth, higher unemployment, and poorer-quality jobs that provide less pay, young adults today spend a greater percentage of their income on housing than older generations did at the young-adult stage of the life cycle. In the US, Millennials’ rent burden is 45% of their income, compared with 41% of Generation X’s

income and 36% of Baby Boomers' income at the same age (Passy, 2018). The numbers are quite high in the UK too: 'Young couples have to spend more than 30% of one full-time person's wage on rent in 66% of places in the UK'; in other words, more than 30% of a Millennial or Generation-Z renter's income goes solely to rent in most of the UK (Open Property Group, 2015). To understand just how much the necessity of housing drains young adults' income is to understand why they are not spending very much of the leftover on non-necessities, and why they are more discerning in their perception of value for money when making any kind of purchase. As if this weren't already enough, there is yet another factor that further exacerbates the financial problems faced by today's young adults: stagnant wages relative to inflation.

[Ask a Millennial: How to Live on an Unlivable Wage](#)

The negative financial circumstances investigated thus far are deepened further by the reality that wages have remained relatively stagnant over the span of several decades. On both sides of the Atlantic, wages are at considerably depressed levels compared with ever-climbing prices, making it increasingly difficult for more individuals and families to afford the cost of living. The US federal minimum wage is currently set at \$7.25 per hour, a number which has not increased in over a decade; the last increase took effect in July 2009 (U.S. Department of Labor, 2020). The federal minimum wage held the greatest purchasing power in 1968, and since then it 'has lost 31 percent in purchasing power – meaning that full-time, year-round minimum-wage workers today have annual earnings worth \$6,800 less than what their counterparts earned five decades ago' (Cooper, 2019). Even though some US states have independently set minimum wages higher than the federal rate, nonetheless they are not livable wages; as of July 2020 'there was no state in which a minimum-wage worker could afford rent for the average two-bedroom apartment, if they only worked 40 hours a week'

(Rudden, July 2020). In 2015, according to data from the Bureau of Labor Statistics, 45% of the nation's 2.6 million minimum-wage workers were between the ages of 16 and 24; and a further 23.3% were between the ages of 25 and 34, demonstrating that a large portion of the workers struggling with inadequate wages in the US are Millennials and Generation Z (Desilver, 2017). Besides minimum-wage workers, the wages for all workers in the US have barely risen since the 1980s, according to data from the Federal Reserve Bank of St. Louis: 'The average annual growth in wages was only 0.3% between January 1989 and January 2016' (Maldonado, 2018). Meanwhile, 'the average annual growth rate for the cost to attend a four-year university was 2.6% per year', meaning that 'the cost to attend a university increased nearly eight times faster than wages did...making it harder for graduates to make ends meet while paying back staggering amounts of student loans' (Maldonado, 2018).

In the UK, the story is similar. According to the Office for National Statistics, wage growth has not kept pace with rising prices throughout much of the 2010s, as a result of the Recession and the economic disruptions caused by Brexit (Office for National Statistics, 2018). The UK's minimum wage system is more complex than that in the US, as it features four different rates based on age and one for apprentice workers. Enforcement of the minimum wage law is lacking, however, and some categories of workers, such as care workers and those in hospitality and catering, do not earn as much as the minimum wage mandates (Striking Women, 2013). Furthermore, the national minimum wage 'is not an adequate wage on which a worker can have a decent living standard. Because the minimum wage is set at such a low level...as well as because of poor enforcement, some families remain in poverty despite having members who work' (Striking Women, 2013). The UK Living Wage, which accurately reflects the cost of living, is only paid by employers who voluntarily choose to do so, and 2012 data from the accountancy firm KPMG showed that 20% of workers earn less than the UK Living Wage (Striking Women, 2013).

Inadequate wages, taken together with the other financial factors investigated previously, have resulted in only a slight increase in the median net worth of the US middle class: from 1995 to 2019, it has only risen by 7% (in fact it dropped in 2007 because of the Recession and has still not regained its peak from that year); in comparison, the median net worth of the wealthiest Americans, in the 80th to 99th percentiles, has risen 149% in the same period of time (Sawhill and Pulliam, 2019). This widening gulf in the stratification of wealth affects younger adults in particular, as it is further deepening age-based wealth inequality; between 1989 and 2016, the median net worth for a US household headed by someone aged 65 or older increased by 68%, while the median net worth for a household headed by someone aged 35 or younger decreased by 25% (Sawhill and Pulliam, 2019).

Young adults have received, and will likely continue to receive, the brunt of the disadvantages caused by the confluence of the many factors discussed in this section (higher tuition, debilitating student debt, higher housing costs, stagnant wages against inflation) along with the enormous damage of the Great Recession. The analysis of this section as a whole makes clear why Millennials and Generation Z are renting or staying with their parents, putting off major life events, ‘killing’ numerous industries, and placing such great importance on value for money: these strategies are how they manage to live on an unlivable wage. More importantly, when synthesised with the psychological and historical reasons for perceiving greater value in print books over e-books, this economic analysis reveals the wider picture of why the Millennial and Z Generations tend to prefer print.

Conclusion

My research demonstrates that Millennials and Generation Z tend prefer print books over e-books. It reveals the reasons why these generations, despite being ‘digital natives’,

nonetheless perceive greater value in print, and why value for money is a highly important factor in their purchasing decisions. Having experienced a slew of adverse financial circumstances during critical periods of the life cycle, Millennials and Generation Z have had their money mindsets moulded to prioritise value for money. When Amazon popularised e-books in the late 2000s and early 2010s, e-books' main advantage over print was clear: they were considerably, and reliably, cheaper. However, in 2020, now that e-book pricing has changed and many e-books are comparable in price to the print versions, the particularly price-conscious Millennial and Z generations tend to perceive print as holding greater value for the money, for the following reasons:

In addition to providing raw content, print also caters to the psychological predispositions of humans; it facilitates greater interaction with, and information gathering from, the text through haptics and other senses; it does not inherently facilitate distraction or multitasking; it does not cause as much eyestrain, headaches, or feelings of tiredness or stress; it better facilitates memory and comprehension (or the reader's perception of these); and it better facilitates navigation by means of spatial memory. Furthermore, the specific experiences of Millennials and Generation Z as children have psychologically conditioned them to favour print; having grown up reading, and being read, print books, their early reading experiences have shaped their conceptualisation of the *book* and what the reading experience should feel like; it is a format with which they are most familiar, and which evokes feelings of nostalgia; meanwhile, their early exposure to digital content for free via the internet has conditioned them to be less willing to pay money for content in a digital format; this devaluing has been deepened further by Amazon's original e-book pricing strategy in conjunction with the psychological phenomenon of price anchoring; additionally, Millennials' and Generation Z's unique experience of growing up amid the Digital Revolution has caused them to regard digital technology with relative indifference, viewing it

as a standard feature of everyday life rather than a fascinating wonder of human achievement, and thus causing them to be underwhelmed by e-books as a technological novelty.

There are many important values which e-books offer – primarily that they can be instantly downloaded without having to leave home, they can be quickly navigated using search tools and hyperlinks, they are more accessible for those with physical and/or cognitive disabilities, and they can be easily transported and stored because they do not take up physical space, among others – however, these values do not seem to outweigh the values of print in the eyes of most Millennials and Generation Z. Data from numerous sources, including my own survey, have shown this to be true.

My survey upholds the findings of outside studies, showing younger generations' substantial preference for both reading and buying print books, for both pleasure-reading and education. One limitation of my data is the relatively small number of Generation Z and Millennial respondents; if this survey were to be launched again with a higher number of respondents, results may be slightly different. Another possible issue is the time period in which I launched my survey, in the summer of 2020 in the midst of the historical COVID-19 pandemic; having transformed just about every aspect of daily life, lockdowns as a result of the pandemic may have caused more of my respondents to turn more frequently to reading e-books, thus influencing their answers to my questions. An even greater preference for print may have been revealed if I had launched the survey before March 2020, when lockdowns in the US and UK were introduced. Even despite these lockdowns, however, sales data in both countries show that online purchases of print books are still robust, as discussed in the introduction. Furthermore, my own data show that the pandemic has not significantly dampened readers' desire for print.

The research I have conducted may be expanded in the future with an investigation of whether Millennials' and Generation Z's format preferences are changing over time. My

research suggests that the psychological, historical, and economic influences at play will have lasting effects on these generations, however a future investigation to confirm this would be worth pursuing. The question of format preferences among the next generation, Generation Alpha, is also an interesting avenue of future research. Having revealed the enormous impact that historical and economic conditions can have on individuals' psychological conditioning, perception of value in products, and spending behaviours, my research may be used for predicting the influence of current and future events of a similar nature. One obvious event of interest is the COVID-19 pandemic, which has created an economic crisis of similar magnitude to (if not worse than) the Great Recession, especially in the US. Based on my findings, one can reasonably predict that the effects of this economic crisis on Generation Z and Generation Alpha will resemble the effects of the Great Recession on Millennials and Generation Z a mere decade ago. At the time of writing in the summer of 2020, however, it is too early to be certain of the pandemic's lasting economic impact.

In conclusion, my findings are useful for publishers to better understand their Millennial and Generation Z readers, who, as they age, will inherit an ever-greater share of the consumer market over time. This will help publishers to predict the general direction of the print and e-book markets for decades to come. In addition, understanding the reasons for these two generations' print preference will help publishers to foresee the preferences of rising generations who experience similar events and conditions at critical stages of the life cycle. The extinction of the printed book, which was feared by many in the 2010s, now seems a fever dream, for its fate is being passed into the hands of younger generations who still perceive great value in it, and will likely continue to do so throughout their lifetimes.

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Appendix A: Tables from Outside Sources

Table A1: Birth years and age ranges of currently living generations (Pew Research Center, 2015; Dimock, 2019).

Generation	Birth Years	Age Range in 2020
Generation Z	1997–2012	8–23
Millennials	1981–1996	24–39
Generation X	1965–1980	40–55
Baby Boomers	1946–1964	56–74
Silent Generation	1928–1945	75–92
Greatest Generation	1927 and earlier	93 and older

Table A2: Percentage of US adults who have read a print book and an e-book in the past twelve months (Perrin, 2016).

Age group	Read a book in any format	Read a print book	Read an e-book
18-29	80%	72%	35%
30-49	73%	65%	32%
50-64	70%	64%	24%
65+	67%	61%	19%

Table A3: Percentage of schoolwork done in hard-copy and digital formats (Baron, 2015, p. 84).

Format used for Schoolwork	United States	Japan	Germany
Hard-Copy	59%	75%	68%
Digital	41%	25%	32%

Table A4: Percentage of pleasure reading done in hard-copy and digital formats (Baron, 2015, p. 84).

Format used for Pleasure Reading	United States	Japan	Germany
Hard-Copy	73%	76%	69%
Digital	27%	24%	31%

Table A5: Technology usage among different generations in the US (Vogels, 2019).

Do you...	Millennials	Generation X	Baby Boomers
Own a smartphone	93%	90%	68%
Use the internet	~100%	91%	85%
Use social media	86%	76%	59%

Table A6: Frequency of internet usage among internet-users in the UK (Office for National Statistics, August 2019).

