

Est.
1841

YORK
ST JOHN
UNIVERSITY

Cooper, Sarah ORCID logoORCID:

<https://orcid.org/0000-0002-2628-3518> (2022) The impact of haptics upon the consumption of journalistic content. Doctoral thesis, Leeds Beckett University.

Downloaded from: <https://ray.yorks.ac.uk/id/eprint/8084/>

Research at York St John (RaY) is an institutional repository. It supports the principles of open access by making the research outputs of the University available in digital form. Copyright of the items stored in RaY reside with the authors and/or other copyright owners. Users may access full text items free of charge, and may download a copy for private study or non-commercial research. For further reuse terms, see licence terms governing individual outputs. [Institutional Repository Policy Statement](#)

RaY

Research at the University of York St John

For more information please contact RaY at ray@yorks.ac.uk

THE IMPACT OF HAPTICS UPON THE CONSUMPTION OF JOURNALISTIC CONTENT

SARAH COOPER

A thesis submitted in partial fulfilment of the requirements of Leeds Beckett
University for the degree of Doctor of Philosophy.

September 2022

Acknowledgements

I would first like to thank my supervisors at Leeds Beckett University who have offered guidance, support and wisdom in developing the research, primarily Professor Jayne Raisborough and Dr Melanie Chan, both of whom have patiently offered their insight and encouragement. Thank you, Jayne and Mel, for investing your time and support, and building my confidence. Also thanks to Professor Emeritus Colin Pattinson and Dr Lisa Taylor, who were with me at the outset and helped me to navigate early waters of doctorate study, and to Professor Ruth Robbins and Alison Munn, who were instrumental in getting the study off the ground.

I am deeply grateful to Rob Orchard, co-founder of the Slow Journalism Company and co-editor of *Delayed Gratification* magazine (alongside Marcus Webb). Rob's support has been invaluable. Similarly, my sincere thanks to Professor Emma Wood, for guiding me in the use of the biometric-tracking device. I am indebted to both Rob and Emma for their kindness and generosity in providing me with the necessary resources to conduct the primary research.

Thank you to my colleagues at Leeds Beckett University and York St John University, and to friends and family who have supported me, and my sincerest thanks to the participants of the primary research who generously took time out of their busy schedules. Finally, a thank you to Peter, Samuel and Eva, who have supported and encouraged me throughout.

Abstract

Literature has examined the practice of journalism from a ‘content creation’ perspective: namely, the creation of articles and news that utilise the multiplatforms of print and online, whilst maintaining robust revenue streams. However, this thesis argues that the focus on content creation has been to the industry’s detriment, because it fails to account for the significance of the experience of content consumption. This research focuses on the print and digital publications of journalistic content, most notably magazines. There is discussion with regards the multisensory aspect of journalistic-content consumption, with a particular focus on our sense of touch, and how this may affect our interpretation of what we have read. I deploy a phenomenological methodology to explore the interpretation of the lived experience of consuming journalistic content. Primary research is conducted to ascertain the impact of haptics in the consumption of journalistic content, specifically content that is printed onto different qualities of paper. Interviews, focus groups and quantitative data gathered from a biometric-tracking device are key elements of the methodology, with collected data providing an insight into the degree to which haptics impacts upon our lived experience of consuming journalistic content. Rather than content being ‘king’, this thesis asserts that it is the consumption of the content that is supreme in the phenomena of journalism and its related artefacts. Consequently, the research is underpinned by phenomenology but also questions the physiological impact that the haptics of a journalistic brand has on the lived experience. The lived experience is shaped by sensory stimuli and this thesis focuses on the stimuli of our sense of touch and how it impacts upon the reader’s perception of the content they are reading and the brand within which it is published. We are experiencing a ‘haptic moment’ (Parisi et al, 2017) within media technologies, a moment wherein the importance of a stimulus to our sense of touch within our consumption of media content is more thoroughly appreciated. This

thesis contributes to the debate with qualitative data relating to the lived experience that suggests haptics can impact upon the consumption of journalistic content. It also complements existing studies that explore a lived experience from a quantitative perspective: it takes preliminary steps down an avenue that may give an insight into the physiological impact that haptics can have in the lived experience of journalistic-content consumption. Ultimately, a deeper understanding of the phenomena of journalistic-content consumption may assist in the repositioning of business models to ensure a firmer foothold on the digital landscape.

Table of Contents

Acknowledgements	2
Abstract	3
1. Introduction	10
1.1 Thesis title analysis and definitions	14
1.2 Journalistic practice	18
1.3 Aesthetics and perception	21
1.4 Hypothesis	22
1.5 Aims and objectives	26
1.6 An overview of the thesis structure	31
1.7 Reflective practice	35
2 Haptics Literature Review	38
2.1 Introduction	38
2.2 The fluidity of the term ‘haptics’	40
2.3 The three ‘uses’ of haptics	41
2.4 The ‘framing’ of content	45
2.5 Sensory disconfirmation	48
2.6 Taste, sight and touch: influences on perception	50
2.7 Senses and impact	53
2.8 The influence of touch	55
2.9 Maternal touch and attachment theory	57
2.10 Cognitive consequences of sensory stimuli	58
2.11 The motivation to touch: the NFT scale	61
2.12 Haptic variation and dissonance	66
2.13 Haptics and the eBook	70
2.14 The journalistic product as an object	74
2.15 Haptics, kinaesthesia and brand perception	76
2.16 Haptic technology	78
2.17 Enhancing the experience	81
2.17.1 The Tate Sensorium experience	84
2.18 Phenomenology and news	89
2.19 Conclusion	94
3 3. Methodology	96

3.1	Introduction	96
3.2	Introducing phenomenology	97
3.3	Classical and contemporary phenomenology	100
3.4	Key principles of IPA	104
3.5	Research design: a mixed-methods approach	108
3.6	Ethical considerations	111
3.7	Methods	112
3.7.1	Focus groups	112
3.7.2	Interviews	114
3.7.3	Samples	116
3.8	Participants	122
3.9	Overview of research design	124
3.9.1	Delayed Gratification focus groups	128
3.9.2	E4 Empatica Interviews	130
3.9.3	Analysis	133
3.9.4	Correlation	137
3.9.5	Themes	139
3.10	Reflexivity in practice	139
3.11	Research philosophies and process	142
3.12	Conclusion	144
4	<i>Findings</i>	147
4.1	Introduction	147
4.2	Themes	148
4.2.1	Theme 1: Consumer behaviour	148
4.2.1.1	Archiving	148
4.2.1.2	Rituals and experience	152
4.3	Theme 2: Brand perception	159
4.3.1.1	Trust	159
4.3.1.2	Premiumisation	161
4.3.2	Theme 3: Sensory and physiological	164
4.3.2.1	Quantitative Interpretative Phenomenological Analysis (QulIPA)	165
4.3.2.2	E4 Empatica readings	168
4.3.2.3	Participant A - Joe	169
4.3.2.4	Participant B - Eva	172
4.3.2.5	Participant C - Andrew	174
4.3.2.6	Participant D - Martha	176
4.3.2.7	Participant E - Samuel	178
4.3.2.8	Participant F - Lucy	181
4.4	Impact of haptics: differentiations	184
4.4.1	Qualitative analysis: discourse	184

4.5	Conclusion	186
5	Discussions	190
5.1	Introduction	190
5.2	'A state of flux'	191
5.3	Consumer behaviour	193
5.4	Brand perception	197
5.5	Brand perception and journalism studies	201
5.6	Sensory experience	203
5.6.1	Sensory experience and journalism	203
5.7	Haptics and marketing	206
5.7.1	Sensory experience and journalism studies	207
5.8	Conceptual framework development: journalism	215
5.8.1	Technological disruption	215
5.9	Conceptual framework development: methodology	226
5.10	Findings overview	227
6	Conclusion	229
6.1	Introduction	229
6.2	Evaluation	231
6.3	Methodology review	235
6.3.1	Self-assessment manikin (SAM)	239
6.3.2	Geneva emotional wheel (GEW)	241
6.4	Haptics in a changing landscape	243
6.4.1	Sensory engagement	244
6.5	Future work	246
	Appendices	249
1.	Appendix 1: Information and consent sheet	249
2.	Appendix 2: Example of quantitative questions for participants	252
3.	Appendix 3: Indicative discourse of focus-group three discussion	253
4.	Appendix 4: Quantitative overview of participants' survey responses wearing an E4 Empatica wristband	254
5.	Appendix 5: Qualitative and quantitative data from focus-group two (four parents)	254
6.	Appendix 6: Indicative discourse of consumer behaviour - archiving	255
7.	Appendix 7: Indicative discourse of consumer behaviour - ritualism	255
8.	Appendix 8: Indicative discourse of brand perception - trust	255

9.	Appendix 9: Indicative discourse of brand perception - premiumisation	
		257
10.	Appendix 10: Indicative overview of qualitative responses	257
11.	Appendix 11: Example of responses from preliminary questionnaire	
		258
12.	Appendix 12: Example of transcribed interview	259
13.	Appendix 13: Sample images of focus groups showing interaction with the 'cues' (the issues of <i>Delayed Gratification</i>).	261
14.	Appendix 14: <i>Delayed Gratification</i> contents pages.	267
15.	Appendix 15: Extract of <i>Delayed Gratification</i> magazine	270
16.	Appendix 16: eMotion entrance and exit surveys	275
17.	Appendix 17: List of participants	285
	References	288
	Bibliography	306

List of tables

Table 1 Aim and sub-aims of research	26
Table 2 Sub-aims and objectives of research	29
Table 3 Aim and research questions of research review	188
Table 4 Traditional workflow	223
Table 5 Traditional production cost	223
Table 6 <i>Vogue</i> media kit 2021	224
Table 7 Conceptual framework	225

List of figures

Figure 1 Peck and Childers (2003b, p432)	64
Figure 2 'A unique experience at the Tate Sensorium Arch Exhibition' (Crouquet, 2015)	86
Figure 3 'Tate Sensorium' (Stoneman, 2015)	88
Figure 4 Primary-research workflow	128
Figure 5 Overview of cyclical analysis of lived-experience interpretations	133
Figure 6 Cycle one: 'chunking' (Alase, 2017)	135
Figure 7 Cycle two: further honing the themes established in cycle one (Alase, 2017)	135
Figure 8 Cycle three: the 'essence' of the experience (Alase, 2017)	136
Figure 9 A (100 GSM); B (170 GSM) and C (250 GSM)	154
Figure 10 The overall EDA reading of Samuel	165
Figure 11 The overall EDA reading of Joe	170
Figure 12 EDA reading of 0.16	171
Figure 13 EDA reading of 0.17	171
Figure 14 The EDA complex of Eva	172
Figure 15 EDA reading of 0.06	173
Figure 16 EDA reading of 0.04	173
Figure 17 The EDA complex of Andrew	174
Figure 18 EDA reading of 10.62	176
Figure 19 EDA reading of 10.40	176
Figure 20 The EDA complex of Martha	178
Figure 21 EDA reading of 0.08	178
Figure 22 EDA reading of 0.01	179
Figure 23 The EDA complex of Samuel	180
Figure 24 EDA reading of 2.94	181
Figure 25 EDA reading of 2.18	182
Figure 26 The EDA complex of Lucy	183
Figure 27 EDA reading of 0.19	184
Figure 28 EDA reading of 0.13	184
Figure 29 F-reading-pattern eye tracking (2006)	214
Figure 30 The self-assessment manikin	241
Figure 31 Geneva emotional wheel	243

1. Introduction

‘In summer or early autumn, you can find in gardens pieces of newspapers baked by the sun, as dry and brittle as dead leaves... Other pieces of paper, in winter, are pulped, crumpled, stained; they return to the earth. Others which are new and shiny, white and palpitating, are as sedate as swans... Sometimes I simply feel them, looking at them closely; at other times I tear them to hear the long crackling noise they make...’ (Sartre, 1938, p21).

This is the experience of the protagonist in Jean-Paul Sartre’s first novel, *Nausea* (1938). The protagonist, Antoine Roquentin, takes increasing offence at the disparity between the ‘essence’ and ‘existence’ of a person or object, reflected throughout the novel in a number of scenarios, including his rumination on the tangible quality of paper following an unsuccessful attempt at picking up a scrap of paper that he sees on the ground. The inability to physically touch and pick up the paper is one of his moments of existential doubt, where he questions the impact of his existence and what it is ‘to be’. Yet, in this quote, Roquentin is in a positive mood, where he details his penchant for paper and the way it can feel. I start with this quote for a number of reasons: it’s this enjoyment of tangible interaction with an object that enhances many a media consumer’s experience of a printed product. For instance, the feel of the paper stock and the weight of the publication. Secondly, Sartre was an existential phenomenologist: thus, the discussion of essence and the experiential aligns to that school of thought. It is the experiential - in the context of journalistic-content consumption - that this thesis will argue has been undervalued within the business model of publications (Groot Kormelink and Costera Meijer, 2019; Mathews, 2021; Zhou et al, 2021).

The study will be underpinned by phenomenology, similar to Bengtsson and Johansson (2021), which explored the intertwinement of news journalism, human behaviour and meaning making (see Chapter 2: Haptics Literature Review). Phenomenology is the study of experiences, and the study of structures within that

lived experience (Solomon, 2006). A notable theme of phenomenology is 'intentionality', where our conscious acts or our lived experiences are intentional and often connected with an object (Sokolowski, 2000; Romdenh-Romluc, 2011). Roquentin experiences the unfulfilled desire of picking up the paper; he ruminates the quality of paper in terms of sensory stimuli (the acoustic stimuli of sound of the 'crackling noise', for instance). Sokolowski (2000) argues that the intention to interact with an object transcends a spectrum of lived experiences throughout our existence, where our conscious awareness, perceptions and interpretations shape those experiences: the conscious awareness of a child and their teddy bear, and the perception that the bear offers comfort; the perception of a cube, physically seeing one side of a cube, and yet being consciously aware that there are other sides to the cube. The notions of interaction with an object, awareness, our consciousness and perception lend themselves neatly to my exploration of the lived experience of reading a newspaper or magazine (Bengtsson and Johansson, 2021; Groot Kormelink and Costera Meijer, 2021). Similar to Roquentin's experience, I explore how journalistic-content consumers seek to have tangible interaction with the published content; to 'hear the 'crackling noise' of the turning of pages as their progression through the content is audibly marked. I am interested in the sensory aspect to the experience, where the character's sense of sight, touch and hearing are stimulated.