Frequency of Internet Use	16–24	25–34	35–44	45–54	55–64	65+
Daily or almost every day	100%	99%	98%	93%	83%	61%
At least weekly	0%	1%	1%	4%	5%	10%
Less than weekly	0%	~0%	0%	1%	1%	5%
Not used in the last 3 months	0%	0%	1%	2%	10%	24%

Appendix B: My Survey

Summary of Survey

I created my survey using Google Forms. It comprises a short introduction and 19 questions of varying types: multiple choice, checkboxes, numerical scales, and long-answer responses. After conducting one beta test on 15 July 2020, I then launched my survey on 17 August 2020 via the following social media platforms: my personal Twitter account; my personal Facebook account; the Facebook group The Emerson Mafia, a professional networking group for alumni of Emerson College of which I am a member; and my personal Instagram account. I received 153 responses between 17 August and 23 August 2020. The respondents belonged to a range of different age groups, which were stratified as follows: 17 or younger; 18–24; 25–29; 30–34; 35–39; 40–44; 45–49; 50–54; 55–59; 60–64; 65–69; 70–74; and 75 or older. Of the 153 responses, 48 were members of Generation Z (17 or younger, and 18–24), and 33 were Millennials (25–29, 30–34, and 35–39).

Table B1: Number of responses per age group: Generation Z and Millennials

Generation	Survey Age Group	Number of Responses
Younger Generation Z	17 or younger	0
Older Generation Z	18–24	48
Younger Millennials	25–29	18
Mid Millennials	30–34	10
Older Millennials	35–39	5
Combined	18–39	81

The remaining 72 responses were from members of Generation X (40–44, 45–49, and 50–54), Baby Boomers (55–59, 60–64, 65–69, and 70–74), and the Silent Generation/Greatest Generation (75 or older). For the purposes of my research I isolated and analysed the responses from Generation Z and Millennials, looking at the two generations both individually and combined. My survey can be viewed via this hyperlink:

https://docs.google.com/forms/d/e/1FAIpQLSfiAFlaUv2HcYDVFjskcSDWj0HG6gIWYDDe3x7NwxLdsKR0cA/viewform?usp=sf_link

Survey Content

Title: 'Book Format Preferences: Print versus E-Books'

Introduction:

Thank you for taking the time to fill out this survey.

Your responses to the following questions will provide important data for my postgraduate publishing dissertation, in which I am researching book format preferences among different age groups. The survey is anonymous and does not ask for your name. All responses are confidential and will only be used for research purposes. This survey is estimated to take approximately 15–20 minutes to complete. Please answer all questions to the best of your knowledge.

Thank you again for your help with my research.

Jocelyn Pontes
MA Creative Writing & Publishing, Kingston University

Questions:

1. Have you read at least one print book in the past year?
 - ☐ Yes
 - ☐ No
2. Have you read at least one e-book in the past year?
 - ☐ Yes
 - ☐ No
3. When you are reading a book for pleasure, how frequently is the book in print format?
1 = never in print format, 7 = always in print format
 - ☐ 1
 - ☐ 2
 - ☐ 3
 - ☐ 4
 - ☐ 5
 - ☐ 6
 - ☐ 7
4. When you are reading a book for pleasure, how frequently is the book in e-book format? 1 = never in e-book format, 7 = always in e-book format
 - ☐ 1
 - ☐ 2
 - ☐ 3
 - ☐ 4
 - ☐ 5
 - ☐ 6
 - ☐ 7

5. When you are reading a book for education (as a student or for professional development), how frequently is the book in print format? 1 = never in print format, 7 = always in print format
- ☐ 1
 - ☐ 2
 - ☐ 3
 - ☐ 4
 - ☐ 5
 - ☐ 6
 - ☐ 7
6. When you are reading a book for education (as a student or for professional development), how frequently is the book in e-book format? 1 = never in e-book format, 7 = always in e-book format
- ☐ 1
 - ☐ 2
 - ☐ 3
 - ☐ 4
 - ☐ 5
 - ☐ 6
 - ☐ 7
7. When you are reading e-books, which of the following devices do you use to access them? You may select more than one option.
- ☐ A dedicated e-reader device
 - ☐ A tablet
 - ☐ A smartphone
 - ☐ A desktop or laptop computer
 - ☐ I never read e-books
 - ☐ Other: _____
8. Between print books and e-books, which format do you tend to read more frequently? This may include books you have bought and books you have borrowed.
- ☐ Print books
 - ☐ E-books
 - ☐ I tend to read both formats equally
 - ☐ I tend to read neither print books nor e-books
9. Between print books and e-books, which format do you tend to buy more frequently? This may include books you have bought for yourself and for others.
- ☐ Print books
 - ☐ E-books
 - ☐ I tend to buy both formats equally
 - ☐ I tend to buy neither print books nor e-books

10. When you buy a book to read for pleasure, regardless of its format, how important is the factor of price in your decision whether or not to buy the book? 1 = very unimportant, 7 = very important
- ☐ 1
 - ☐ 2
 - ☐ 3
 - ☐ 4
 - ☐ 5
 - ☐ 6
 - ☐ 7
11. When you buy a book to read for education (as a student or for professional development), regardless of its format, how important is the factor of price in your decision whether or not to buy the book? 1 = very unimportant, 7 = very important
- ☐ 1
 - ☐ 2
 - ☐ 3
 - ☐ 4
 - ☐ 5
 - ☐ 6
 - ☐ 7
12. In a hypothetical situation in which you have unlimited money and price is not a factor in your decision, would you rather buy a book in print or e-book format? Please explain your reason(s) for this choice.
13. Do you believe that e-books are fairly priced? Why or why not?
14. Please write three things you like most about print books.
15. Please write three things you dislike most about print books.
16. Please write three things you like most about e-books.
17. Please write three things you dislike most about e-books.
18. If you have any other thoughts on print books, e-books, or digital publishing, please write them here.

19. Please select your age group. Privacy Note: this information will only be used for comparison of book format preferences between age groups. It will not be used for any other purpose, and it will not be used to identify individual respondents.

- ☐ 17 or younger
- ☐ 18–24
- ☐ 25–29
- ☐ 30–34
- ☐ 35–39
- ☐ 40–44
- ☐ 45–49
- ☐ 50–54
- ☐ 55–59
- ☐ 60–64
- ☐ 65–69
- ☐ 70–74
- ☐ 75 or older

Survey Data Analytics

The whole of my raw data can be viewed in the accompanying Excel workbook entitled ‘Appendix C_Dissertation Survey Data_Jocelyn Pontes’; as an interactive document, the Excel workbook best facilitates the viewing of long-answer responses. The following are the analytics of the numerical data, which are broken down into Generation Z, Millennials, and the two generations combined. Please note that percentages will not always add up to 100% due to rounding.

Question 1: Have you read at least one print book in the past year?

Table B2

Age group	Yes	No
Generation Z (18–24)	46 (96%)	2 (4%)
Millennials (25–39)	29 (88%)	4 (12%)
Combined (18–39)	75 (93%)	6 (7%)

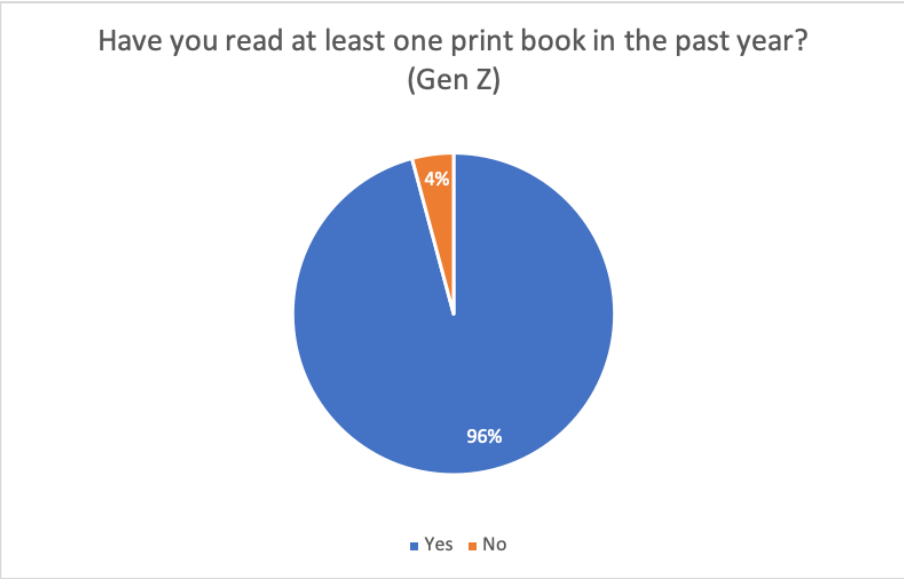


Figure B1

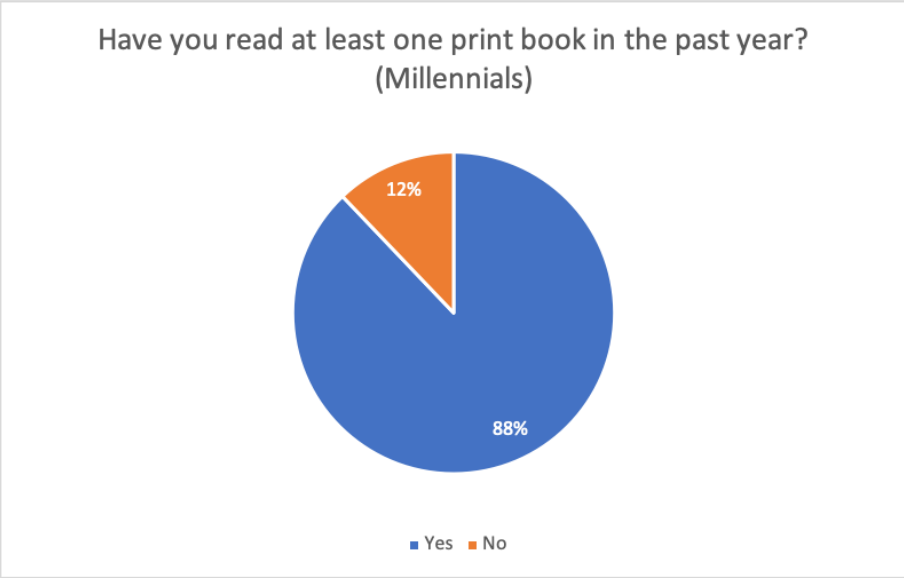


Figure B2

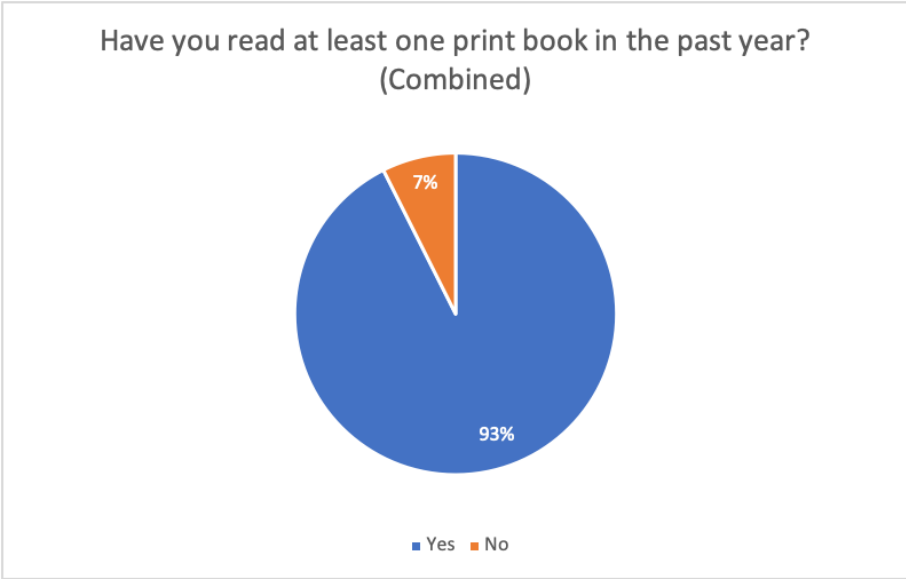


Figure B3

Question 2: Have you read at least one e-book in the past year?

Table B3

Age group	Yes	No
Generation Z (18–24)	31 (65%)	17 (35%)
Millennials (25–39)	20 (61%)	13 (39%)
Combined (18–39)	51 (63%)	30 (37%)

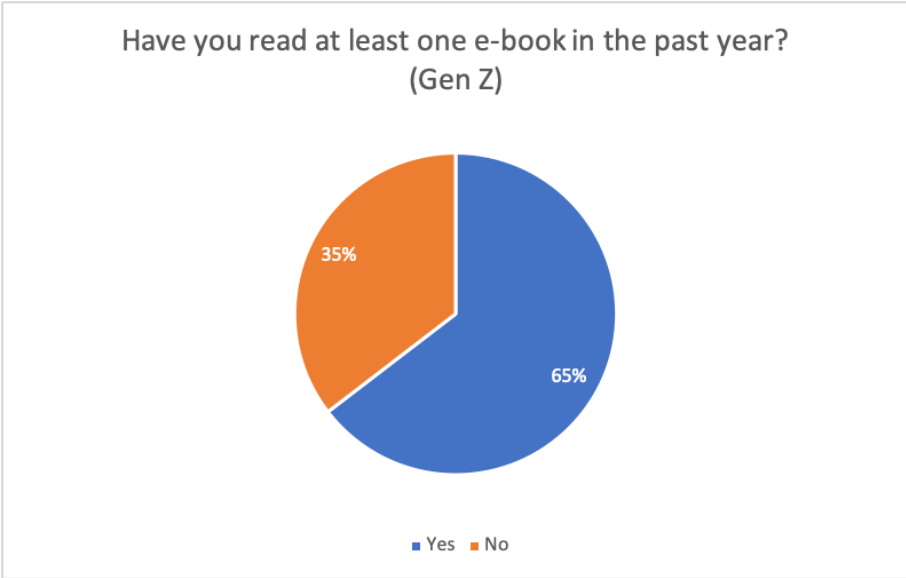


Figure B4

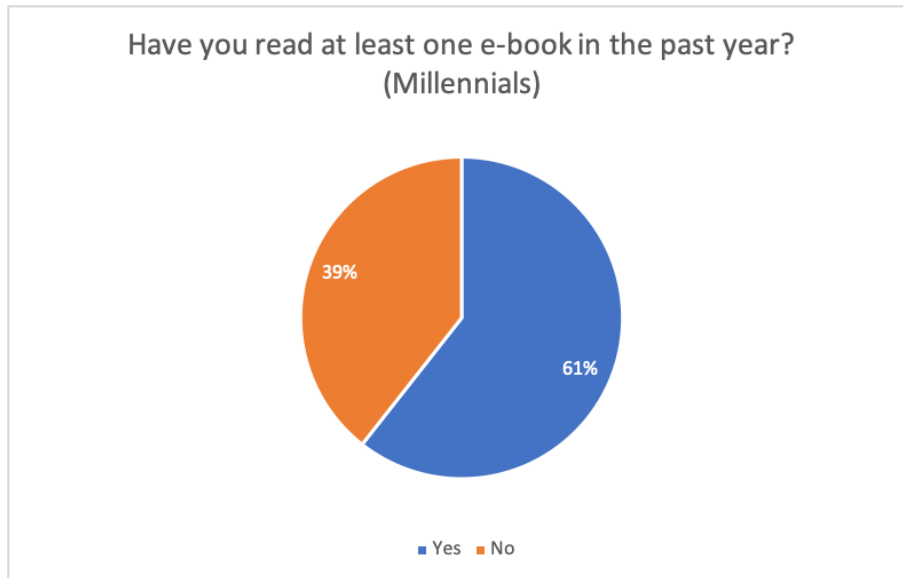


Figure B5

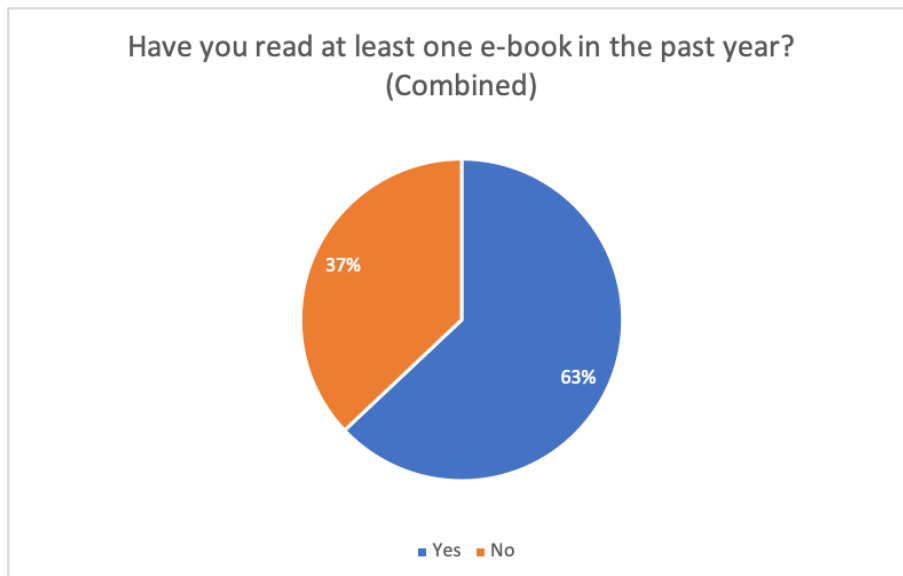


Figure B6

Question 3: When you are reading a book for pleasure, how frequently is the book in print format? 1 = never in print format, 7 = always in print format

Table B4

Age group	1	2	3	4	5	6	7
Generation Z (18–24)	0 (0%)	0 (0%)	3 (6%)	4 (8%)	8 (17%)	19 (40%)	14 (29%)
Millennials (25–39)	2 (6%)	2 (6%)	2 (6%)	3 (9%)	4 (12%)	4 (12%)	16 (48%)
Combined (18–39)	2 (2%)	2 (2%)	5 (6%)	7 (9%)	12 (15%)	23 (28%)	30 (37%)

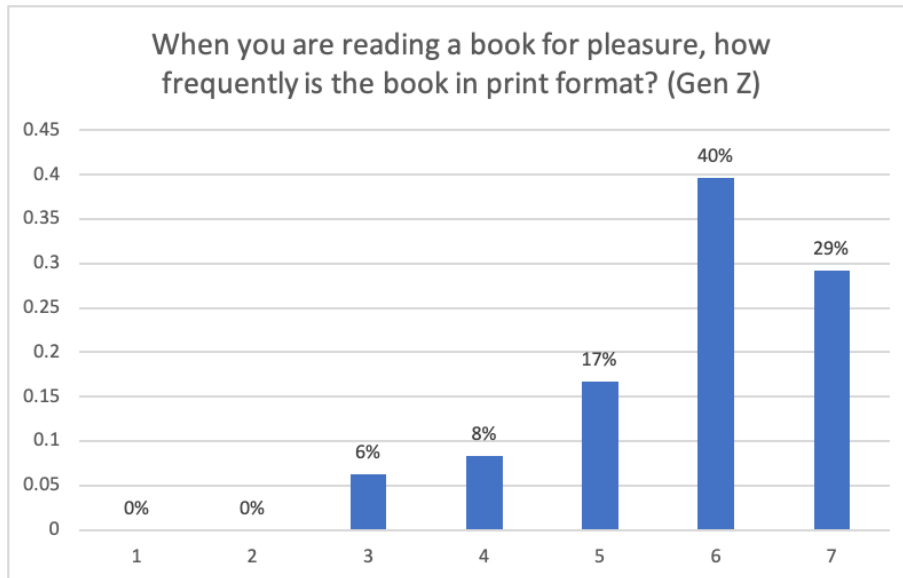


Figure B7

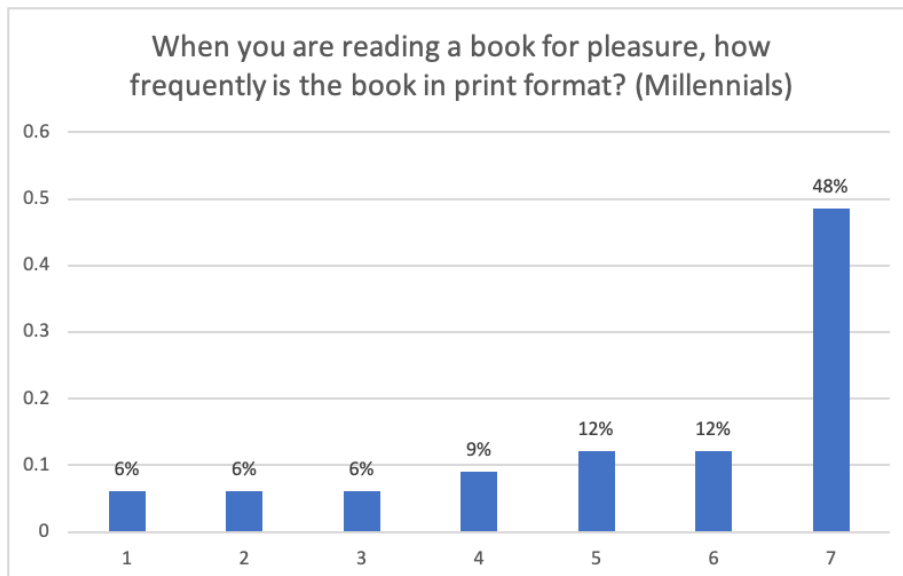


Figure B8

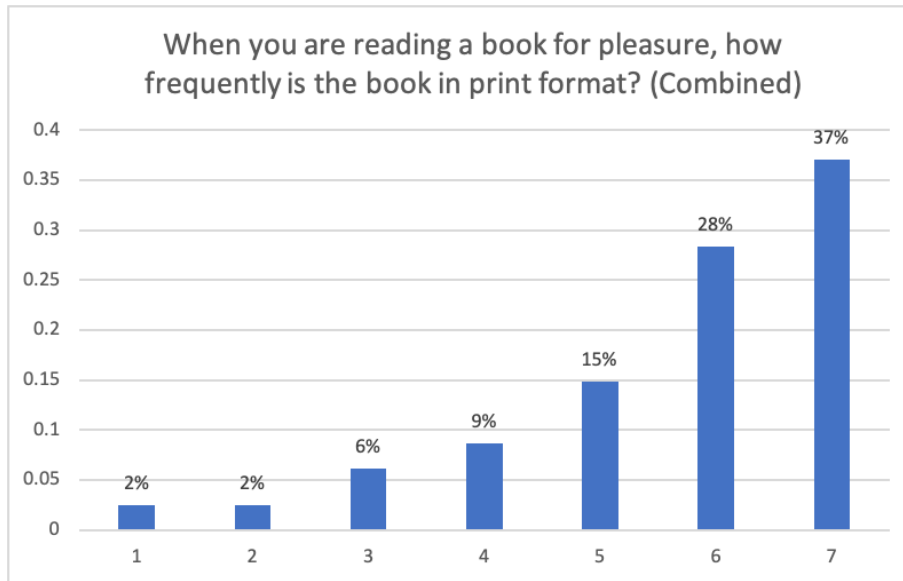


Figure B9

Question 4: When you are reading a book for pleasure, how frequently is the book in e-book format? 1 = never in e-book format, 7 = always in e-book format