This brings my work to haptics. Yoshitaka (2013) defines haptics as the sense of touch being in a transitory state, thus demonstrating that there is a dynamism to haptics that extends beyond merely the touch of an object. This thesis proposes that the consumption of journalistic content encompasses more than simply reading the actual content itself: it involves interaction with the 'container' of that content: a glossy magazine, for instance, or a large-format broadsheet newspaper. The haptical quality in this regard relates to the paper stock, binding and format of the

publication but the thesis should not be simply regarded as a decry against 'print is dead', though print should certainly not be considered 'irrelevant' (Mathews, 2021, p2): it provides an indication of the significance for many readers of the haptical quality of a publication. However, the impact of technological advances in the creation of content has steered the industry away from an appreciation of that experiential significance.

The conventional methods of the journalism industry (such as the printing of publications) were radically changed by the invention of the world wide web in the 20th century. Freely available content meant that fewer readers were buying physical editions of newspapers or magazines, ultimately sounding the 'death knell' for the printed product (Bird, 2019). For journalism companies, being able to cut out the cost of printing and distribution of a physical product was attractive, and thus focus was shifted from paper quality, supply chains and delivery to publishing digital content widely on devices that required none of the costs of the traditional method of distributing publications (namely, the printed publication) (Whittaker, 2008; Le Masurier, 2012). A number of journalism companies in the UK have taken such an approach. For instance, the international company Condé Nast closed the printed monthly edition of the women's magazine *Glamour* in 2017, opting for a biannual print version and prioritising the online publication instead (Rawlinson, 2017). In 2018, the UK music magazine *NME*, published by Time Inc UK, ceased its weekly print edition to focus solely on creating content for its website (Sweeney, 2018). This shift in practice is not exclusive to UK publishing: in early 2022, the print editions of six titles in the US were closed, including the internationally licensed women's magazine *InStyle* and the pop-culture title *Entertainment Weekly* (Reuters, 2022). Furthermore, there has been a shift in research focus: research relating to the 'future of journalism' explored the ways in which multimedia journalism could be created and published, and how the multimedia journalist required upskilling with

regards the technology to enable that multimedia content to be published (Franklin, 2008; Bird, 2009; Curran, 2010), as opposed to how the content was being consumed.

And yet, certain printed publications prevailed, as it became clear that there were readerships who preferred consuming content contained in a printed publication (Le Masurier, 2012; 2015). The international fashion brand *Vogue*, for instance, is published in print format in 27 regions, with the UK version launched in 1916, and currently has a global print readership of 22.5 million (Cox and Mowatt, 2012; Condé Nast, ND). The UK-published, weekly TV-listings magazine *Radio Times*, has an average weekly circulation of nearly 481,000 (ABC, 2022; Radio Times, ND). Such consumer behaviour - where the tangible 'artefact' that is a magazine or newspaper is preferred (Fortunati et al, 2015) - can be similarly observed in book publishing, with printed books currently steadfast despite the launch of Kindles and the eBook market (Gerlach and Buxmann, 2011; Bury, 2013; Coccozza, 2017). There appears a loyalty to the experience of consuming content, not just to the content itself. For instance, when *The Independent*, a British newspaper, closed its print edition in 2016, the assumption was that readers would simply move to the content online. Yet, within three months the number of readers of the online edition fell below the number *before* the print edition closed (Jackson, 2016) (see Chapter 4: Discussions). These developments indicated that there was 'something else' to the lived experience of journalistic-content consumption that extended beyond the content itself. This research will position haptics as the 'something else' and by doing so, will argue that the reconsideration of the journalism-reader's lived experience from that of solely 'content consumption' to 'experiential consumption' will contribute to a development of business models that take into consideration that impact of haptics on the lived experience.

1.1 Thesis title analysis and definitions

Consideration of the thesis title ('The impact of haptics on the consumption of journalistic content') will help clarify further the remit of the research. The word 'impact' directly refers to the phenomenological aspect of interacting with magazines and newspapers. I am interested here in consumer behaviour, brand perception and physiology. My research takes the unconventional approach of positioning it within a phenomenological framework but adopting a mixed-methods design: the impact will be explored qualitatively, via focus groups and semi-structured interviews, but also quantitatively, via physiological measurements and surveys. Consumers are compelled to engage with journalistic content because they seek entertainment and information (Whittaker, 2008). The word 'impact' relates to the potential that haptics has in making a difference to the way in which readers interact with and interpret content. This thesis will explore if and how haptics influences the experience, or phenomenon, of reading a newspaper or magazine, be it interpretatively and/or physiologically.

'Haptics' is the science, or study, of touch, and does not merely relate to our sense of touch, but to a holistic, dynamic approach to this particular sensory perception (Yoshitaka, 2013). It can be considered to be a broader term that encompasses more than just our sense of touch; more than the texture of an object. The broadness of this term has resulted in fluidity in interpretation, though the general consensus is that the term derives from Greek (Hannaford and Okamura, 2008; Paterson, 2017; Jones, 2018; see 2.2. 'The fluidity of the term 'haptics'). Haptics is 'always that larger human system of perception that deals with touch,' (Paterson, 2007, p32). In other words, the weight, the movement, and ultimately the individual's interaction with the object is encompassed by the term. In relation to this study, 'haptics' relates specifically with the substrate upon which the content is

displayed. This could be paper stock; this could be a digital device. I contend that there is a phenomenological aspect to the consumption of journalistic content, and as such there is validity to the argument that there are stimuli involved in that consumption with regards to our senses. For instance, as a sighted person, when I read a short news article, it would be sensible to assume that there is an optical impact: the sense of sight is used to look at the words (the process involved in reading and making sense of the words is cognitively related). Similarly, by holding the 'device' upon which the content is displayed (whether that be a printed product, or hardware in the shape of a mobile phone), there is a stimulus of the sense of touch. From taking this approach, it is reasonable to argue that there is a somatosensation aspect to the consumption of journalistic content, and as such, is simply more than just the content itself. This reinforces the counter-argument against the notion that the most important element of that consumption is the content itself: in other words, that the content is king (Gates, 1996; Odlyzko, 2001; Miller, 2008; Müller and Christandl, 2019).

In terms of the word 'consumption', there will be a distinction between 'reading' and 'consumption' in this study. 'Reading' will relate specifically to the textual content of a magazine or newspaper, both digital (online) or in print (offline), as opposed to reading images. 'Consumption' encompasses additional elements relating to the interaction with journalistic content. For instance, when we simply read an article, we're focused on the words. However, when we *consume* an article, we have additional forms of content to absorb, process, interpret and make sense of, such as the haptical quality of the printed article or the hypertextuality of the online article (Sussex, 1996; Carr, 2010; Jabr, 2013; Flood, 2014; Groot Kormelink and Costera Meijer, 2019; Bengtsoon and Johansson, 2021). There are the images accompanying the written article (in my experience, often referred to in industry as 'body copy') to process, as well as the general layout of the content, the haptical

quality, and the ability to archive the article for future reference. The general layout will include the 'page furniture'. This includes aspects of the design that help the reader navigate the article (Whittaker, 2008), which in turn impacts upon the lived experience of consuming that content. For instance, we have the headline - the title of the piece - that gives some indication as to the subject of the article, and should capture our attention. Complementing the headline is the standfirst - the general introduction to the piece that is often positioned underneath the headline - plus the folio (page numbers in the printed product), byline (name of writer), pull quotes (extracts from the body copy), and image caption(s). And there's even more to simply reading the body copy and navigating the page furniture: there is the quality of the paper stock and binding of the printed product, and the feel of the device on the digital product; there's the possibility of audio and video online, and the disruption of online pop-up ads and hypertextuality (Sussex, 1996); there's the ability to archive and cherish the printed product within our homes, and the ability to bookmark a digital page within the browser on our computers. These elements combine to constitute the lived experience of journalistic-content consumption, and assist with the reader's sensemaking of the content that has been consumed (Zhou et al, 2021). These 'cues', or 'affordances' (such as the quality of printing, and of paper stock) in the consumption experience influence readers' perception of the content (Zhou et al, 2021).

The term 'journalistic' relates to the angle-led and topical stories produced by journalists. This can include a range of editorial structures, such as news pieces, features, profiles, reviews, reportage, and opinion-based columns (Pape and Featherstone, 2006). Despite the disruptive technologies that have occurred in this 'fourth industrial revolution' involving the internet and its related digital landscapes (Majumdar et al, 2018), key responsibilities of the journalist have remained constant: report on events in an accurate way so that the reader can gain a certain

degree of comprehension regarding the world within which they inhabit (Fleming et al, 2006). Journalistic writing is non-fiction, and good journalistic writing engages as well as informs (Whittaker, 2008). Similarly with the disruptive technology of television and the transference of print-journalism skills to that of broadcast (Jones and Salter, 2012), there has been the transference of print-journalism skills to that of online. Another point to consider with regards the thesis is the reference to 'writer'. The research explores the journalistic mode of writing, and as such, any reference to 'writer' will be specific to that of the journalistic, unless specified. The impact of haptics can be explored in terms of fiction writing, and some of the principles examined in this study may be applicable to book publishing as to magazine and newspaper publishing. For instance, I include discussion on the haptic dissonance of eBooks (Gerlach and Buxmann, 2011). However, this study focuses on the 'writer' as a journalist.

Finally, the word 'content' refers to the forms that have been chosen to tell these stories. In printed newspapers and magazines, these forms are limited to still images and text - both longform (for instance, lengthy and in-depth articles, such as reportage pieces) and shortform (for instance, shorter articles, such as news reports or 'list articles', where the article offers a list of points related to a specific subject). Online, these forms include still images and text, but also video and audio. There is also the interactive element within the digital context with regards to online content, and the notion of hypertextuality: the ability to click on a word, and be led to another online page, often saturated in content. Hypertextuality is considered a disruption to the reading process: that linked keyword in online content is an obstacle to the linear progression of reading from one side of the page to another: 'The breaking of the traditional dependence on linearity has arguably been the most radical effect of technology on text,' (Sussex, 1996, p53). The participants of this research inevitably discuss their interaction with the journalistic content, regardless

of the platform upon which it is published and as such, there is qualitative data relating to the lived experience of hyperlinks interrupting the lived experience of consuming online content. In short, the title of this thesis establishes my area of research as being positioned in journalism, but establishes a link between the influence of touch stimuli in the experience of consumption.

1.2 Journalistic practice

The research explores the current literature surrounding the subjects of media consumption, haptics, and journalistic practice. The originality of my work lies in bringing together the three elements that are usually studied in isolation. Haptics, for instance - which is the sensory focus of the study - has previously been positioned in disciplines such as media studies (Parisi and Archer, 2017), artistic studies (Mosely, 2016), technology (Paterson, 2007), marketing (Krishna and Morrin, 2008) and journalistic practice (Holmes and Nice, 2012; Fortunati et al, 2015). As mentioned, there will also be consideration as to the regards of 'disruptive technologies', which refers to an advancement in technology that causes significant shifts across a context (be it culturally, socially, globally, or industrial). The world wide web is one such disruptive technology, which created new methods of news-media distribution - as well as news-media consumption. A number of authors have published work that relates to these new methods of news-media distribution, exploring not just the changes in journalistic production, but also the alterations in reader consumption. For instance, Shirky (2010), Carr (2010), Lanier (2010), Hayles (2012) and Krotoski (2013) discuss the impact of the digital realm on our cognition, habits and behaviours, while Rohumaa and Bradshaw (2011), Jones and Salter (2012) and Graham et al (2015), for example, explore the ways in which the practice of journalism has shifted to incorporate more multimedia, storytelling methods.

The significance of our sense of touch underpins the rationale relating to the endurance of technology (such as the printing press, and printing on to paper) in an age when the digital landscape has been a disruptive force. The findings of this research echo the notion put forward by the Microsoft founder Bill Gates in his influential 1996 article that while the content of a website has an important role in terms of engaging with the user, replication of content across multimedia platforms is ineffectual in maintaining consistent engagement with the user because of the experiential aspect that each platform (be it print or online, for instance) has on our consumption of content. Gates argues that to be successful online, “a magazine can’t just take what it has in print and move it to the electronic realm. There isn’t enough depth or interactivity in print content to overcome the drawbacks of the online medium”, (Gates, 1996, NP). Replication of content and homogenous journalistic practice is not exclusive to print and digital magazines but has been historically viewed in terms of newspapers and the invention of television, wherein print journalistic techniques were applied to broadcast:

Despite the initial scepticism towards television, it would appear very strange today to question its values to journalists. The attempt to shoehorn the practises of newspaper journalism into television seems misguided now that we regard television as a form of journalism in its own right. The same is proving to be the case with the internet and associated technologies today as new forms of journalism and new journalistic conventions are being established,’ (Jones and Salter, 2012, p7).

The ‘misguided’ approach of applying print-journalism conventions to that of the medium of broadcast is repeated across print and digital platforms, highlighting the industry’s focus on the content and the lack of appreciation as to elements involved in the consumption of that content. Those elements include the rituals related to consumption of content (buying the Sunday newspaper from a particular shop

before breakfast, for instance) and the way in which the content is presented (be it online or in print).