Table B5

Age group	1	2	3	4	5	6	7
Generation Z (18–24)	13 (27%)	19 (40%)	5 (10%)	5 (10%)	2 (4%)	4 (8%)	0 (0%)
Millennials (25–39)	13 (39%)	6 (18%)	2 (6%)	5 (15%)	3 (9%)	2 (6%)	2 (6%)
Combined (18–39)	26 (32%)	25 (31%)	7 (9%)	10 (12%)	5 (6%)	6 (7%)	2 (2%)

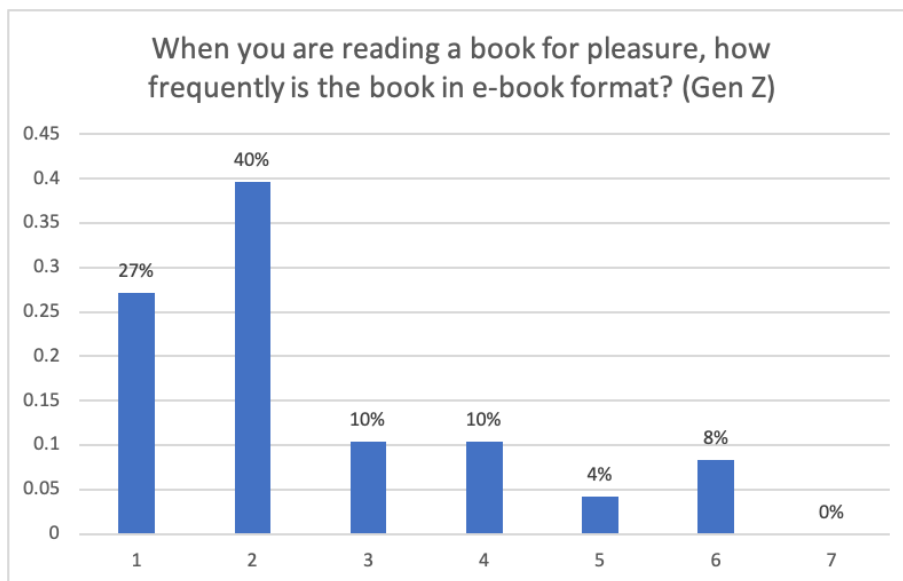


Figure B10

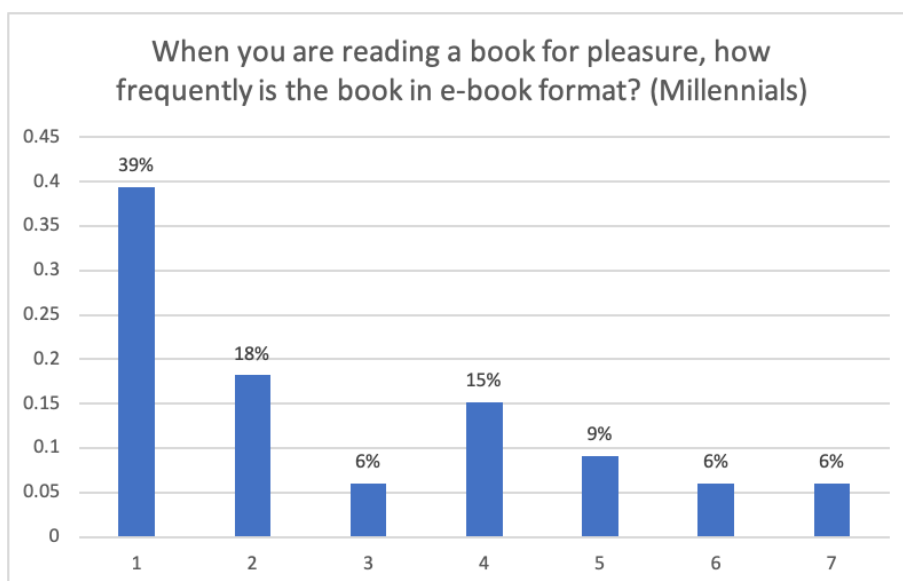


Figure B11

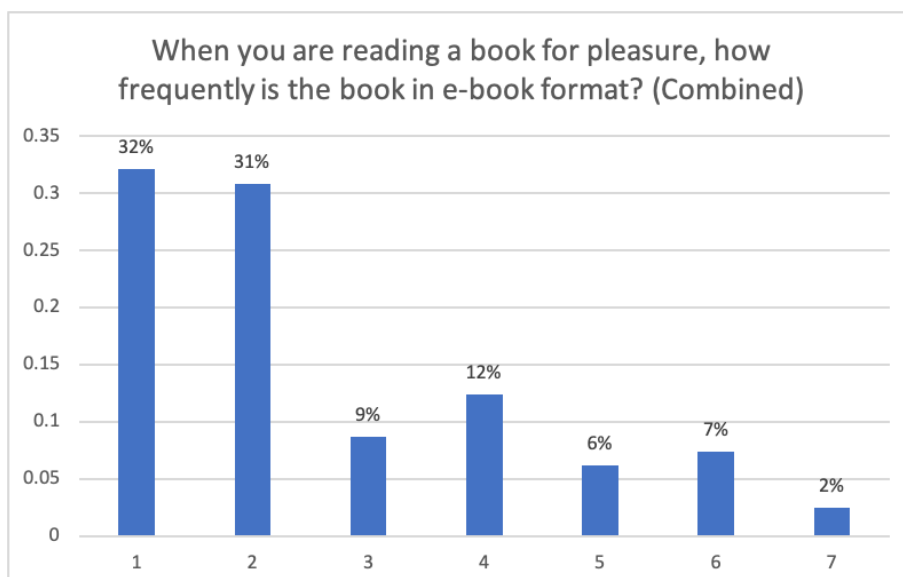


Figure B12

Question 5: When you are reading a book for education (as a student or for professional development), how frequently is the book in print format? 1 = never in print format, 7 = always in print format

Table B6

Age group	1	2	3	4	5	6	7
Generation Z (18–24)	1 (2%)	4 (8%)	5 (10%)	7 (15%)	12 (25%)	12 (25%)	7 (15%)
Millennials (25–39)	0 (0%)	2 (6%)	2 (6%)	3 (9%)	5 (15%)	9 (27%)	12 (36%)
Combined (18–39)	1 (1%)	6 (7%)	7 (9%)	10 (12%)	17 (21%)	21 (26%)	19 (23%)

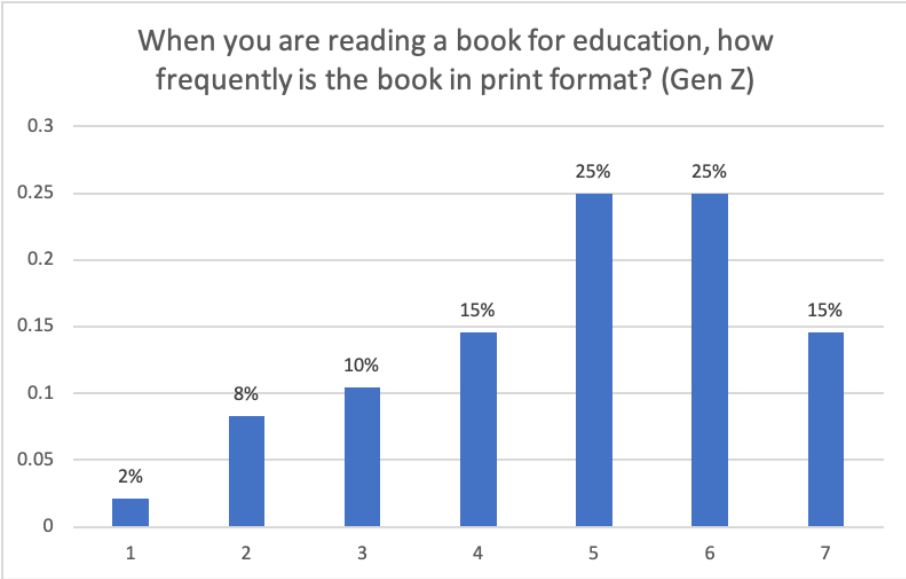


Figure B13

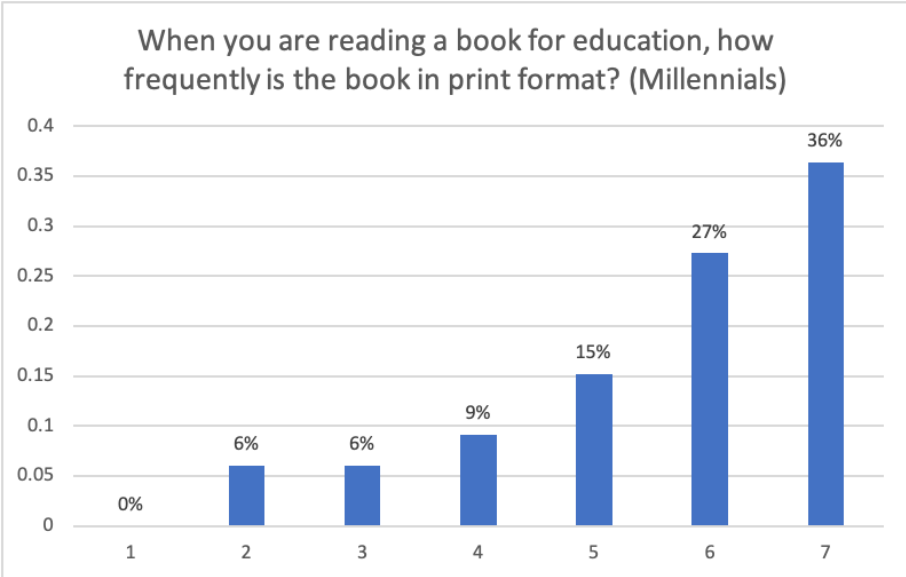


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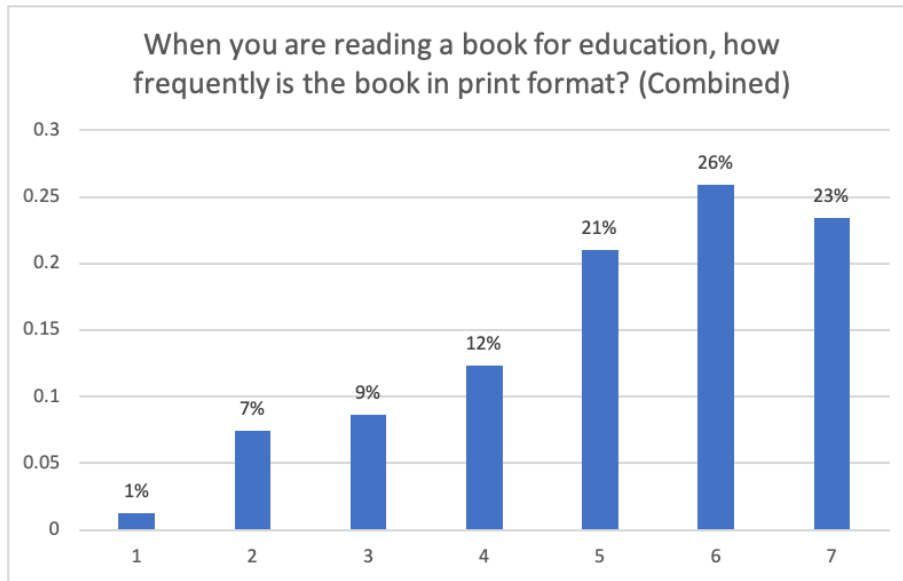


Figure B15

Question 6: When you are reading a book for education (as a student or for professional development), how frequently is the book in e-book format? 1 = never in e-book format, 7 = always in e-book format

Table B7

Age group	1	2	3	4	5	6	7
Generation Z (18–24)	5 (10%)	12 (25%)	11 (23%)	7 (15%)	4 (8%)	8 (17%)	1 (2%)
Millennials (25–39)	11 (33%)	7 (21%)	3 (9%)	4 (12%)	6 (18%)	2 (6%)	0 (0%)
Combined (18–39)	16 (20%)	19 (23%)	14 (17%)	11 (14%)	10 (12%)	10 (12%)	1 (1%)

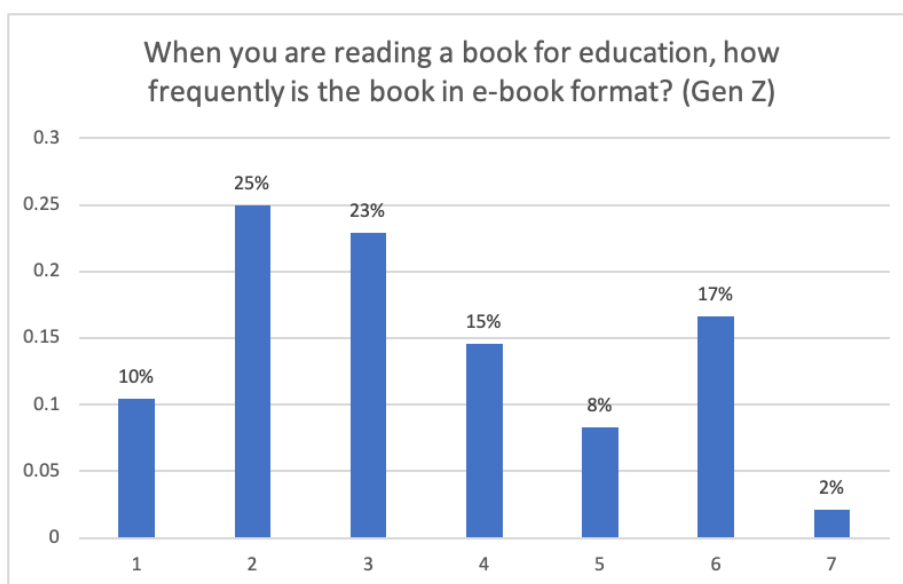


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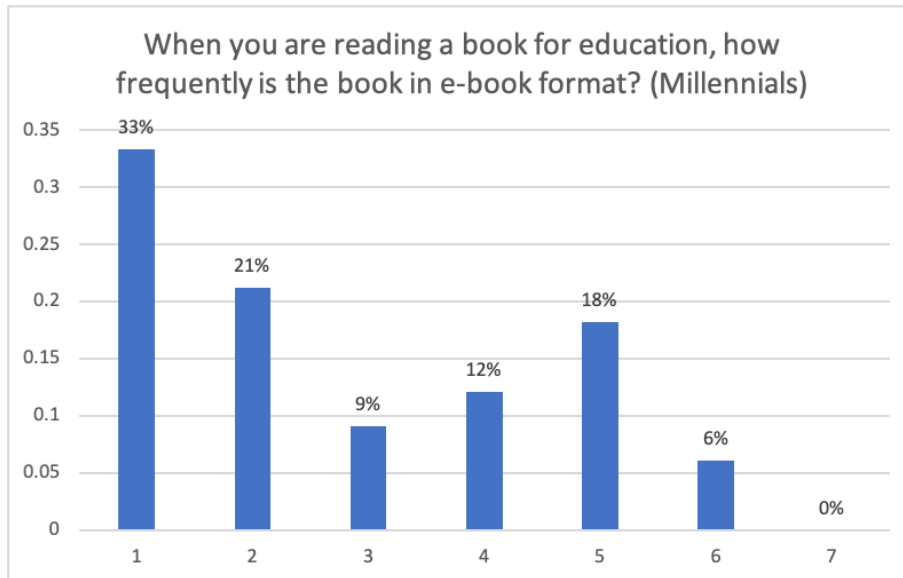


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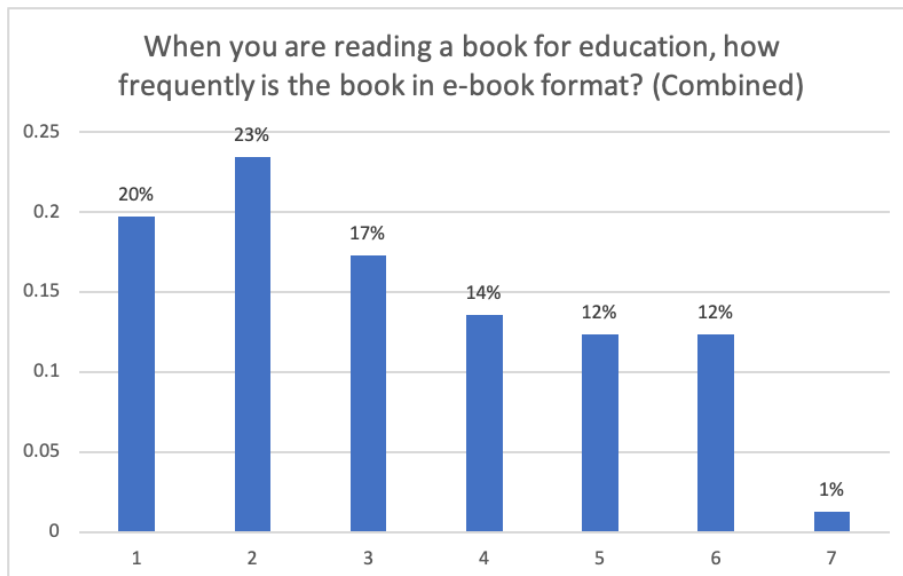


Figure B18

Question 7: When you are reading e-books, which of the following devices do you use to access them? You may select more than one option. (Percentages do not add up to 100% because many respondents selected more than one option.)

Table B8

Age group	E-reader	Tablet	Smartphone	Desktop / Laptop	I never read e-books	Other
Generation Z (18–24)	18 (38%)	13 (27%)	26 (54%)	33 (69%)	0 (0%)	0 (0%)
Millennials (25–39)	11 (33%)	8 (24%)	17 (52%)	19 (58%)	6 (18%)	0 (0%)
Combined (18–39)	29 (36%)	21 (26%)	43 (53%)	52 (64%)	6 (7%)	0 (0%)

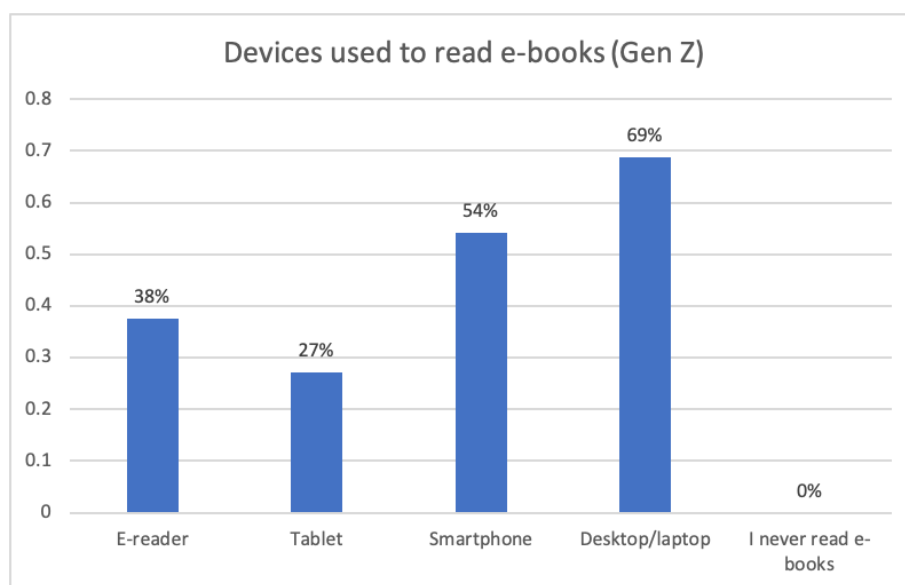


Figure B19

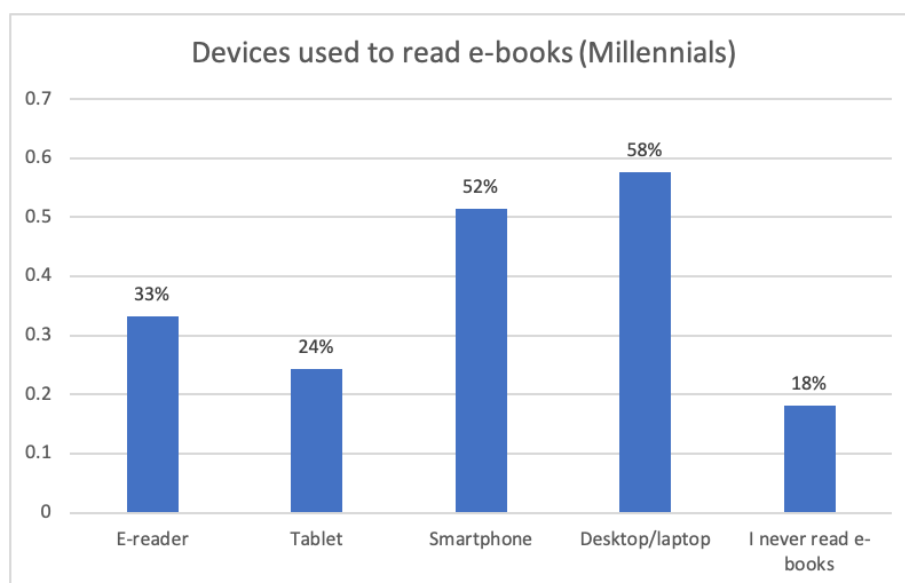


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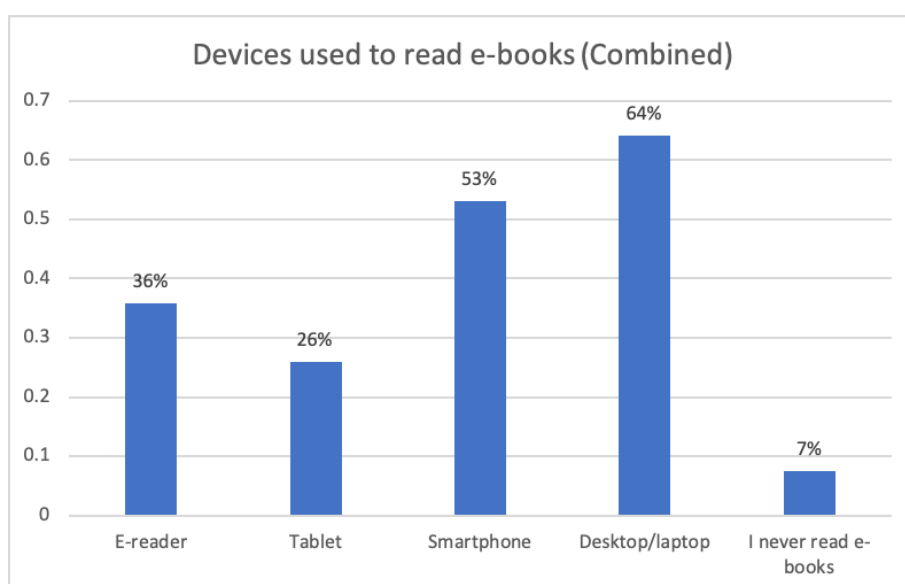


Figure B21

Question 8: Between print books and e-books, which format do you tend to read more frequently? This may include books you have bought and books you have borrowed.