Where once readers would engage with the printed product in the shape of the newspaper or magazine, the contemporary publication of journalistic content spans various channels, many of which are digital. Literature suggests that there are implications for the consumption experience in terms of cognitive processes, immersion in content and meaning making, depending upon the platform that has been used to present the content (Jabr, 2013; Fortunati et al, 2015; Moran, 2020; Bengtsson and Johansson, 2021). By ascertaining the level to which haptics can influence the content-consumption experience, we can make informed decisions with regards to currently published journalistic titles, journalistic practice, and priming the ground to optimise the success of future launches of journalistic titles. This knowledge will also highlight how consideration of the lived experience can benefit journalistic publications, thereby contributing to the teaching of journalism studies as it encourages a refresh in thinking with regards contemporary practice. Shifting our focus away from the notion that 'content is king' (Gates, 1996; Odlyzko, 2001; Miller, 2008; Müller and Christandl, 2019) realigns our priorities with the experience of consuming journalistic content. When the roles of the other elements involved in the experience of consuming content is better understood and appreciated, a deeper insight into how the reader is affected imbues a more effective business model of publishing. Understanding that a reader of magazines is simply not just reading the words, but experiencing the product on a number of levels can only enhance the phenomenological aspect of consumption. Groot Kormelink and Costera Meijer (2019) echo this, specifically in reference to the fact that the sensory experiences of readers of news has largely been 'virtually overlooked' (p638).

1.3 Aesthetics and perception

The sensory experiences of readers influences their sensemaking and perception of journalistic content, and this perceptual quality is a key factor in the lived experience. This also ties into the themes of my research, in that cross-modal stimuli of an object is a significant component in perception formation. The visual perception of a publication is shaped by the publication's aesthetics. Aesthetics, or 'aesthetic objects' - such as a printed publication - provides an experience that can be examined phenomenologically (Sokolowski, 2000). This position provides value to this thesis, because the journalistic publication can be viewed as an aesthetic object. When we consider the word 'aesthetics', we bring to mind our own interpretations as to how we have viewed, considered and interacted with an aesthetically grounded 'object' (Sokolowski, 2000). By and large, this word is associated with the look, or appearance, of something. In terms of magazine publishing, the aesthetics of a magazine relates to the design and the overall appearance (such as the paper stock and quality of printing) of that publication - both in print and online. The aesthetics of a publication and its impact on the consumption experience has been highlighted recently by Zhou et al (2021; see Chapter 2: Haptics Literature Review). However, when the etymology of this particular word - 'aesthetics' - is considered, a deeper understanding can be gained as to the role that haptics plays in our consumption of media, and appreciate why phenomenology is the most appropriate perspective from which to conduct explorations. *Aisthētikos* is the ancient Greek word for that which is "perceptive by feeling." *Aisthēsis* [original italics] is the sensory experience of perception. The original field of aesthetics is not art but reality,' (Buck-Morss, 1992, p6). So, by using the word in a contemporary context but associating it with its original meaning, I can reasonably posit that magazines are felt through the perception of the reader, as in

the corporeal reality consumers potentially have. Haptics plays an important role with this. If a high-end, long-established and internationally recognised publication such as *Vogue* (a consumer magazine with a focus on fashion) is considered, an understanding of that sensory experience is gained. *Vogue* is printed on glossy paper stock, and is perfect bound (which means that it has a spine, upon which pages are glued (Whittaker, 2008)). There is the perception that this is a quality product - not simply by the content (for instance, detailing luxury brands, interviewing successful fashion designers and interviewing prominent figures in the arts), but also by its aesthetic in terms of design, the substrate upon which the content is printed, how the pages are bound, and its suitability for archiving (placed on the shelf of a living room, for example). The experience of reading this product would be impacted upon if the paper stock were of a poorer quality. Perception and interpretation are both key to phenomenology, strengthening my rationale for using phenomenology as the methodology of this research.

1.4 Hypothesis

The hypothesis of the research is that haptics has a significant impact - both interpretatively and physiologically - upon the lived experience of the consumption of journalistic content, most significantly in terms of brand perception, customer behaviour, and sensory stimuli. More specifically, I contend that the haptic quality of the publication influences the interpretation of the quality of content and also exerts an influence on the individual's physiology in the consumption of the publication's content. I contend that this impact can offer both positive and negative implications to the reader; it can enhance or damage the experiential element of consuming content by contradicting (and therein causing dissonance) or reinforcing initial brand interpretations. My position has been steered by the findings from existing studies. For instance, empirical research relating to behaviour in the consumption of

content, such as where a magazine is picked up in a retail outlet and browsed through, and explorations of the impact of sensory stimuli on experiences where the packaging of a product and thus the stimuli of the sense of touch impacts upon the perception of product quality. This has most notably been explored in the discipline of food studies and sensory marketing, with Kampfler et al (2017) assessing the sensation transference of the packaging of food and beverages on the perception of taste, and Krishna and Morrin (2008) similarly showing how participants sipping the same mineral water from haptically variant vessels experienced different taste sensations. In addition, this research will explore the importance of maternal touch on child development. If the sense of touch has a significant impact on our childhood experience, cognitive development and physiology, then it is reasonable to posit that it will have a significant impact on experiences later in life (Suomi et al, 2008; Crucianelli et al, 2018). The tangibility and tactility of materials and objects are instrumental in our experiences - including the experience of reading and consuming books, magazines and newspapers. Yet this thesis is not simply an outcry against the notion that 'print is dead': rather, it is a manifesto as to the merits afforded by haptics (currently in the form of print but potentially afforded by haptic-screen technology) which are overlooked by the journalism industry to its detriment - and which are yet to be integrated into the digital experience with regards development of 'haptic-screen technology' that is capable of producing a brand-specific haptic quality that is integral to that consumption experience of brand-specific content. The principles of that manifesto revolves around the three key findings of this research: that haptics impacts upon consumer behaviour, consumer perception and consumer physiology in the consumption of journalistic content. The principles are:

- To prioritise content consumption over content creation.
- To consider more deeply the lived experience of content consumption.

- To maximise the opportunities for reinforcement of the brand in its haptic quality.
- To integrate the knowledge that the haptic quality of a publication impacts upon consumer behaviour.

My position - that haptics has an impact on the consumption of journalistic content - takes into account that the significance of that haptical impact varies according to the individual's sense of, and need for, touch, and an aim of this thesis is to explore this further. For instance, individuals will acknowledge that their lived experience is impacted by haptics but on a varying scale: it matters more to some individuals than others. This is a sensible assumption to make, when the varying degrees of sense capabilities on an individual basis is considered: some individuals wear glasses to aid the stimulus of sight; others hear sounds differently, and may wear hearing aids to accentuate the acoustics; our tastes vary, with one individual preferring sweet and another savoury, and this impacts upon the lived experience of, say, dining out. It is sensible, therefore, to propose that our sense of touch is a variable physiological aspect to our individually lived experiences. Again, this stems from general observations and discussions relating to people's preferences, but also consideration of the 'need for touch' (NFT) scale that is posited by Peck and Childers (2003a; 2003b) in the field of marketing and the consumption of retail products. In the context of this thesis, and the consumption of written content, one person may prefer the convenience of a Kindle; another may baulk at the lack of physicality of a specific book. The NFT scale ties in with the proposal that the impact haptics has on individuals varies. From a phenomenological point of view, this does pose the existentially influenced dilemma of how to ascertain a lived experience that can be variable in interpretations due to variables in physiology (see Chapter 3: Methodology). However, this study focuses on the impact that haptics has on the consumption of journalistic content for a range of individuals,

whilst acknowledging that the level of haptic significance may vary for each consumer.

There is a place for print within the publishing industry at a time when haptic-screen technology is still being developed because the haptic quality of the tangible printed product has an impact on the lived experience of consumption. However, from an industry perspective as opposed to an individual perspective, there is a spectrum of interpretation as to how much print is valued, and how much value it bears on the individual lived experience. Some titles, such as the UK broadsheet newspaper *The Times*, have adapted to the disruptive technology of the internet, albeit with varying degrees of success. The responsiveness to the disruptive technology has, in the instance of *The Times*, included print alongside the digital content, but a key response was to introduce a paywall in 2010, forcing readers to pay to access content. In a move that was derided as ‘crazy’ at the time (Forsdick, 2018), the publication argued that accurate and balanced journalistic content had to be paid for online - much as it is in print. Alan Hunter, head of digital at *The Times*, spoke at the time about ‘prioritising the reading experience across all our products’, expanding upon this by arguing for a more holistic approach to news (specific content optimised for specific platforms, for instance), rather than the general ‘copy-and-paste’ approach of print content onto online, and vice versa (Forsdick, 2018). The print edition of the *Independent* newspaper, on the other hand, folded in 2016, having struggled to establish a robust business model. At its height, in 1989, the publication enjoyed a circulation of over 420,000, briefly overtaking the more well-established *The Times*, but closed the print edition on a circulation of just 40,000 (Press Gazette, 2007; Thurman and Fletcher, 2018). With the print edition closing in March 2016, it was only three months before the numbers of people visiting the online edition slipped to below the number *before* the print edition closed (Jackson, 2016). What this would suggest is that the print version was integral to

the consumption experience of this particular brand and the removal of this element was detrimental to that experience, deterring readers to pursue consumption of the publication wholly online.

1.5 Aims and objectives

As mentioned, my research provides an insight into how haptics makes an impact upon our consumption of journalistic content. This can be broken down into a series of research questions that are intended to help structure the overall study, as illustrated below:

Table 1 Aim and research questions

<i>Aim: Provide an insight into how haptics impacts upon the consumption of journalistic content</i>				
Q1	Q2	Q3	Q4	Q5
What's our experience of consuming content?	How important are touch stimuli in that experience?	What value does the journalism industry place on haptics?	How have journalistic-content consumption habits changed?	Can phenomenology provide a quantitative insight into the lived experience of consuming content?

Firstly, the research aims to ascertain the specific elements involved in the reading of textual content that make an impact on the experience. That impact could be positive or negative - any element that bears an effect on the experience of reading textual content. The emphasis here is on textual content, because a comparison can be made between the reading of printed textual content and digital textual content. The objective is to untangle experiential elements to identify those that specifically impact on the experience and the extent to which these elements bear an influence. This is the key point with haptics and the experiential: that touch stimuli has a bearing on the experience within which it occurs.

Secondly, there will be consideration regarding the level of importance our sense of touch has, in relation to reading journalistic content. Here, the focus is not solely on textual content, but also encompasses visual content. Krishna and Morrin (2008) conducted a study where the impact of touch on our sense of taste was explored, finding that there was a clear link between the perceptions of people as to what something will taste like based on what something (such as the container for the food stuff, like a cup) feels like (see Chapter 2: Haptics Literature Review). This relates to the research question of this research, in exploring how our sense of touch could be important in the way in which we interpret journalistic content. If our sense of taste is impacted upon by our sense of touch, it can be reasonably proposed that our experience relating to the reading of journalistic content is impacted upon by our sense of touch.

A third research question of the study relates to the journalism industry itself, and its reaction to the disruptive technology that is the internet. This will provide some insight into how the producers of journalistic content (such as journalists, production editors and publishers) consider the experiential aspects of consumption of this content to be. By exploring responses of certain publishers with regards to managing the new-media outlet that is provided by the internet and related hardware, I can better understand why certain developments occur. Once the impactful elements involved in the experience of consuming journalistic content is identified, then potentially viable business models can be offered that incorporate these, which is an objective of this research. If the study identifies that our sense of touch does make an impact on the way in which readers consume journalistic content, then a haptical element should be incorporated in business models. If a brand exists first in print then moves solely online, what is the impact on the readership's engagement (if any), and how can this inform future projections of

business models? This research provides findings that would benefit the rethinking of contemporary practice.

Related to the reactions in industry, is the fourth research question exploring how our reading habits have changed. The intention here is to explore the processes involved in reading, to identify factors (external, such as the content's format - how it's structured, how it's displayed; internal, such as our cognition) that fuel these processes. By gaining an insight into the reading process itself, I can acknowledge the elements that may impact upon the process, and perhaps cause changes within that process. The disruptive technologies of the printing press, the internet and smartphones in the UK have significantly impacted reading habits, with developments (such as the printing press) facilitating changes in the way in which material is printed and published, which then impacts upon the habits of readers. The internet, for instance, has changed our reading habits in terms of ritualistic behaviour (Erhlich, 1996; Couldry, 2003), and cognition (Jabr, 2013; Flood, 2014). A key objective here is the analysis of our reading habits to determine what, if any, elements have remained consistent (Jabr, 2013), and how this can inform future business models (see Chapter 5: Discussions).

The final research question relates to the methodology of the study, asking if mixed-methods primary research can provide both qualitative and quantitative insights into the extent to which haptics impacts upon the phenomenology of journalistic-content consumption. Chapter 3: Methodology will analyse some of the approaches that would be relevant to this type of mixed-methods study, specifically in terms of obtaining primary research that bridges the link between haptics and journalistic content. Bringing a quantitative perspective to the inherently qualitative nature of phenomenology, specifically Interpretative phenomenological analysis (IPA), addresses the challenge posed by the variables in our physiology and impact

of sense stimuli. The objective here, then, is to ascertain how progressive IPA can be with regards enveloping quantitative methods to complement its conventional qualitative methods.

The table below shows how these research questions and objectives were met within the study:

Table 2 Research questions and objectives of research

Research questions	Objectives	Methods used
What's our experience of consuming content?	Identify the elements involved in the consumption of content that shapes the experience. The extent to which these elements shape the influence.	Primary and secondary research, with semi-structured interviews and focus groups highlighting the elements involved via qualitative data, including: quality of paper stock (haptics); ease of content navigation (both online and offline); convenience of accessing content; ritualistic habits (the regularity of consumption).
How important are touch stimuli in that experience?	The impact of haptics on the consumption of content. The variations of that impact for individual consumers.	Primary and secondary research, with semi-structured interviews and focus groups highlighting the elements involved via mixed methods. Qualitative data was gathered via semi-structured interviews and focus-group discussion; quantitative data was gathered via physiological measurements and focus-group surveys.
What value does the journalism industry place on haptics?	Explore the industry's reaction to disruptive technologies, with a view to inform future projections of business models that places greater value on the experiential consumption of content.	Primary and secondary research, with primary qualitative data gathered from semi-structured interviews with industry professionals coupled with reflexive data from my own professional experience.
How have journalistic-content consumption habits changed?	Analysis of our reading habits to determine what, if any, elements have remained consistent and how this can inform future business models.	Primary and secondary research, with semi-structured interviews showing how ritualistic habits have altered, in terms of using the internet to access information quickly but some readers still prefer the immersion of offline content.
Can phenomenology provide a quantitative insight into the lived	Explore the progressive nature of interpretative	Development of a subsidiary paradigm to IPA which includes

experience of consuming content?	phenomenological analysis (IPA) as a methodology with regards enveloping quantitative methods to complement its conventional qualitative methods.	mixed methods, that I have termed 'QuIPA' (qualitative interpretative phenomenological analysis).
----------------------------------	---	---

The overall aim was broken down into sub-aims to help sharpen the focus on each element, such as 'journalism', 'haptics' and 'content consumption'. The fifth research question, using IPA as the methodology but using mixed methods was one that I hadn't intended on pursuing but which developed iteratively in the early stages of the research. Phenomenology was the most appropriate perspective from which to examine a subject wherein the lived experience was a focus, and IPA provided the lens through which I could examine participants' interpretations of that lived experience. But the quantifying of the experience, via rating scales in the focus group and the physiological data from the biometric-tracking device, provided a richer overview as to what was occurring within that lived experience, in terms of emotions, perceptions and physiological responses. While previous studies with regards the influence of sensory stimuli on perception has occurred in other disciplines, such as marketing (Krishna and Morrin, 2008) and retail (Peck and Childers, 2003a; 2003b), this study contributes to those studies by recontextualising haptics into the discipline of journalism.

My original contribution to knowledge is a counter argument underpinned by the significance of haptics against the notion that 'content is king' (Gates, 1996). The idea that content is the supreme element in consumption downplays the role that related factors to that content have in our consumption of that content. The oversimplification of 'content is king' dismisses the impact that the ways in which that content has been presented (on screen; on paper; on different types of paper) has on the experience of the consumption of that content. While the position of 'content is not king' has been posited by others (Odlyzko, 2001; Miller, 2008), the

original contribution of this thesis directly links haptics to the phenomena of journalistic-content consumption. In that sense, the empirical studies that have been conducted as part of this research adds to existing literature and argues that it is the experience of the consumption of the content that is king, not merely the content itself. And this is something that Gates himself, in 1996, acknowledged, demonstrating how a headline can skew the angle of an article. Gates (1996) makes the point that simply reproducing print content online would be insubstantial in terms of creating the same experience for readers and rails against the 'copy-and-paste' content replication that thus far prevailed in the industry:

Printed magazines have readerships that share common interests. It's easy to imagine these communities being served by electronic online editions. But to be successful online, a magazine can't just take what it has in print and move it to the electronic realm (Gates, 1996).

With this in mind, it's clear that there has been an oversimplification and arguably a misinterpretation of the phrase 'content is king'. From this point from Gates (1996) - made before the proliferation of social media and smartphones - the journalism industry has made the error of pushing the same content across different platforms (print and digital), because it's the content that's believed to be the priority in the reading experience. This research aims to echo the point made by Gates: that to be successful, a magazine must heed the experience that's afforded by the platform upon which the content is published.

1.6 An overview of the thesis structure

The thesis is structured to produce a linear progression through the significance of haptics, and chosen methodology to glean primary evidence relating to the research aims. The chapters will facilitate exploration of subjects related to the research question, with the intention of ultimately informing an argument for future

landscapes with regards to more robust business models that value the importance of the experience of content consumption.

The *Introduction* establishes the context of the thesis. It sets the framework within which the study will be positioned and introduces the concept of haptics, phenomenology and the disciplines which have previously been connected to haptics. It establishes the terminology that will be used in relation to haptics, phenomenology and journalism, and highlights the contribution the research makes to existing knowledge. The *Haptics Literature Review* chapter provides the backbone of the secondary research that has been undertaken to ascertain current literature relating to this specialist area. The chapter explores research that has been undertaken with regards haptics, journalism, and any that links the two. Much current research orbiting the subject of haptics is geared towards technology (such as Paterson, 2007; Parisi, 2008) while there has been extensive research in the discipline of food studies relating to the impact of packaging on taste perception (such as Carvalho and Spence, 2019). This chapter will explore the current perspectives of haptics, relating to sensory experiences.

The *Methodology* chapter of the thesis details how primary and secondary resources are incorporated in the exploration of the proposed study topic. Mixed-methods research design will be developed, incorporating but not limited to interviews and observations. 'It is not uncommon to find research projects that rely on interviewing as their main or sole source for ethnographic knowledge. However, even within more conventional discussions of qualitative interview, researchers have expressed the inadequacy of studies that depend solely on interviews,' (Pink, 2009, p84). In other words, adopting a mono-method approach risks a narrow perspective on a subject and as such, mixed methods was identified as an appropriate strategy to adopt in order to gain richer data that complemented the

semi-structured interviews that I conducted with my sampled participants. Similarly, IPA was appropriate for the reasons explained previously: namely, that it provides a framework within which the individual lived experience and the interpretation of that individual could be examined. This research subject encompasses a number of different avenues to explore, including the interaction of the consumer with the media, the environment within which that interaction occurs, and the impact of materials within that interaction on the consumption of that material. Consequently, the mixed-method research provides a broader, richer view on the subject, including semi-structured interviews, focus groups and surveys. Certain semi-structured interviews and the focus groups involved a 'cue' in the form of two issues of the same magazine, but printed on different paper stock. The magazine was a quarterly current-affairs title called *Delayed Gratification*, published in the UK but distributed abroad. In short, the only variable was the haptics, with one magazine printed on comparatively higher quality, matte paper stock, and the other on comparatively lower quality, silk paper stock. The responses (both articulated and physiologically measured) demonstrated differences in the lived experience, despite the content being identical and the sole variant being the paper stock.

The *Findings* chapter will present secondary and primary perspectives, explicitly on the relationship between haptics and journalism. Here, the original contribution to existing knowledge will be structured, and the research area of haptics and journalism-content consumption brought into sharp focus and discussed in light of the findings. It considers how the developments in technology have altered societal norms as well as the way in which we consume journalistic content. The *Discussions* chapter elaborates on the key findings of the research, namely that haptics impacts upon consumer behaviour, upon brand perception and the sensory experience. In terms of consumer behaviour, the findings show that haptics influences the consumers' rereading of material, ritualistic habits, willingness to

recommend the publication, and willingness to archive the publication. In terms of brand perception, haptics was seen to include the levels of trust the consumer had for the content, as well as the perception of overall quality. In terms of sensory experience, the findings from the biometric-tracking device (the E4 Empatica wristband worn by participants) showed that there were physiological changes in response to the haptical quality of the publication. This chapter contextualises my findings and proposes a conceptual framework for both a new perspective on phenomenology as a methodology, and for future business models for journalistic publications.

Finally, the thesis will *conclude* with an overview of the thesis and explorations of possible avenues of future study. The overview will provide clarification of the findings of the research and how these align with the original aims, sub-aims and objectives. The chapter will also explore the limitations of the research. For instance, my findings do not clarify whether there are variables in the types of journalistic content, and whether the impact of haptics is different for different types of journalism. Are readers of, say, glossy fashion magazines more impacted by haptics in their consumption of the journalistic content as readers of daily tabloid newspapers? The magazine used in this study - *Delayed Gratification* - is a news and current affairs publication and while the participants of the research demonstrated a clear preference for the magazine when they consumed it on comparatively higher quality paper stock, there is scope to ascertain if the haptical quality of a publication is valued differently across genres. Despite the limitations, the *Conclusion* is able to provide conceptual frameworks for future business models for journalism, where greater value is placed upon the haptical quality of a publication, and where the experiential nature of consumption is considered more deeply. By considering this, I posit that more robust business models can be established that re-evaluate the importance of the lived experience of consuming

journalistic content, and thus move away from the historic business model that prioritises the production of the content itself.

1.7 Reflective practice

The motivation and background of this research stems from my own professional and personal interest in journalism. Integrating reflective practice will provide a rationale as to the motivation behind this research. An effective tool in reflective learning is the identifying of 'critical incidents' as part of a 'cycle of enquiry' (Ramsey, 2006): developments that prove significant in our area of exploration. I have worked in the journalism industry since 1999, working on a number of magazines and newspapers, and travelling widely, including the UAE, Australia, Hungary and the UK. While this research will focus on the UK industry, my knowledge of the practice of journalism techniques in other countries will imbue my perspective. One critical incident occurred in 2003, while working as a journalist on a consumer magazine in Dubai. I was tasked with updating a content-management system (CMS) with text that related to that month's issue, but was aware that, due to the image-heavy aspect of the editorial content of that publication (an interiors magazine), the impact of the content would not fully translate to a screen: the quality and format of the paper stock, coupled with the quality of printing, presented the printed images in a more impactful way than the smaller, digital images on screen. Another critical incident occurred when I attended my first conference as an academic, and came across the term 'haptics' within a presentation given by a publisher from the BBC on the subject of print magazines. The presentation was the first that I had encountered that positioned the argument that the tangible object (in this case, a printed publication) had on the lived experience (in this case, reading the printed publication). The presentation made clear that the experience of consuming content was not one solely built upon the quality of content, but that

there were other components at play - such as haptics - within that experience. The sensory element of consumption was highlighted, and while phenomenology was not a term used within the presentation, the experiential nature of consuming a publication that extended beyond simply reading text was clarified.

As a researcher and lecturer, I have the opportunity to consider why the industry has been slow to adapt to the developments in technology, afforded primarily by the introduction and subsequent rapid uptake in the UK of smartphones (Deloitte, 2018), the invention of the world wide web, and the consequences (such as the closure of publications) of a lag in industry to respond in such a way that optimises these technological opportunities. The disruption caused by the technological developments can be directly linked to the demise of certain publications, and publishing companies, as well as the restructuring of companies and the subsequent loss of jobs - the latter of which was exacerbated by the 2008 recession (Currie-Sivek and Bloyd-Peshkin, 2016). And yet: despite the digitalisation of content, print continues to endure. One of the ways in which this can be measured is through the circulation figures of publications - that is, the number of copies of an issue that are distributed. The independent body that measures this in the UK is the Audit Bureau of Circulation (ABC), and this body releases audit reports on a monthly basis, detailing the circulation figures of publications in relation to a specific duration. As such, the time is ripe for this research to be undertaken, due to the fact that the industry is stabilising, and the circulation of the printed product - once derided with the cry of 'print is dead' - has actually increased in certain markets (Le Masurier, 2012; Cain, 2017; Baldridge, 2018). In the eBook market, for instance, sales declined year-on-year following a peak in sales in 2014 (though the eBook market has experienced a more recent upsurge during the covid-19 pandemic (Sweeney, 2020)) with 'generation Z' (those aged between 16 and 24 years old) stating that they preferred a physical book to a digital one (Bury, 2013). Most

recently, it has been the news-based publications that have enjoyed not only printed-version durability but an increase in circulation. One example of this is *Private Eye*, a fortnightly satirical publication on current affairs, that has enjoyed success due to readers with a political interest wanting to be informed of the frenetic state of global news with the seismic political shifts of President Trump's election in 2016 and the UK vote to leave the EU in the same year. In 2017, the circulation for *Private Eye* had increased nearly 9% year-on-year to 249,927 (Ruddick, 2017). *The Guardian* newspaper publishes a summary of the ABC figures, as a gauge on the health of the magazine markets. In August 2017, *The Guardian* stated: 'The latest ABC figures suggest readers are continuing to turn to news and current affairs titles as they look to digest Brexit preparations and the presidency of Donald Trump,' (Ruddick, 2017). The growth of the independent-magazine market illustrates that there *is* a place in publishing for brand-specific touch stimuli (currently in the form of print), and reasons for that are connected to the experience of journalistic-content consumption, which this research aims to study.

2 Haptics Literature Review

2.1 Introduction

This chapter explores contemporary and historic perspectives with regards haptics and its related touch-stimuli keywords, with a view to identifying gaps in knowledge within which this thesis can make an original contribution. There are many keywords related to the sense of touch, including ‘haptics’, ‘tangibility’, ‘physicality’ and ‘tactility’. It is worth acknowledging this, because it demonstrates how the sense of touch has been interpreted in academic disciplines, with some literature exploring touch stimuli and/or a tangible artefact without referencing the word ‘haptics’ (Fortunati et al, 2015; Leader, 2016b; Bengtsson and Johansson, 2021). It is the term ‘haptics’ that underpins this research, because haptics encompasses the various dynamic elements related to the sense of touch, in terms of its weight, mobility, temperature and texture. There are cues, or ‘signifying systems’, that provide information regarding qualities of the object in question (Hayles, 2008, p163). For instance, if you touch a paper cup containing hot coffee you will generally ascertain the temperature of the contents and the texture of the cup; if you pick up the cup, the haptic information you receive physiologically relates to the weight: it moves beyond simply ‘touch’ and encompasses other elements, such as weight. If the cup is moved erratically, a sense of the movement of the contents is obtained via the sensory stimuli. There is additional ‘haptic’ information that extends beyond simply ‘touch’ and this is applicable to journalistic content. For instance, if I press my fingertip on the cover of the magazine, I get some sense of the texture of the paper stock. However, I have to lift the magazine to achieve a sense of the weight of the paper stock. Hayles (2008) affirms that the physicality of print involves sense-making signposts in the shape of ‘graphic, textual, haptic and kinesthetic components’ (p163). This research, therefore, incorporates the term ‘haptics’ as

‘dynamic touch’ to reaffirm the potential sensory stimuli that a journalistic artefact can offer and therein its influence on the lived experience (Fortunati et al, 2015; Bengtsson and Johansson, 2020).