Table B9

Age group	Print books	E-books	Both equally	Neither
Generation Z (18–24)	39 (81%)	5 (10%)	4 (8%)	0 (0%)
Millennials (25–39)	24 (73%)	6 (18%)	3 (9%)	0 (0%)
Combined (18–39)	63 (78%)	11 (14%)	7 (9%)	0 (0%)

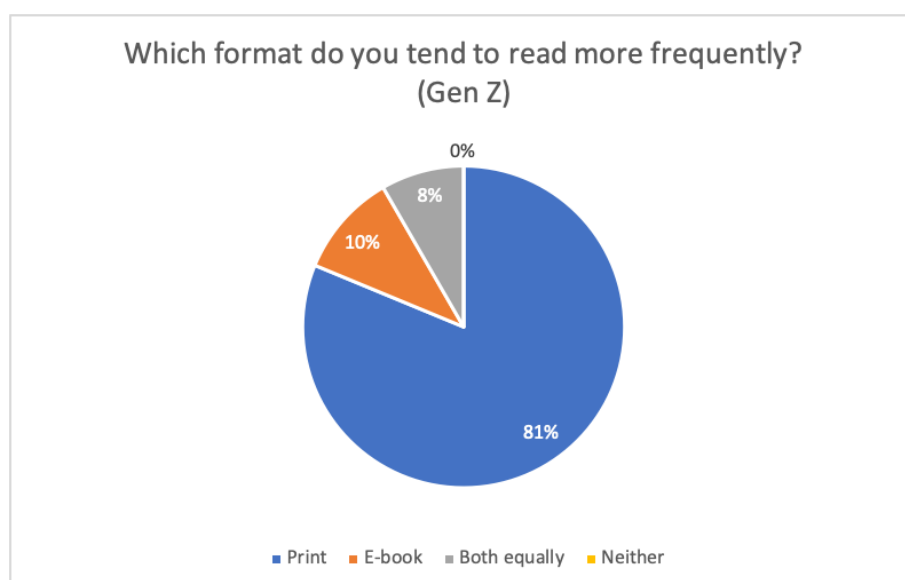


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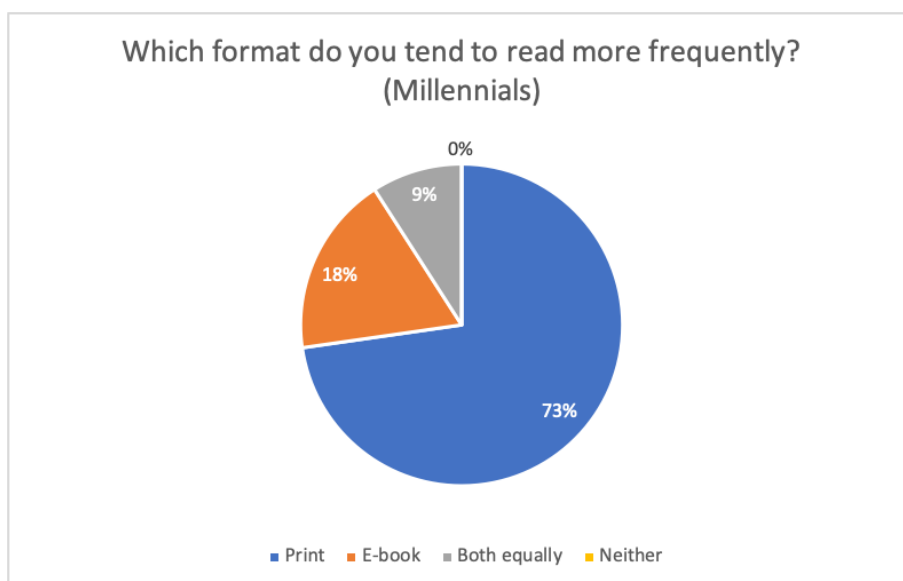


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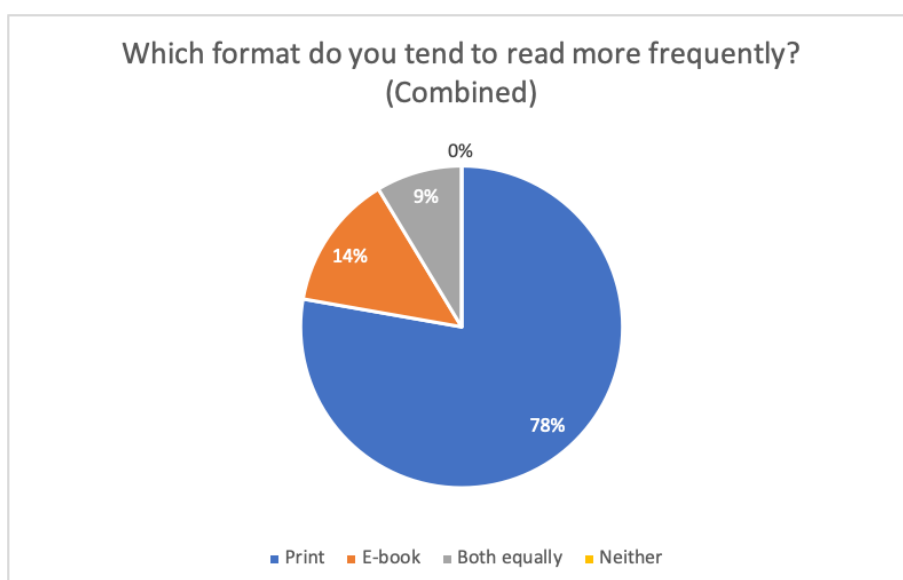


Figure B24

Question 9: Between print books and e-books, which format do you tend to buy more frequently? This may include books you have bought for yourself and for others.

Table B10

Age group	Print books	E-books	Both equally	Neither
Generation Z (18–24)	40 (83%)	5 (10%)	2 (4%)	1 (2%)
Millennials (25–39)	24 (73%)	6 (18%)	1 (3%)	2 (6%)
Combined (18–39)	64 (79%)	11 (14%)	3 (4%)	3 (4%)

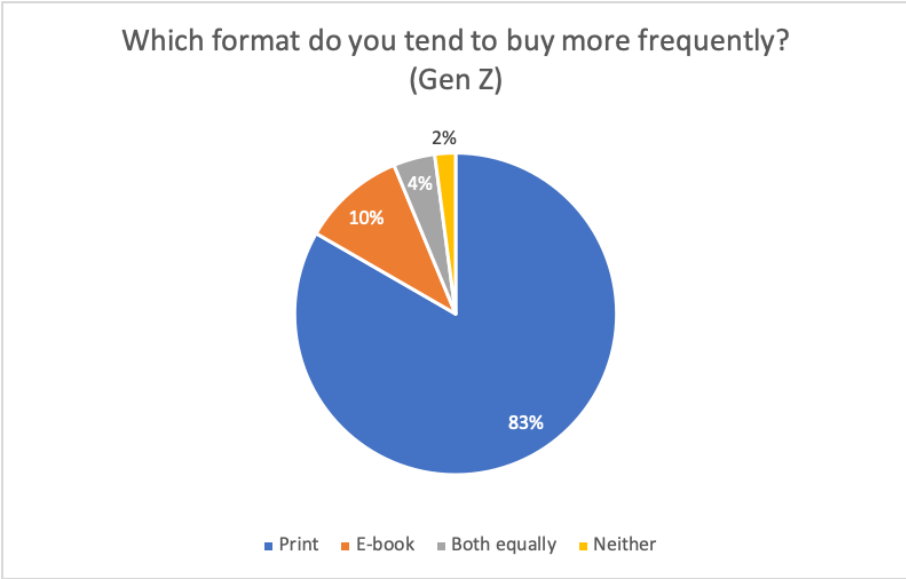


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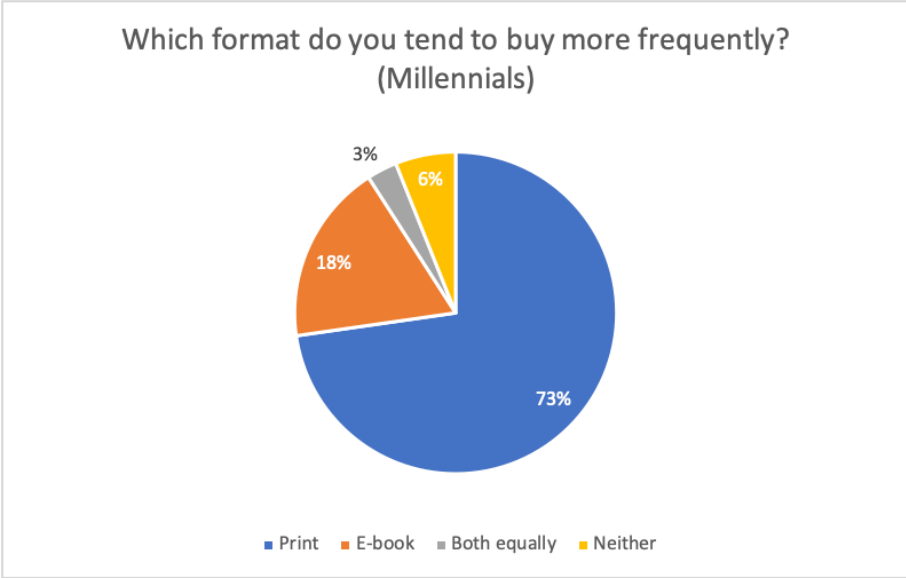


Figure B26

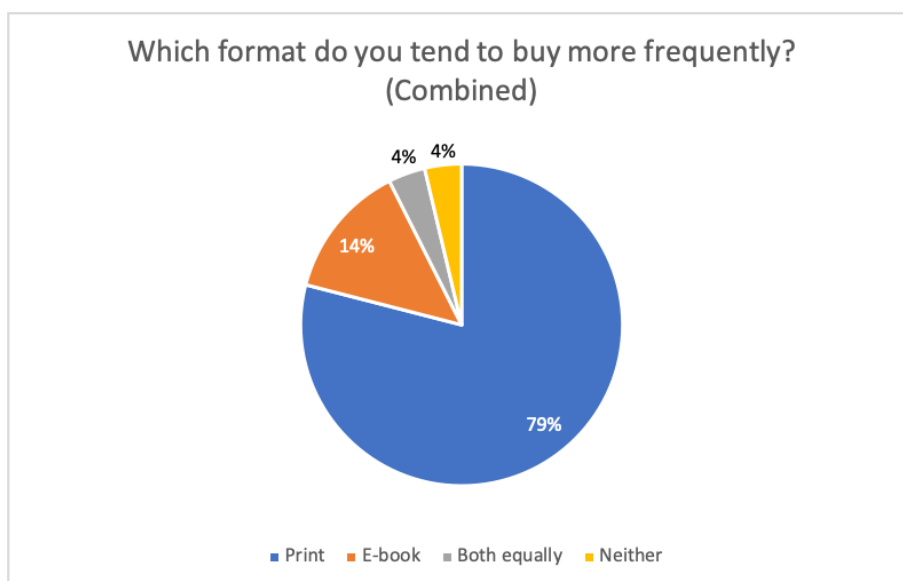


Figure B27

Question 10: When you buy a book to read for pleasure, regardless of its format, how important is the factor of price in your decision whether or not to buy the book? 1 = very unimportant, 7 = very important