The chapter includes literature relating to the wider themes that exist within haptics research and offers how these can be applied to the consumption of journalistic content. These themes include: the importance of our sense of touch on a maternal level; the importance of the sense of touch in terms of our cognitive processing, and the biological ‘mechanics’ in terms of processing the information provided from our touch stimuli. Understanding the physiological aspects of the sense of touch assists with the understanding of its impact on lived experiences and thus, provides a rationale for the inclusion of biometric data. The chapter is underpinned by Mosely’s (2016) three ‘uses’ for haptics which are: (1) perception shaping; (2) synthesising touch stimuli into digital technology, and (3) applying haptic theory to other fields. I contend that Mosely’s (2016) three uses provide a foundation from which other haptic findings have taken root and have been identified in other disciplines (such as sensory marketing). These findings include: the contribution haptics makes upon our structuring of perceptions; the impact haptic dissonance has on that perception; the physiological impact of sensory stimuli, and the experiential assets haptics provides. This research brings these four elements together, and acknowledges that other literature has not. For instance, Gerlach and Buxmann (2011) explore haptic dissonance in the field of eBook adoption, but there is no discussion with regards the physiological impact haptics may have on the reader in the consumption of eBook content; Pursey and Lomas (2018) demonstrate the physiological impact of visitors to a multisensory exhibition at the Tate Britain, but the literature does not explore the concept of haptic dissonance. This research positions these elements in the discipline of journalism to complement the haptic-based discussions occurring in other disciplines.

One area within which there is active discussion with regards to haptics is media studies (Paterson, 2007; Parisi, 2008; Parisi, 2014; Paterson, 2017). In this discipline, haptics is generally discussed in relation to the affordances of technology in terms of sensory stimuli. 'The call for [haptic media studies] comes at a moment when there seems to be a groundswell of interest in the tactile aspects of media, originating from different corners of the nebulous and necessarily interdisciplinary field designated by "Media Studies",' (Parisi and Archer, 2017, p1525). In other words, the subject of haptics has provided fresh ground upon which aspects of media studies (such as media technology) has been built. This thesis will contribute original knowledge to that 'groundswell' but from the disciplinary perspective of journalism studies.

2.2 The fluidity of the term 'haptics'

In terms of the etymology of the term 'haptics', there is broad agreement that the word derives from Greek. However, there are a number of interpretations: Paterson (2017) argues that the word is derived from the word 'haptēin' ('to grasp; to touch'); Jones (2018) asserts the origin is 'haptikós' ('able to perceive'); Hannaford and Okamura (2008) states that the etymology of 'haptics' is 'haptēsthai' ('to touch'), while Yoshitaka (2013) argues that the word originates from 'aptō', also Greek, and also 'to touch; to perceive' but goes so far as to argue that the term has derivations from ancient Egypt. The term 'haptics', therefore, refers much more than simply to 'touch' and this thesis will align with Paterson's (2017) and Jones's (2018) etymological assertions relating to perception. Mosely (2016) refers to the 'perceptual relationship' between an individual and a subject, which also suggests that there is a dynamic element to this sense that is much more than the surface stimuli of touch (this is a point that I have integrated into my research design, by

asking participants to elaborate on the ‘feel’ of a magazine, rather than simply touching the paper (see Chapter 3: Methodology)). But the key texts supporting this thesis do reflect the multidisciplinary areas that have adopted a haptical perspective in explorations since the 2000s. As well as the aforementioned discipline of media studies, these include the realm of art history (Mosely, 2016; Paterson, 2007; 2017). Mosely’s (2016) three distinct uses relating to the term ‘haptics’ have each been explored in different disciplines, which this chapter will demonstrate.

2.3 The three ‘uses’ of haptics

The first of the distinct uses that Mosely (2016) identifies relates to the visual perception of an object that is reinforced or contradicted via our sense of touch; I see a magazine that is glossy; my perception is that this will feel a particular way when I pick it up. The impact of haptics upon our initial perception of an object is one that has been studied within the discipline of marketing and packaging (Krishna 2012; 2013; Carvalho et al, 2019; Carvalho and Spence, 2019; Spence and Carvalho, 2019). For instance, Krishna (2012) studies the concept of ‘sensory marketing’, where the senses of a consumer are stimulated as part of a marketing strategy. Krishna (2012) argues that ‘sensory marketing ‘can be used to create subconscious triggers that characterise consumer perceptions of abstract notions of the product,’ (p332). In other words, marketing can manipulate implicit consumer perceptions via sensory stimuli, and this indicates how instrumental the haptics element of a journalistic title can be. A similar study reinforces this, with Spence and Carvalho (2019) exploring the impact of cross-modal sensory stimuli of haptics on a participant’s sense of taste. The study explored how the weight and texture of a coffee cup (therein, the haptics) and also the colour of the cup (stimuli of sight) shaped the perception of what the coffee within the coffee-cup ‘container’ would taste like (see 2.6 Taste, sight and touch: influences on perception). ‘Given that the

various sensory attributes of the drinking vessel can exert such a striking influence over the drinking experience, the challenge, moving forward, is to optimise the design of the receptacle in order to enhance the multisensory tasting experience for the consumer,' (Spence and Carvalho, 2019, p239). In other words, the experience of coffee consumption could be optimised by tailoring the container so that the initial perception shaped by haptics and the stimuli of sight aligns with the actual taste of the product. This alignment of sensory stimuli can be applied to magazines, where the initial perception of an object - of which haptics plays an integral part and that Mosely (2016) argues is one of the three 'uses' of haptics - is confirmed by the content. If the glossy paper stock and weight of a publication shapes the perception that the interior content will be of a certain quality, then the quality should align with that perception to optimise the experience.

The second use of haptics that Mosely (2016) identifies relates to the integration of haptic qualities into digital technology: the vibration (also referred to as 'force feedback' (Paterson, 2017)) of a smartphone to signify an incoming call or text message is an example of such haptic integration. Indeed, the touch-screen technology of a smartphone has been a focus of haptic research, with Paterson (2017) arguing that the term 'haptic media' has become a 'mainstream touchscreen culture' (p1542). This is also a point echoed by Parisi (2008; 2014), where the elements relating to tactility of a physical object are integrated into the digital realm. While Mosely (2016) is positioning his argument in the discipline of art, Parisi (2008; 2014) is positioned within the discipline of media studies. However, both scholars recognise the importance of haptics within the experience of consumption - whether that be an art book or content within the virtual space. Parisi (2014) states that 'incorporating complex touch feedback into computing entails not just a transformation of spatiotemporal field accessed by touch, but a wholesale redefinition and rearticulation of touch as a category of human experience,' (p228).

The significance of this to my research is the acknowledgement that there is an experiential aspect to our relationship with the digital world, and it's a relationship where touch stimuli has a powerful influence. As my research advocates, the experiential aspect of content consumption - whether that be digital or printed - is profoundly significant and can enhance or be detrimental to the consumer's interaction with the 'thing' at the heart of the experience (in the context of this research, that 'thing' is journalistic content; for Parisi (2014), that is computing). The integration of cross-modal stimuli within experiential consumption is cross-disciplinary, but in terms of technology, haptic feedback is integrated most comprehensively within hardware; the phone vibrating, for instance, when someone calls you enhances your experience of interaction with the hardware, because of the cross-modal sensory (touch and sound) stimuli.

Parisi (2008), Parisi and Archer (2017) and Parisi et al (2017) discuss the relevance of haptics with regards our interaction with media technology (not solely those used to consume journalistic content in terms of copy and still images) and argue that it is of particular relevance in this digital age: '[W]e may be in the midst of a "haptic moment" - an intuition informed by observing the growing inundation of our media environment by haptic technologies,' (Parisi et al, 2017, p2). The authors reiterate that we are in a 'haptic moment', where the ramifications of technology on tactual interactions are now being explored and understood on a scholarly level. The discipline of media studies has arguably neglected exploration of the sense of touch, and Parisi et al (2017) attempt to add to the growing discussions relating to it in the context of media studies. The argument presented takes the position that prior to this 'haptic moment', media technologies had largely neglected the importance of touch stimuli, preferring instead to be directed by a 'visualist paradigm' (Parisi, 2014, p228). Parisi and Archer (2017) state that it is their 'longstanding belief that media studies has - to its detriment - ignored,

under-studied, and under theorised the role touch plays in using and apprehending media,' (p1524), a perspective to which this research aligns itself. The interpretation is that we are in the midst of a 'haptic moment', which corresponds to the positioning of this research and that the significance of haptics in journalistic-content consumption has been undervalued. However, that 'moment' is variable, depending upon the discipline being explored. Parisi et al (2017) highlight some of these key areas that contribute a theoretical and empirical perspective to the subject of haptics, including art history (Mosely, 2016; Yoshitaka, 2013), computer science (Paterson, 2007; Parisi, 2008) and architecture (Herssens and Heylighen, 2010). The omission of journalism in this list demonstrates the gap in existing knowledge relating to haptics and journalism studies.

The third and final use of the word 'haptic' 'refers to the theoretical application of haptic perception to other fields,' (Mosely, 2016, p36). To reiterate, haptics as a theoretical subject has been explored in various disciplines: in Mosely's research, that field is artists' books; Krishna (2012; 2013) that area is sensory marketing. As acknowledged by Parisi and Archer (2017), the subject of haptics transcends various specialisms, and while the aforementioned authors relate the subject to media studies, Mosely (2016) relates it to artists' books, drawing on the 1980s book of French philosopher Deleuze, and his exploration of 'sensation' in connection with the artist Francis Bacon's work. Deleuze (2003) writes of haptics in relation to the artist-book domain, and interprets the work of the Austrian art historian Riegl (1858-1905) with regards the perception of artistic work, and the relationship between the optic (sight) and the haptic (touch) (see page 47). But whilst the notion of haptics and its integral role to the 'experience' has been explored in various disciplines, it has not been as thoroughly studied within the context of journalism, and its application to journalism and the specific experience of consuming magazines is where my research makes an original contribution.

2.4 The 'framing' of content

The discipline of fine art and the work of Delueze and Riegl within this field relating to sensation and perception can be applied to the discipline of journalism. In its application, a deeper understanding as to the powerful influence of somatosensation can be gained. But similarly, the 'container' of content - be it a gilded frame or matte paper stock - can influence the perception of that content, and here I will apply the concept of framing to journalistic content to reinforce the notion that content consumption is a cross-sensory experience. In terms of artwork, the contextualising of a work of art - both in terms of the frame and the environment within which the art is placed - can impact upon the way in which the art is viewed. Here, we can consider the paper stock of both artistic book and journalistic content (copy and still images) as a form of 'frame'. That 'framing' is one element relating to the sense of touch and its impact upon our reading of matter. The choice of moulding complements or disrupts the viewing of the work of art. The paper stock and binding of a publication ideally complements the matter of which it 'frames' - our sense of touch with that framing gives us an indication as to the reading matter held within, in terms of its quality, its tone, and its potential to be archived. The initial perception from haptic cues given when the consumer picks up a publication, such as a book, magazine or newspaper, instigates a suggestion of the quality of content held within it, as well as an indication of the esteem that those who produced the publication hold for the brand and this is a key finding from this research: the 'frame' (or the context, and in this research, the context is print) impacts the perception of the content. Though the term 'framing' isn't specifically included in her exploration as to the contrasts in consumption experiences, Hayles (2021) does acknowledge that the reading experience is different depending upon the device or quality of print which is channelling the content, and that the nature of its form is impactful:

‘[Language’s] embodiments matter. Reading screens is different to reading paper pages; reading on a Kindle is different than on a MacBook Pro; reading a folio is different to reading the pages of a quarto,’ (Hayles, 2021, p174).

Those variations in experience can impact upon reader perception of the content they’re consuming. Perception is one of the ‘uses’ of haptics that Mosely (2016) advocates, and which is explored in the sensory marketing of Krishna (2012; 2013) and the cross-modal stimuli of Spence and Carvalho (2019). This information can influence purchasing decisions, based on the type of consumer making the purchasing decisions. The packaging of a product (or its framing) is integral to the conveyance of brand messages, a point which has been established for decades by the pioneering work of Cheskin (1957; 1972). ‘Few marketing men realise that the package is a psychological factor in marketing... Even those who are marketing orientated do not understand the psychological implications in a package. Marketing men must realise that packages communicate to consumers,’ (Cheskin, 1972, p15). There is a psychological and - as I content - a physiological aspect to consumption, and there is more specifically an emotional aspect.

Achar et al (2016) explore the emotional influences at play when a consumer is in the process of deciding whether to make a purchase or not, and highlight the ‘integral emotions’ that a marketing campaign is specifically designed to trigger and the ‘incidental emotions’ that are outside of the marketing campaign’s direct influence and are underpinned by environmental factors and ‘personality traits’ (Achar et al, 2016, p167). While the Achar et al (2016) article lacks mention of sensory stimuli or haptics, it does explore the influence of emotions in purchase decision-making and my research, and the secondary research that I include here, do posit that emotions are shaped by sensory stimuli. Thus, there is a direct connection with how a consumer feels emotionally about a purchase, with that

feeling shaped by the 'whole' of a product, rather than just the product itself. The 'whole', in retail terms, includes packaging as well as the feel of the product and the retail experience. In terms of framing in the literal sense, this includes the way in which a work of art has been presented in its surrounding moulding and the emotion that elicits. Applying the framing concept to journalism, the way in which the two markets of newspapers are 'framed' reinforce the idea of how the way in which content is 'contained' can influence perception that is ultimately shaped by emotional responses.

In the UK, the markets of newspaper press are tabloid and broadsheet, where the format (in terms of the paper weight and size) or 'frame' gives an indication of the content within. Tabloids are considered more sensationalist and populist, whilst broadsheets are more rationalist (Connell, 1998). The broadsheet newspapers, such as the *Financial Times*, are considered to be more serious, weighty, and to incorporate more 'quality' journalism than, say, the *Daily Star* tabloid newspaper. With *The Sunday Times*, a UK weekly broadsheet, there is literal weight to the tangible product, with numerous supplements and the large-format print stock. This literal weight translates to the authority perceived of the brand. Whittaker (2008) even uses the comparative adjective 'classier' when comparing high-end publications in the UK magazine market, such as the fashion magazine *Vogue*, with tabloid counterparts. The concept of framing (in terms of contextualising content) is motivated by the idea that by 'framing' the same content in different ways may impact upon the brand perception, the interpretation of content and the consumption experience. Printing the same content but on different paper stock and gauging the reactions via discussion and observation within focus groups allows this study to ascertain more clearly the impacts that the frame, constituted by the haptic quality of the publication, have on the reading experience. Primary research of this thesis involved empirical studies to ascertain the extent to which the format,

weight, binding and paper stock (all of which constitutes the ‘frame’) impacts upon the reading experience.

Haptics as an area of study has been associated with the art world for decades (sensory discussion can be traced back to Riegl’s (1927) *Die Spättrömische Kunstindustrie* - roughly translated as ‘Late Roman art industry’) and is an example of one of the scholarly disciplines that has integrated the perspective of haptics into explorations. Mosely (2016) is one example: Yoshikata (2013) is another. The latter paper poses the question ‘What is ‘the haptic’?’ and takes the position that all five senses are intertwined. Yoshikata (2013) discusses the concept of ‘the haptic’ in relation to Riegl and Deleuze (1925-1995) and within the context of art history. Mosely (2016) cites Riegl’s ‘close vision-haptic space’ and explores how the viewing (or consumption) of art is a cross-modal sensory experience. Mosely’s (2016) conceptual interpretation - that our sense of touch confirms or contradicts our initial perceptions - is the most relevant of perspectives for this thesis. Readers have a perception of a printed publication before it’s picked up off the shelf. The haptic quality (the paper stock, finishing and binding) will either reinforce or contradict that initial perception. Sundar and Noseworthy (2016) echo this and refer to ‘sensory disconfirmation’.

2.5 Sensory disconfirmation

Sensory disconfirmation is a way to describe the conflict in perception of an object feeling different to the one expected (Sundar and Noseworthy, 2016). In this way, my research reinforces the notion of ‘haptic dissonance’: touching something that fails to reinforce initial perceptions. Conversely, sensory confirmation can be used to a positive effect, particularly in terms of product design and is essentially the argument put forward by Mosely (2016) about the perceptual use of haptics:

namely, how the weight, texture and mobility cues of an object can affect our perception of the object itself. Sundar and Noseworthy (2016) give the example of mobile-phone design: the impact of touch stimuli to the perception of the quality of a product can be appreciated in terms of the ergonomic design of mobile-phone devices. In the 2000s, while most mobile-phone manufacturers were initially producing phones made of, feeling like, and looking like plastic, Apple produced a phone that was largely made of plastic but incorporated aluminium bands around the edge. 'This subtle conflict between initial expectations based on sight, and subsequent experience based on touch, leveraged a discrepancy in sensory inputs to augment perceptions of quality. Not surprisingly, the market was quick to respond,' (Sundar and Noseworthy, 2016, p44). The initial perception of quality via an optic cue was reinforced by the haptic cue of how the object felt. While the mobile-phone market was agile in its response to this realisation of the impact of haptics on handset design, my contention is that the journalism industry has been slow to appreciate the impact of haptics on the experience of journalism-content consumption, to the detriment of certain brands (see Chapter 1: Introduction).

Sundar and Noseworthy (2016) discuss how sensory disconfirmation can be an integral part of a marketing strategy of a brand - a perspective that Krishna (2012; 2013) adopts with regards sensory marketing. Here, I can relate the marketing research to this journalism-focused thesis, even though one concerns the consumption of products, and the other refers to the consumption of journalistic content. Sundar and Noseworthy (2016) argue: 'Although much of a product's success or failure has to do with market dynamics, it is our contention that the success or failure of sensory marketing strategies may have a lot to do with how consumers perceive the brand' (p44). This brings us back to Mosely (2016) and the argument of perception as a use for haptics. The perception of a product is

confirmed or contradicted upon our interaction with it - whatever that product, or object, or 'thing' may be.

2.6 Taste, sight and touch: influences on perception

The cross-modal perception argument, wherein our senses interact in the shaping of our experiences, is explored within the paradigm of sensory marketing in relation to the concept of sensation transference (Krishna and Morrin, 2008; Spence and Carvalho, 2019; Carvalho et al, 2020). While these studies are not positioned within the discipline of journalism, the respective findings are applicable in that they indicate that the experience of consumption of content (and in these examples, the content is liquid, and the consumption is drinking) is not simply shaped by the content itself and the sense that it directly impacts upon. Instead, there is an interaction between senses that enhances the experience - a cross-modal perception, where the senses intertwine. Carvalho and Spence (2019) studied how the colour of a coffee cup influenced the experience of consuming the coffee, specifically in the way in which the participant perceived the flavour. The relevance of this study to my research is the impact of the 'framing' of content: in this instance, the content is coffee, and the framing is the colour of a cup. Four cup colours were used - white, pink, yellow and green - though the interior of the cups were kept consistent (white) to ensure that it was solely the anticipatory cue of the cup colour that influenced taste. Two types of coffee were used, with the Brazilian coffee generally regarded as having more sweet tones and the Kenyan coffee considered more acidic. The research included 457 participants, sampled from the University of Sao Paulo, and found the anticipatory cue of the cup colour influenced the perception of taste, with the Brazilian coffee tasting sweeter and the Kenyan coffee more acidic in certain colours of cups. Generally, Brazilian coffee was preferred and tasted sweeter in the pink cup, but tasted more acidic in the yellow; the Kenyan

coffee tasted more acidic in the pink cup but sweet in the yellow. The Carvalho and Spence (2019) article builds on the pioneering research of Dichter (1964), in which participants were served the same type of coffee from different coloured pots and how this influenced the taste perception: coffee from the brown-coloured pot was considered by the majority of participants as too strong; coffee from the yellow pot was perceived to be a weaker blend; coffee from the red pot was considered fuller-bodied, and coffee from the blue pot deemed milder in its aroma. It also furthers the similar research of Cheskin (1957), in which the same type of coffee was given to a sample group but from different containers, with 86 percent of participants preferring one coffee that was poured from a particular vessel - thus denoting sensation transference. 'Sensation transference' is a phenomenon posited by Cheskin (1957; 1972), where there is crossover of perceptions in the somatosensory system: for instance, the perception of the taste of a biscuit as shaped from touch stimulus of its packaging, with the texture and weight of the packaging impacting upon the ultimate taste and texture of the product (Kampfer et al, 2017). These studies reiterate the impact of aesthetics of an object on initial perception, and demonstrate the connected influence of somatosensation. Applying the concept of 'framing' the same content (and in this instance, the framing is vessel colour) was key inspiration to this research, in terms of framing the magazine content via contrasting paper stocks.

Similarly, Carvalho et al (2020) explore the sensation transference from the texture of a cup to the taste of the coffee it contains. Carvalho et al (2020) hypothesised that the texture of a cup would impact upon the consumer's taste. The study involved 231 participants who tasted coffee from two different receptacles: cups that were of the same shape, but with contrasting textures (one rough; the other smooth). The study found that the sensation transference with regards the haptical quality of the cup influenced the taste of the coffee, with the coffee drunk from the

roughly textured cup considered less pleasant than the same coffee drunk from the smoothly textured cup (Carvalho et al, 2020). Sensation transference relates to the somatosensory system as a whole, so regardless as to which sense is initially stimulated (and in this study, it is the sense of touch), there remains a cross-sensory connection that shapes subsequent perceptions. '[S]ome of the sensations regarding the attributes of the receptacle or packaging may be transferred to the product contained within,' (Carvalho et al, 2020, p7).

Sensation transference, and the impact of cross-modal stimuli on a lived experience has been extensively explored in the discipline of food studies, specifically with regards the impact of a receptacle on the lived experience of consuming the food. Alongside the coffee-cup experiments of Spence and Carvalho (2019) and Carvalho et al (2020) sits research by Kampfer et al (2017) that similarly explores the texture of a receptacle and its impact on the taste of its coffee. But in this instance, the research relates to the weight of food and drink containers rather than its texture. The Kampfer et al (2017) study involved two experiments involving students. The first experiment consisted of 78 students consuming the same type of chocolates from three different boxes differing in weight. A second experiment consisted of 74 students drinking the same type of carbonated drink from cans that had been weighted. In both instances, the content consumed from the heavier receptacle was considered to be more 'intense', implying that the weight of the vessel amplified the flavour of the food or drink (Kampfer et al, 2017). In addition, the weight and thus amplification of the flavour of the food or drink correlated with an increase in desire and willingness to purchase. Consumers will 'not only enjoy these foods and beverages more, but potentially consume more', (Kampfer et al, 2017, p13). While these studies are positioned outside of the media studies or journalism studies disciplines, I can apply the principle of sensation transference and the impact of haptics to the lived experience of journalistic-content

consumption: the ‘content’ of this thesis is ‘journalistic material’ as opposed to food or beverages, and the ‘consumption’ to be the ‘taking on board that content, whether via a print or digital platform’. The argument that tangible weight can influence the buying behaviour of consumers also has implications to the journalism industry, in that readers are willing to increase consumption if there is a weight to the product: a notion that my findings echo, with the consensus from the sample of participants that the heavier version of *Delayed Gratification* is preferred (see Chapter 4: Findings). I can also reasonably posit that the experience of taking on board that content is subject to cross-modal perception. Much like findings proposed by Spence and Carvalho (2019), the stimulus of touch impacts upon the stimulus of taste; the container affects the way in which the content is consumed. When applied to this thesis, the argument is strengthened that the container (the paper stock, binding and finishing) impacts upon the consumption of printed content.

2.7 Senses and impact

A key contribution that this thesis makes is the impact of haptics upon brand perception - and the aspect of trust is entwined with this, and is a crucial factor in journalism (see Chapter 4: Findings). The arguments posed here reiterate the point that touch stimuli has been superseded by visual stimuli (or Parisi’s (2014) ‘visualist paradigm’) in relation to content (images and copy) consumed via media technology (such as smartphones) and that the visual modality is considered to supersede the touch modality. This thesis demonstrates the significance of haptics in our consumption of media - specifically journalism - and encourages a shift of perspective that considers the experiential nature of content consumption, rather than simply the content itself. In essence, the thesis demonstrates the physiological and emotional ways in which haptics plays a role in the experience of media

consumption. In order to gain an understanding of the impact of haptics upon our consumption of journalistic content (still images and copy), an awareness as to the biomechanical aspects of this sense is beneficial. This is because an element of my research includes the gathering of physiological data and, whilst not a thesis positioned within the discipline of physiology or biology, my research benefits from an awareness of the biomechanics involved when I, or a participant, interact with an object with haptic qualities.

The receptor to touch, the skin, is the largest organ in the body (Linden, 2015) - Linden actually puts it into context by stating that his 'hide' would 'weigh about as much as a bowling ball (14 pounds),' (p35). At a base level, this knowledge strengthens the argument that our sense of touch is an instrumental element in our experiential interactions. Linden (2015) identifies four types of sensors integral to the mechanics of touch: Meissner's corpuscle, Merkel disk receptor, Ruffini ending, and the Pacinian corpuscle. These sensors detect varying frequencies of vibrations, shapes and textures. These cells also have nerve endings 'which are sensors for certain chemicals, temperature, pain and itch,' (p41). These are the facilitators for that sense of touch; haptics refers to the study of dynamic touch. The dynamic touch in the context of this thesis is grounded in the reader's navigation of a printed publication: picking it up, feeling the weight, moving through the pages - and the weight, paper stock, and pagination (number and sequence of pages) are specific to that brand, and integral to the reader's association to it. Thus, the consideration of haptics and the printed publication involves acknowledgement of dynamic consumption - not just optically (from what is seen on the pages) but is felt (the weight of the pages and the texture of the paper stock) and even heard (when the pages turn). An appreciation of the physiological aspects related to the sense of touch provides a basis to the proposition of this thesis that the sense of touch – and dynamic touch – impacts upon our experiences. What that 'impact' is, however, is

determined by the paradigm. For instance, a lack of maternal touch impacts upon childhood development, evidenced and outlined by the attachment theory (Harlow, 1958; Crucianelli et al (2018)). The impact of packaging can determine the perception of a product (Krishna and Morrin, 2008). This thesis repositions the discussion of the impact of haptics to journalism studies, and its influential dynamic in our consumption of magazines and newspapers.

2.8 The influence of touch

The haptic paradigm has been largely neglected by journalism studies, but when the physiology of the sense of touch is explored, we can gain an insight into its impact. Linden (2015) dedicates a whole book to the sense of touch, unpicking the various elements related to this particular sense:

The main point of this book is not merely to argue that touch is good or even that touch is important. Rather, it's to explain that the particular organisation of our body's touch circuits, from skin to nerves to brain, is a weird, complex and counterintuitive system, and the specifics of its organisation powerfully influence our lives. (Linden, 2015, p5).

Linden's (2015) argument, therefore, is that the skin, being the largest organ of the body, bears a significant position on our experiential interactions. The tactile interaction with that content has, this thesis proposes, an impact on the consumption of that content – and Linden's (2015) position reiterates the 'powerful influence' that touch has on our lives. Linden (2015) describes the research of the psychologist Solomon Asch; particularly the collective tendency to make a quick judgement from an individual's character, based upon words that triggered the associations with touch stimuli. One experiment involved the reading of characteristics to two separate groups. These characteristics included "Intelligent... skillful... industrious... determined... practical... cautious," (Linden, 2015, p9). However, one word was different: one group heard the word 'cold' in amongst this list of characteristics; the other heard the word 'warm'. That one-word differentiation

had a significant impact on the group's judgement of the individual with the specified characteristics. Those who had heard the word 'cold' summed up a person who was considered ruthless, whereas those who had heard the word 'warm' considered an individual as less of a threat. This gives an insight into the perceptions that can be shaped quickly and the impact that the tactility involved in our interactions with our surroundings can have. This ties in with the impact that tangibility can have on our consumption of journalistic content (visuals and copy). If the tangible aspect of that journalistic content makes a positive contribution to the consumption of that content, then the consumption process (in terms of our interpretation, our willingness to archive, and our overall perception of the content) is shaped.