Table B11

Age group	1	2	3	4	5	6	7
Generation Z (18–24)	1 (2%)	7 (15%)	2 (4%)	6 (13%)	14 (29%)	7 (15%)	11 (23%)
Millennials (25–39)	3 (9%)	3 (9%)	2 (6%)	4 (12%)	11 (33%)	8 (24%)	2 (6%)
Combined (18–39)	4 (5%)	10 (12%)	4 (5%)	10 (12%)	25 (31%)	15 (19%)	13 (16%)

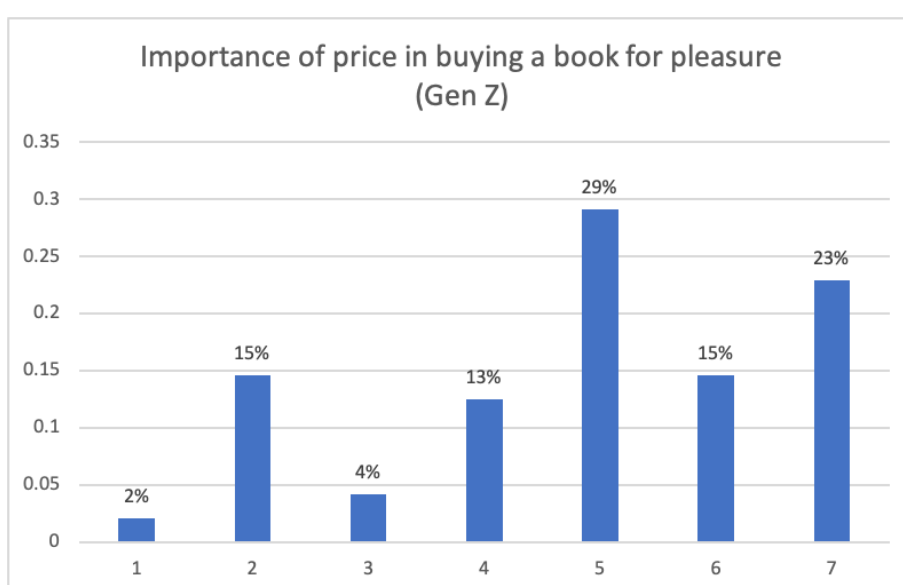


Figure B28

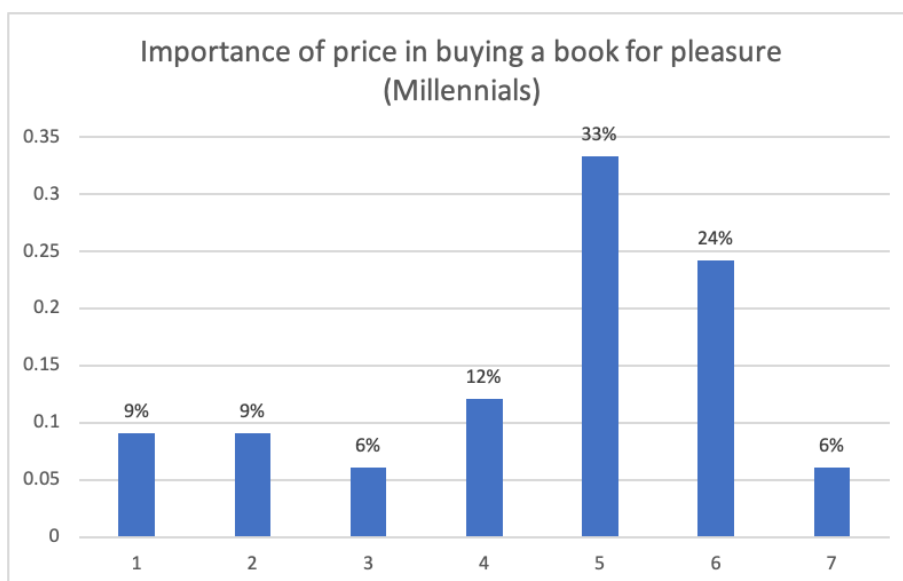


Figure B29

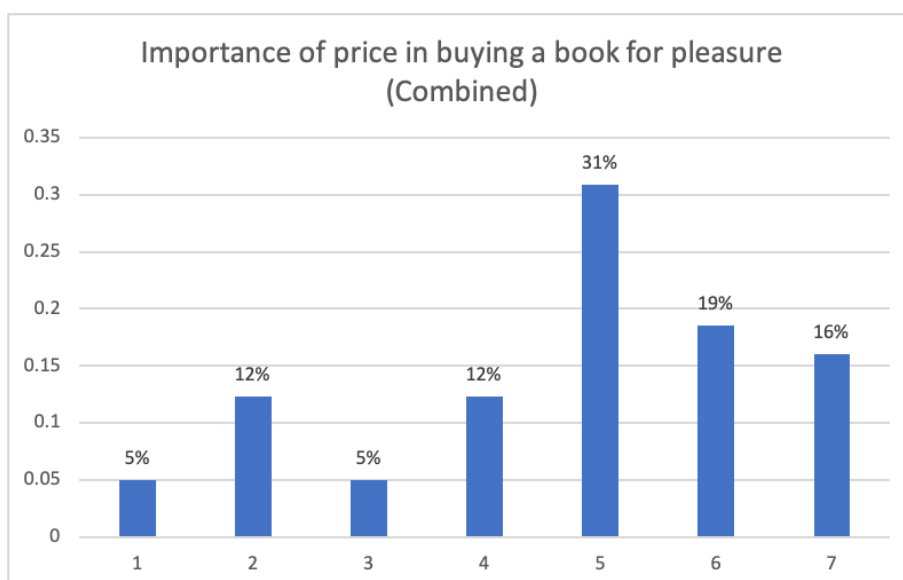


Figure B30

Question 11: When you buy a book to read for education (as a student or for professional development), regardless of its format, how important is the factor of price in your decision whether or not to buy the book? 1 = very unimportant, 7 = very important

Table B12

Age group	1	2	3	4	5	6	7
Generation Z (18–24)	3 (6%)	2 (4%)	4 (8%)	5 (10%)	6 (13%)	6 (13%)	22 (46%)
Millennials (25–39)	1 (3%)	2 (6%)	3 (9%)	8 (24%)	7 (21%)	5 (15%)	7 (21%)
Combined (18–39)	4 (5%)	4 (5%)	7 (9%)	13 (16%)	13 (16%)	11 (14%)	29 (36%)

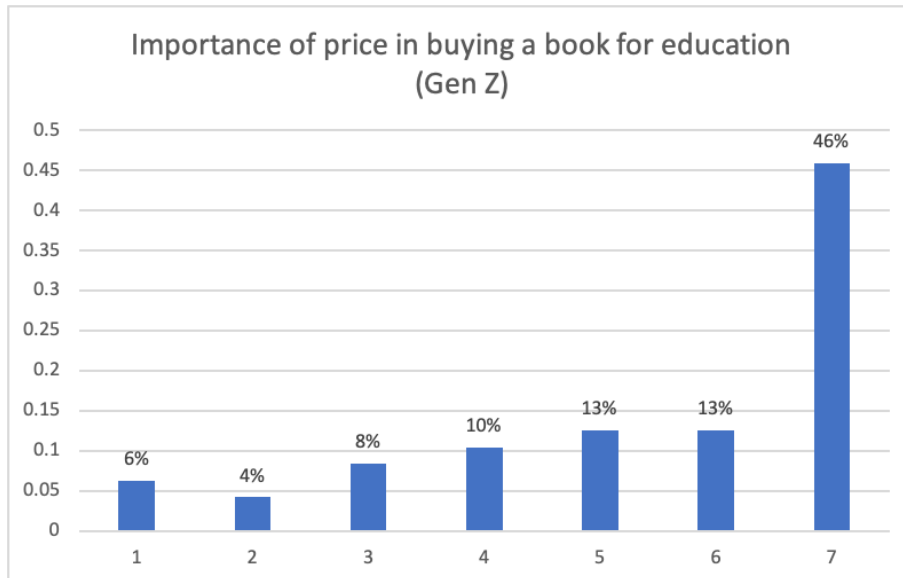


Figure B31

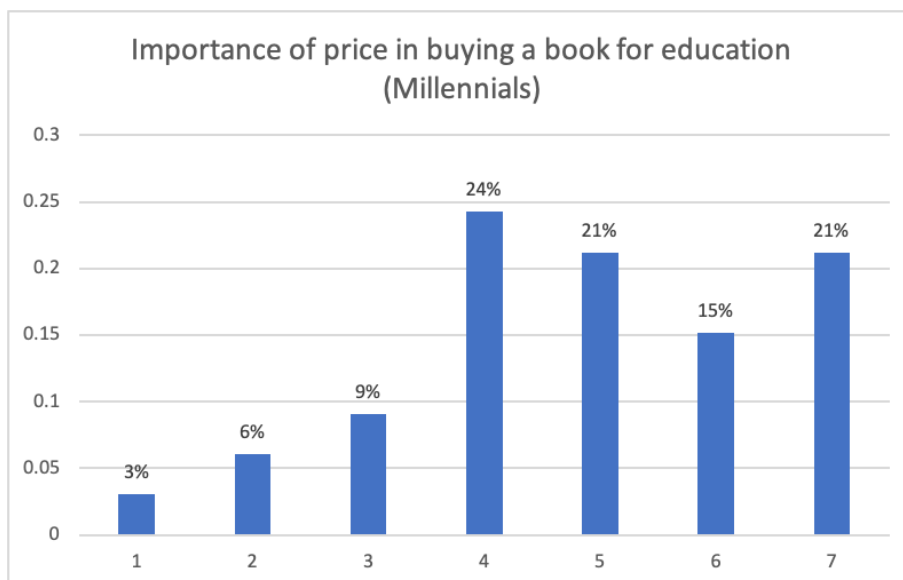


Figure B32

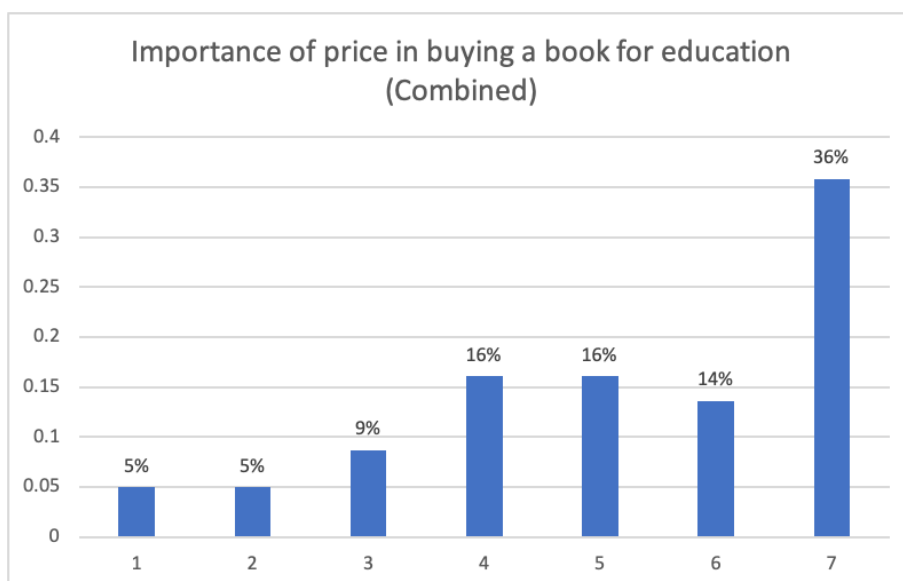


Figure B33

Question 12: In a hypothetical situation in which you have unlimited money and price is not a factor in your decision, would you rather buy a book in print or e-book format? Please explain your reason(s) for this choice. (This was an open-response question. The data below show the numbers of respondents who chose print, e-book, either, neither, or depends. Please see the Excel workbook for respondents' explanations for their answers.)