Linden (2015) explores whether it's simply temperature that elicits a different reaction or whether other elements of the sense of touch can make an impact. He cites Ackerman et al's (2010) exploration of haptics on the shaping of social judgements. One experiment involved passers-by reviewing a CV that was attached to a clipboard that was either 340 grams in weight, or 2,041 grams in weight. The researchers found that those reviewers who held the CV on the heavier clipboard determined that the candidate was more suited to the position. "The tactile experience of the weighty clipboard subconsciously caused the job applicant to be perceived as having significantly better performance and more serious intent," (Linden, 2015, p12). Thus, there is a perception of quality related to weight, wherein Ackerman et al's (2010) study argues that the quality of a candidate is shaped by the quality (indicated by the paper weight) of the CV. This can be applied to that of paper stock of magazines, newspapers, promotional material and packaging: that a heavier paper stock implies quality, much as can be seen in the printing of broadsheet newspapers.

In terms of the development of the sense of touch, Linden (2015) states that this sense is the first to develop in utero, and early on in the gestation - at eight weeks. Not surprising, then, that Aristotle perceived it to be the sense of touch that makes us superior to other animals. As Linden (2015) states, "The human being is left behind by many of the animals, but with respect to touch he is precise in a way that greatly surpasses the rest, and this is why he is the most intelligent of the animals," (p33). Linden's (2015) publication is relevant to this thesis, because it facilitates an understanding of the biomechanics of our sense of touch, as well as the cognition involved that affects our emotional and physical responses. This is applicable to the thesis question relating to the impact of haptics upon our consumption of journalistic content, because it provides a clearer idea as to the processes involved in our sense of touch, and how that affects our perceptions and responses. As such, if I refer back to the 'clipboard and CV' example that Linden (2015) cites, I can reasonably argue that heavier paper stock on a magazine or newspaper would elicit a more positive reaction from a reader, in terms of emotional and brand association, than thinner, lower-quality paper stock. However, despite focusing on the sense of touch, Linden's (2015) publication fails to make use of the term 'haptics', and it therefore avoids being caught up in the Parisi and Archer (2017) identification of a 'groundswell of interest' in haptics.

2.9 Maternal touch and attachment theory

Having considered research in relation to in-utero development of the sense of touch (Linden, 2015; Leader 2016b), an appreciation of the significance of our sense of touch in our development starts to emerge. The importance of our sense of touch can only be fully appreciated when it is removed, under-stimulated or not stimulated at all. This is particularly prevalent in our formative years, where physical nurturing in the form of cradling is intrinsically connected with the development of

our sense of security. The 1950s saw the development of the 'attachment theory' in the field of psychology specifically relating to our sense of touch and childhood development (Bowlby; 1958; Harlow, 1958). Harlow's (1958) 'attachment theory' experiment explored the extent to which a mother's touch was important to her offspring. His experiment consisted of baby rhesus monkeys, separated from their mothers, and then placed in a cage with two crude 'replicas' of a mother figure. One figure was made with wire, but had a bottle full of milk within the structure, enabling the baby monkey to feed; the other was the same wire structure, covered with highly tactile material, but with no milk bottle. Harlow's experiments found that the baby monkey, when placed in the cage, immediately sought comfort from the material-covered structure, rather than the with-milk structure. The baby sought nourishment from comfort, as opposed to milk. Harlow's research is aligned more to psychological theories relating to mother-infant attachments, but it is relevant to this research, as it highlights the importance of our sense of touch - the sense that Aristotle wrote in the 350BC work *On the Soul* was our 'primary sense'. As such, any exploration relating to experiential activities (such as the consumption of journalistic content) should consider the impact that our 'primary sense of touch' has. Linden (2015) and Leader (2016a; 2016b) provide evidence from physical and biological perspectives with regards the 'mechanics' of our sense of touch, and how our skin is the largest organ; the attachment theory provides a theoretical basis from the psychological paradigm with regards the impact of our sense of touch on our emotional and mental wellbeing, specifically in childhood.

2.10 Cognitive consequences of sensory stimuli

The addition of a sensory interaction to a person's experience has the potential to enhance that experience exponentially - a point that media-studies scholars Parisi et al (2017), neuroscience professor Linden (2015) and marketing scholars Krishna

and Morrin (2008) reiterate. The significance of the sense of touch in our childhood development has been demonstrated by various scholars. Harlow's 1958 experiment led on to others in his development of attachment theory and maternal separation, moving on from the 1950s research through to the late 1970s. The anxiety and distress caused by the lack of sensory interaction has been exposed by the media in the context of under-resourced Romanian orphanages that had been established under the dictatorship of Nicolae Ceauşescu and his banning of abortions for women who had fewer than four offspring (Stevenson, 2014). Linden (2015) writes, '[D]eprive a newborn of social touch, as occurred in grossly understaffed Romanian orphanages in the 1980s and 1990s, and a disaster unfolds: growth is slowed, compulsive rocked and other self-soothing behaviours emerge and, if not rectified, emergent disorders of mood, cognition and self-control can persist through adulthood... If our long childhoods are not filled with touch, particularly loving, interpersonal touch, the consequences are dramatic,' (p4). The impact of maternal touch on the newborn has been explored by others, indicating the significance of this particular sense on our cognitive development. Kologeski et. al (2017) conducted qualitative research which involved 20-minute interviews with 15 healthcare professionals in the maternity unit of a Portuguese hospital and found that 'skin-to-skin contact soon after birth is seen as an event that provides feelings and meanings to the mother and who accompanies her, as well as being a source of stimulation to the baby, generating mother-child approximation and interaction,' (p96). But the researchers cite distinct physiological impacts, with skin-to-skin reducing 'the loss of body temperature to the environment,' (p97). In addition, 'maternal contact immediately after birth promotes the cardiopulmonary stabilisation of the newborn, decreases the risk of neonatal hypoglycemia and, consequently, reduces hospitalisation time,' (p98). The physiological aspect here is key, as it enables quantification of the impact of haptics (see Chapter 3: Methodology). The link between maternal touch, childhood development, and the individual's need for

touch was also highlighted by a participant of this study (see Chapter 4: Findings). The participant made the point that she associated 'heaviness' in what she touched as a sign of health, linking this to her experience of her newborn, where the weight of her baby indicated strength and her baby's reaction to her maternal touch - and the corresponding reactions in the baby's physiology (such as increased heart rate) that were indicative of strength and recovery.

The significance of our sense of touch in developmental stages of our lifetime is well explored but there is also a tangible relationship with objects and this interaction is arguably underpinned by the powerful position maternal touch has in our childhoods. With regards to the role our sense of touch has in relation to objects, where the context is not marketing-specific, the research from Sonneveld and Schifferstein (2008) is relevant. The shift of focus here is on 'tactility', and an endeavour to define the pleasant and unpleasant 'influential factors' of an object. The importance of touch in childhood development is highlighted by Sonneveld and Schifferstein (2008) in the context of its significance of maternal tactile interaction: 'Touch during the first phases of life has to be loving and protecting in order for a person to develop into a healthy, empathic human being. It is through touch that one experiences that one is safe and cared for,' (p44). A key finding of the Sonneveld and Schifferstein (2008) research is the relation of tactual experience to five parts, and these can all be related to printed magazines and newspapers. The authors construct a framework constituting these five elements, based on qualitative analysis of responses from 46 participants, ranging in age from 18 to 67 years in age. The parts are identified as: movements (the sensation of being touched, and touching); affective behaviour (attaching descriptive language to an object to indicate characteristics); sensations (the mechanics involved in skin's reaction to touch); gut feelings (those reactions elicited from the touch), and tactile properties (our perceptions relating to different aspects of the object), all of which

have salience to this thesis. Sonneveld and Schifferstein (2008) identify four elements that can be considered ‘tactile properties’. These elements are: surface; structure; substance, and moving parts. If I apply these to, say, a printed edition of the fashion magazine *Vogue* (perfect bound; printed on gloss paper), then I can identify the tactual elements that are at play in this interaction with an ‘object’. The surface tactile property can relate to the smoothness of the paper; the structure can relate to the magazine’s size and binding; the substance, to its weight; and the moving parts, to the pages. All these tactual properties have roles in the consumption of printed journalistic content, particularly as it helps to enhance our perception of a brand (see Chapter 4: Findings). When applied to the consumption of digital journalistic content, I note that the tactual properties relate to the hardware (the weight of the phone, for instance). There is no tactual property related to the brand of journalistic content, for the brand of a magazine is intangible. Brand values, however, can be conveyed via haptics: thus reinforcing aspects such as ‘quality’.

2.11 The motivation to touch: the NFT scale

There are the four receptors that facilitate our experience of touch (Linden, 2015), but there is also a motivation behind that experience – a motivation to interact with our surroundings on a haptical basis. Some individuals, for instance, are more inclined to engage with touch stimuli than others. In the field of marketing (and specifically focusing on the retail sector), Peck and Childers (2003a) developed the need-for-touch (NFT) scale as a means to identify key factors fuelling the motivation for people (consumers) to touch products and what’s important to those consumers. This progressed from earlier research where the variation in the ‘need to touch’ was identified, as a way to quantify the motivation. At a base level, the argument is that some people want to touch products more than others as a means to decide

whether to buy the product. The studies are relevant to this thesis because it demonstrates that an audience does exist for whom an experience that includes haptical stimuli is preferential. The studies demonstrate that haptics is influential in decision making in various degrees and Peck and Childers' (2003a) study acknowledges that the role of haptics, at that point, had been overlooked: 'Casual observation reveals that touch is an important source of information to consumers, but little is known about the role of touch in product judgments and decision making,' (Peck and Childers, 2003a, p35).

When it comes to deciding whether to make a purchase or not, Peck and Childers (2003a) argue that those consumers who are more highly motivated to interact haptically with products will consider the tactility of that product earlier on in the decision-making process. For consumers who are less motivated, the decision is more heavily influenced by optic stimuli – in other words, by what they see. By applying this to online shopping, those consumers who are less motivated by the need to touch (NFT) find that their decision-making process in making a purchase is satisfied by what they can observe being represented online. The issue facing online retailers relating to the costliness of product returns provides another area that is suitable for haptic-impact exploration (Chen, 2022): that the majority of those products being returned are from consumers with a higher NFT. What Peck and Childers (2003a) do identify, is that those products online that are accompanied by a description that states the products haptical qualities makes a positive impact upon the consumer's decision to purchase. Products that can be purchased online are often shown with accompanying text, often written by a copywriter - an individual responsible for writing text that promotes or advertises a product or service. The standard of copywriting differs, but those using words that convey the feeling of the product can positively impact upon the consumer's intent to purchase. The findings of the Peck and Childers (2003a) study evidenced that those

consumers with a high NFT were 'frustrated' if they were required to make a decision to purchase but were unable to touch the product. However, if the product was accompanied with written information that pertained to the haptical quality – and more specifically, the autotelic haptic quality (how soft it was, how it 'felt', as opposed to the instrumental qualities, that are more practical and relate to elements such as weight) – then the consumer's confidence in their decision making increased.

The Peck and Childers (2003a) research led to the 2003b study, within which the NFT scale was further developed. The NFT scale facilitated quantification regarding the motivation of a consumer to touch a product as a means to make the decision to purchase. Certain consumers are acknowledged to 'enjoy' shopping, some referring to it as an adventure, finding that the touching of products – and therefore, sensory stimuli in addition to optics – is an enjoyable experience. The 'instrumental' factor, as described in this scenario, contributes to the decision making in the purchase of a product, whereas the 'autotelic' factor makes the decision to purchase the product. In other words, for the autotelic consumer, it may look wonderful online, but if it feels 'wrong', there will be no purchase. As with Peck and Childers (2003a; 2003b), this research will quantify the sense of touch but in the field of journalism studies. However, the NFT scale that Peck and Childers (2003a; 2003b) developed is an interesting scale to consider, despite the fact that it relates to marketing and shopping:

EXHIBIT 1

THE TWO DIMENSIONS OF NEED FOR TOUCH AND THE SCALE ITEMS

1. When walking through stores, I can't help touching all kinds of products. (A)
2. Touching products can be fun. (A)
3. I place more trust in products that can be touched before purchase. (I)
4. I feel more comfortable purchasing a product after physically examining it. (I)
5. When browsing in stores, it is important for me to handle all kinds of products. (A)
6. If I can't touch a product in the store, I am reluctant to purchase the product. (I)
7. I like to touch products even if I have no intention of buying them. (A)
8. I feel more confident making a purchase after touching a product. (I)
9. When browsing in stores, I like to touch lots of products. (A)
10. The only way to make sure a product is worth buying is to actually touch it. (I)
11. There are many products that I would only buy if I could handle them before purchase. (I)
12. I find myself touching all kinds of products in stores. (A)

NOTE.—Scale descriptors ranged from -3 (strongly disagree) to +3 (strongly agree). A = autotelic scale item; I = instrumental scale item.

Figure 1 Peck and Childers (2003b, p432)

While the NFT scale does make specific reference to shopping for products, the key point to consider for this research is: 3. 'I place more trust in products that can be touched before a purchase.' The point relating to trust is key in the primary research of this thesis: that journalistic content (in the form of copy and still images) is trusted more than that read online – for most people (the 'autotelics'). Peck and Childers (2003a; 2003b) do not elaborate on what 'trust' means in this retail-driven scenario but one might assume it relates to the quality of the product (though, transparency of manufacturing will often relate to the quality of production and sustainability of the product). The 'quality' aspect of trust on the NFT scale can be applied to this thesis, with regards 'quality' journalism. The definition of 'quality' journalism is one that is based upon the journalist's training with regards ethics: that facts have been checked and identified as correct at the time of going to press. This 'quality' journalism – and the fact-checking standards entwined with it – is often invested in for the print editions (Randall, 2000). The cost of recalling an online article, for instance, is nothing compared to that of recalling a print edition and/or facing a libel lawsuit.