Table B13

Age group	Print books	E-books	Either	Neither	Depends
Generation Z (18–24)	44 (92%)	2 (4%)	1 (2%)	0 (0%)	1 (2%)
Millennials (25–39)	28 (85%)	3 (9%)	0 (0%)	0 (0%)	2 (6%)
Combined (18–39)	72 (89%)	5 (6%)	1 (1%)	0 (0%)	3 (4%)

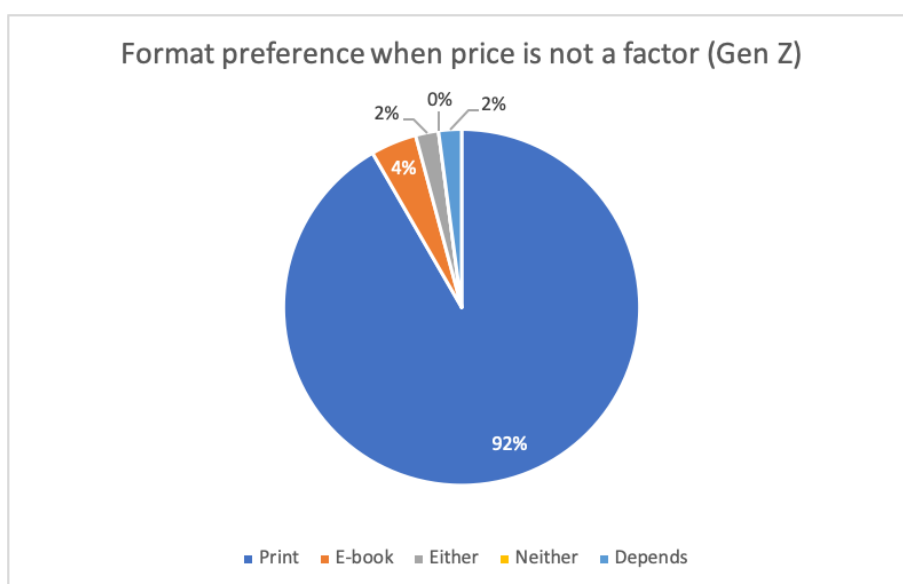


Figure B34

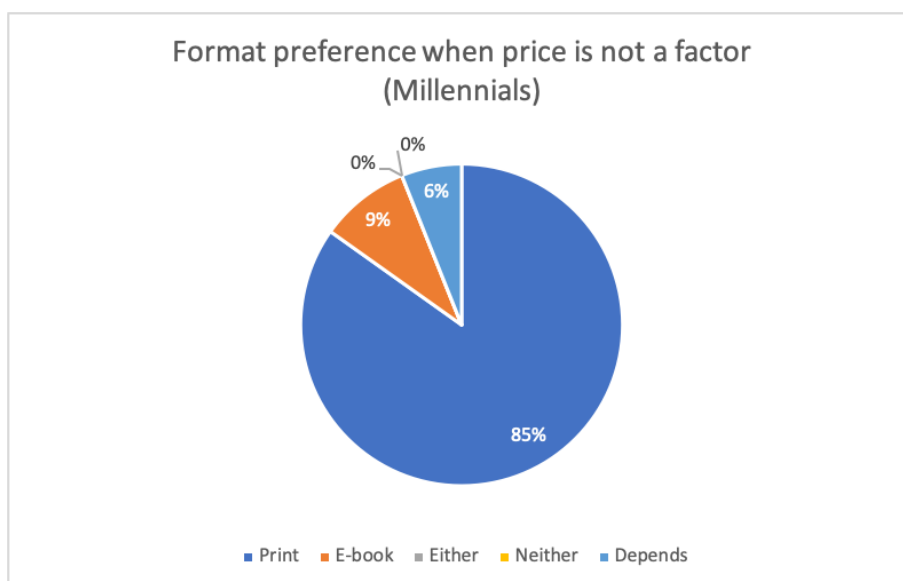


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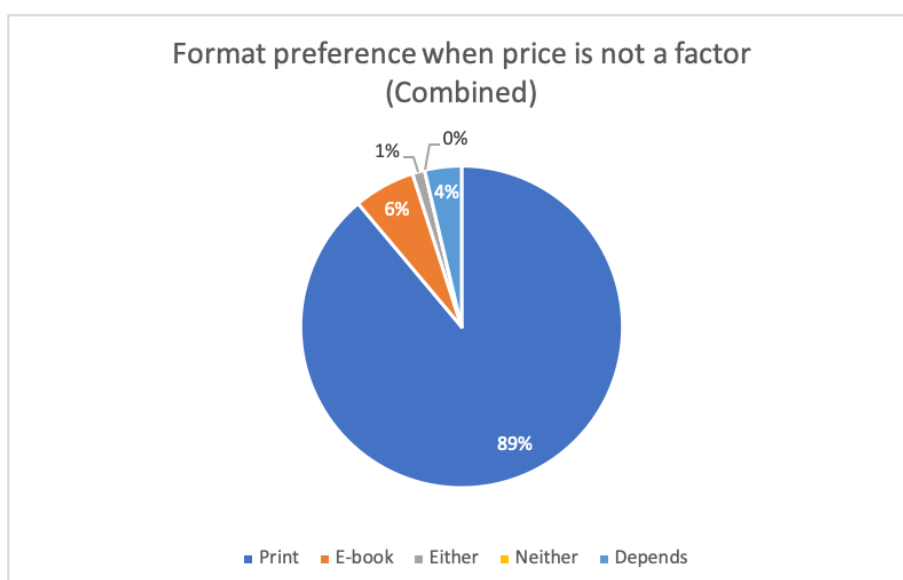


Figure B36

Question 13: Do you believe that e-books are fairly priced? Why or why not? (This was an open-response question. The data below show the numbers of respondents who answered yes, no, or unsure/depends. Please see the Excel workbook for respondents' explanations for their answers.)

Table B14

Age group	Yes	No	Unsure/Depends
Generation Z (18–24)	26 (54%)	8 (17%)	14 (29%)
Millennials (25–39)	12 (36%)	5 (15%)	16 (48%)
Combined (18–39)	38 (47%)	13 (16%)	30 (37%)

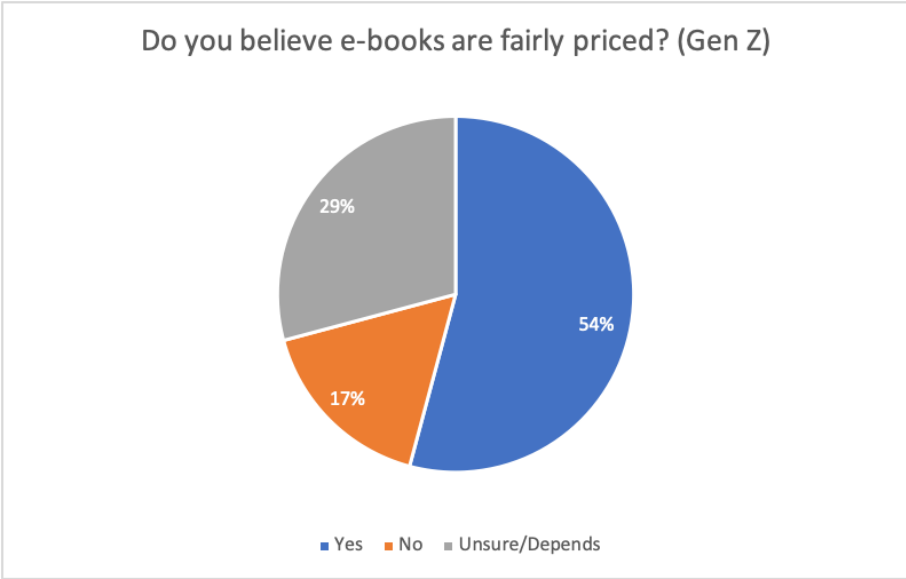


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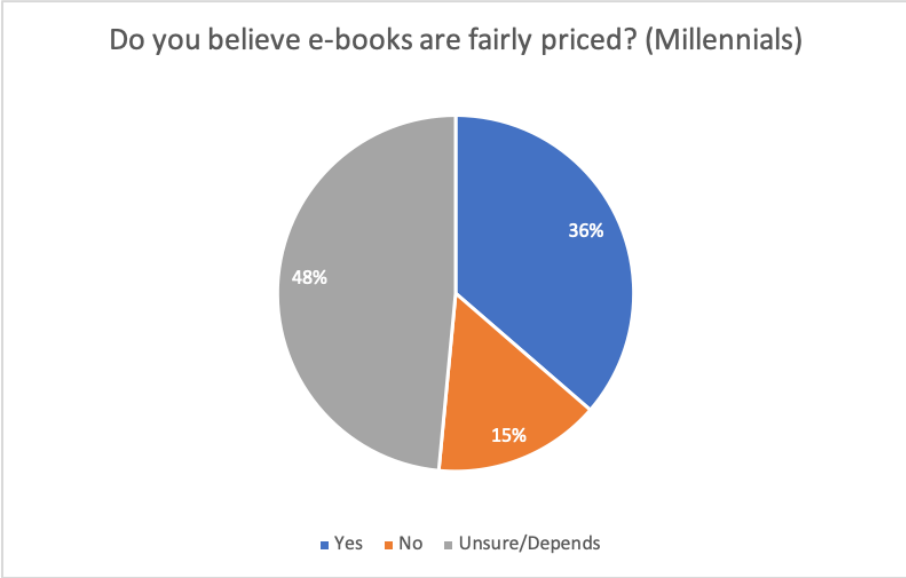


Figure B38

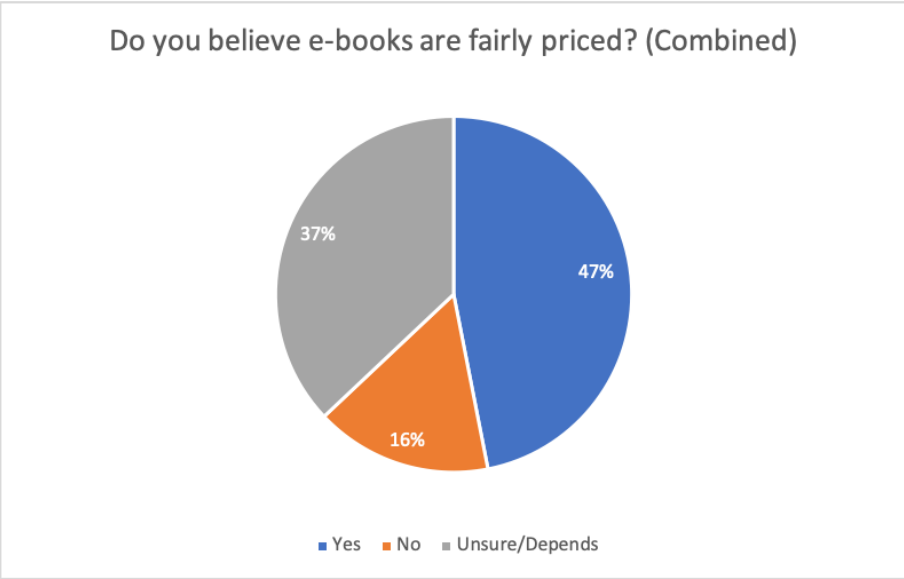


Figure B39