In addition to the variables in the 'need' for touch, there are variables in the 'type' of touch, specifically in the field of childhood studies. Crucianelli et al (2018) in research into the quality and impact of maternal touch suggested that there are two types of touch: intentional and incidental. An example of an intentional touch from a mother is when she tickles her infant's feet; an example of an incidental touch from a mother is when she absent-mindedly places a hand on her infant's knee as they sit together, watching a film (Crucianelli et al, 2018). From a non-parental example, incidental and intentional motivations of touch can be seen in a retail environment. In newsagents, for instance, customers can be observed intentionally picking up magazines from the display stand, yet absentmindedly holding a phone. Peck and Childers (2003a) echo the point that there exists a variation in the type of touch but in the marketing field, identifying 'autotelic' and 'instrumental' touch. The paradigm of marketing consists of elements that are applicable to that of journalism studies, specifically trust and perception of quality (see Chapter 4: Findings). Crucially, Peck and Childers (2003a; 2003b) demonstrate that the qualitative evidence relating to experiential consumerism can be quantified. This mixed-methods approach provides a framework for this thesis to develop its methodology (see Chapter 3: Methodology).

This study does not focus specifically on genders and is instead centred on the sensory stimuli element within the physiology and phenomenology of the lived experience of consuming journalistic content. However, there has been research that has built on the Peck and Childers (2003a; 2003b) studies in terms of ascertaining whether one gender is more autotelic than another. Lee et al (2016) conducted research that did precisely this, involving 160 men and 160 women, with a mean age of 44, to explore whether males or females showed different behaviours when it came to online shopping. The data was gathered via a questionnaire that included questions relating to shopping preferences, such as:

‘Purchasing through the Internet is more fun than purchasing in off-line stores,’ and ‘Internet shopping is more efficient than offline shopping’. This type of question alludes to the fact that some consumers find pleasure in shopping, and those consumers are often autotelics who, in the context of shopping, prefer to touch the product before they buy it. This study showed that women were more inclined to be autotelic and found the consumption experience of shopping more pleasurable if they were able to interact with the product tangibly prior to purchase. In terms of the Peck and Childers’ (2003a; 2003b) NFT scale, Lee et al (2016) found that men were more instrumental in the way in which they preferred to interact with tangible products. In other words, they generally preferred to touch a product to simply assess its functionality. The limitation of the Lee et al (2016) study is that it focuses on Korean consumers only and as such, there may be cultural influences at play were the study to be applied to a different international market of consumers. However, the study does find that consumers do use sensory stimuli in their decision-making processes, and this is a point echoed in Peck and Childers (2003a; 2003b). The implications of Lee et al’s (2016) findings is that female consumers of journalistic content would prefer that content to have a haptical quality, which has ramifications for the genre of women’s magazines.

2.12 Haptic variation and dissonance

To reiterate, with regards the five senses, we have hearing (acoustics), sight (optics), smell (olfactics), taste (gustorics), and touch (haptics), and cross-modal stimuli are relevant to two or more of these when it comes to experiential interactions. Some individuals are more heightened to certain senses than others. Blind people, for instance, relate the ‘heightened senses’ of touch, smell and hearing. Some people wear glasses because their eyesight is impaired; others have perfect vision. This variation in one sense gives a clue that perhaps our sense of

touch is variable between individuals, and that haptics has more impact on certain people than others, and therefore we can align reactions to the NFT scale (Childers and Peck, 2003b). Certain individuals have more of a heightened sense of touch than others, and thus certain individuals enjoy the experience more when interacting with a product or object or 'thing' that has haptical value. The exploration of the subject of haptics and journalistic content has found that there is scope to study more deeply the relationship between touch and consuming content within magazines and newspapers, but that scholarly debate within the journalism-studies paradigm is lacking. The third 'use' of haptics as argued by Mosely (2016) was the theoretical application of haptics, but it has been lacking in the discipline of journalism. It has, however - as mentioned previously - been applied in other disciplines, such as marketing: specifically, sensory marketing. Krishna and Morrin (2008) explore the relationship between the senses of touch and taste with the research relating to cross-modal perception. Krishna and Morrin's (2008) research explores how touch stimuli affects the experience of water consumption. The aim was to 'develop a conceptual framework that posits that haptic or touch-related characteristics of product containers may indeed be transferred to the products contained therein through consumer inferences and evaluations,' (Krishna and Morrin, 2008, p807). Primary research within the study involved participants sipping the same water but from different containers - with the participants unaware that the water was the same. One group was allowed to feel the container (a flimsy plastic cup), while others were asked to sip through a straw (thus removing any haptic cues in terms of haptic interaction with the cup). Another study conducted as part of 2007 research involved 210 students assessing the quality of clear plastic cups that were identical in all ways apart from the firmness of the material from which it was made. Visually, there was little to distinguish between the cups - they were the same size, and had no designs or patterns. But the cups did differ in what the authors refer to as their 'flimsiness' or 'firmness'. The students were asked to

assess their perception of the quality of the cup presented to them - one set of participants had a lower-quality, 'flimsier' cup, the other had the higher quality, 'firmer' cup. The students recorded their perceptions in a quantitative manner, on a scale ranging from 1 for 'low quality' to 9 for 'high quality'.

There are three ways in which this paper - although aimed at a journal relating to consumer research - are highly relevant to this research. The first relates to the impact of a 'container' on the experience of consuming content. Krishna and Morrin (2008) incorporated a plastic cup as the container, and water as the content. This framework can be applied to journalism studies, with the container being the platform upon which the content (and in this sense, we refer to journalistic content of news and features) is offered. If I apply Krishna and Morrin's (2008) findings to this study, I could argue that the haptic interaction with a 'container' (be it print, or a hardware device displaying digital content, such as a smartphone) will impact upon the consumption of content by influencing the perception of its quality. And in this sense, the argument against the notion that 'content is king' is strengthened (Gates, 1996; Odlyzko, 2001; Miller, 2008; Müller and Christandl, 2019). The second way in which Krishna and Morrin's (2008) is salient to this study, is the concept of autotelism and the variable degrees within consumers' motivations to gain haptic information in the decision-making process, which builds on Peck and Childers argument relating to autotelism (2003a; 2003b). Krishna and Morrin (2008) posit the theory that our sense of, and need for, touch is very much an individualistic aspect - much like differences in our sense of sight and hearing (which aligns with the NFT scale of Peck and Childers (2003a; 2003b). 'Haptic orientation is thus an individual difference variable that reflects a person's motivation to or preference for touch,' (Krishna and Morrin, 2008, p808). The research puts forward the argument that there are two principles to levels of NFT, levels which are determined by a scale to indicate an individual's NFT. These principles of 'underlying elements' (Krishna and

Morrin, 2008, p808) are 'instrumental' and 'autotelic', as defined by Peck and Childers (2003a). The instrumental element is motivation driven and analytical. For instance, in the retail environment, a shopper may only deem a product worthy of purchase if that product can be physically touched to determine its quality. The autotelic element is more aligned to an individual's preference to interact with a product on a haptical level, simply for the pleasure of doing so. Thirdly, the Krishna and Morrin (2008) paper is significant with regards to the methodology of this thesis, similarly to the Peck and Childers (2003a; 2003b) studies, with regards the mixed-methods approach to gaining data.

If I link this argument back to the impact that haptics poses to the consumption of journalistic content, then I posit that haptic dissonance/sensory disconfirmation is one to consider with regards the paper stock and binding of a publication (Sundar and Noseworthy, 2016). If we see an issue of *Vogue* sitting on a coffee table, and associate the brand with luxury products and high-end lifestyles, this perception should be reinforced via high-quality paper stock and haptic dissonance is minimised, and the consumption experienced optimised with leisure-time immersion (Gerlach and Buxmann, 2011). Sundar and Noseworthy (2016) refer to 'sincere' brands, where there is no sensory disconfirmation: in other words, the feel of the product aligns with the expectation affirmed by sight. 'Sincere' is an interesting word to use, as it suggests there is an element of trust in the consumption process. The notion of trust is an important one in terms of journalistic content, as well as in marketing, and it is an area that this research posits is impacted upon by haptics. This can be applied to journalistic content, from the basest level: 'broadsheets' are, in their very nature, 'broader' in corporeal scope than the tabloids, being printed on larger-format paper. The sensory confirmation here is that the content dedicated to a large-format paper stock necessitates the substrate. It is quality information that requires the space and quality of paper stock to ensure that the reader can read the

text and images, and on occasion, archive that information for later reference – whether that be an hour or a month later. The desire for a luxurious experience can be linked to the relationship that the reader seeks with a product. In an exploration of magazines in the Norwegian market, Ytre-Arne (2013) found that there was a place in the editorial market for the printed publication, because readers wanted to immerse themselves with a product that enhanced the notion of leisure, in a leisurely environment:

My interviews with women's magazine readers showed that they continued to prefer print even when they became aware of free digital alternatives (Ytre-Arne, 2012). [Print] magazines were read in relaxed and leisurely settings, and the interfaces of print magazines were experienced as particularly suited to these situations. (Ytre-Arne, 2013, p80).

Ytre-Arne (2013) echoes the findings of Gerlach and Buxmann (2011), who explored haptic dissonance in relation to eBooks: that consumers seek different experiences of content consumption, and haptics has a significant role in differentiating these experiences.

2.13 Haptics and the eBook

Another 'container' of textual content and therefore can be considered applicable to this thesis, is the eBook. The eBook is an interesting example to observe, because it could be argued that relatively little is 'lost' in the translation from a printed book and an eBook. A novel, generally, consists of black type on a white background. There is a 'brand association' with regards the content, from the cover design, binding, and paper stock. However, the text - and often cover design - are incorporated into the digital version, and the structure of the eBook device is reminiscent of a book structure. And yet, the printed versions endure and there is a general 'resistance' that's been identified in uptake (Gerlach and Buxmann, 2011). This is relevant to this research, as it ties back in with the notion of 'framing'

(Mosely, 2016), and our brand association that is shaped, in part, via the substrate that presents the content (be it a picture frame, the paper stock and binding of a magazine, or the presentation of a novel). Gerlach and Buxmann (2011) explored the impact of haptics and written content relating to eBooks, and the issue of haptic dissonance. The study explored the relationship of haptic dissonance and the uptake of innovations, positioning the argument that reading a physical book as opposed to an eBook has more prevalence in terms of a pleasurable experience during leisure time, arguing that 'many existing national book markets refuse to adopt the technological change [of digitisation]... There is evidence that the different haptics of a physical book play an important role in eBook acceptance, especially in leisure settings,' Gerlach and Buxmann (2011, NP). This line of enquiry resonates with the perspective taken of this study - in that haptics plays an 'important role' in the consumption of journalistic content. As a result, this paper is highly salient to this research, with regards its linking of haptics with a behaviour related to reading, the experience of reading, and the taking on board of information related by sensory modalities.

In an attempt to quantify the impact of haptics on the adoption of eBooks, Gerlach and Buxmann (2011) do discuss the 'need for touch' (NFT) scale, as developed by Peck and Childers (2003a; 2003b). Subsequent research (Childers and Peck, 2006) built upon the 12-point scale to explore shopping tendencies within the physical retail environment. Questions with the 12-point scale included 'when walking through stores, I can't help but touch the products', and 'I place more trust in products that can be touched before purchase' (2003). Gerlach and Buxmann (2011) repeatedly use the word 'irritated', or its derivatives, when discussing the haptic dissonance of reading an eBook. Linking this with innovation adoption, (Rogers, 1995), it's reasonable to argue that the irritation abates when the consumer gets used to the idea of a new technology. Gerlach and Buxmann (2011)

make the point that there is resistance to innovation of adoption when the user is content with their existing habits: in the context of this research, this habit relates to the reading of printed books; in the context of my research, this habit relates to the reading of printed newspapers and magazines. The haptic dissonance - where the tangibility of an object does not align with the initial perception of the object - has impacted upon the uptake of eBooks, because users expect, and are content with, the way a book feels in the experience of reading. This idea launches from Festinger's 1957 theory of cognitive dissonance: that individuals seek consistency across sensory stimuli, thought and action. In other words, the perception of an object that is shaped by what is seen (optic stimuli) aligns with the expectation of what is felt (haptic stimuli) and what is heard (acoustic stimuli).

The eBook fails to supplant the printed book, because there's simply not the market that was originally considered to exist: the user is content with how books were read, previously. A report in the *Guardian* newspaper on a 2017 research report by Nielsen Book Research UK found that the sale of eBooks had fallen 4% in consecutive years; conversely, the sales of printed books had risen by 7%. The argument put forward by Nielsen Book Research UK as a rationale for this slip and surge was that the printed book was a 'respite' for people, particularly the young, who wanted a break from their devices. As Gerlach and Buxmann (2011) argue, the haptic quality of a book is valued and considered more relevant during leisure time, when readers are keen to immerse themselves in the content. The same argument could be applied to magazines: as a leisure activity, the haptic quality is important in assisting with the immersion into the content, and away from disruptions facilitated online. Similarly, Gerlach and Buxmann (2011) refer to our preconceptions and our established beliefs when the point of haptic dissonance is discussed:

Suppose that an individual's salient association with reading is "books." If the individual is reading (printed) books on a regular basis, he or she might hold beliefs about how it feels like to read a book regarding tactile perceptions. Those beliefs are cognitions that are preexisting in the individual's belief structure because of personal experiences. When that person is given an eBook on a dedicated device for reading, the haptic experience might be inconsistent with his or her expectations what reading should feel like...This inconsistency should build at least a slight unpleasant tension during the reading process, which we call "haptic dissonance". (Gerlach and Buxmann, 2011, NP).

The above citation demonstrates the importance of initial perceptions on the lived experience that involves more tangible interaction, where there is touch stimuli. While my research findings identify the point of 'perception' based on optic stimuli, Gerlach and Buxmann (2011) identify the point of 'expectations' but both are influential for the user when it comes to cross-sensory stimuli. This ties in with Festinger (1957) and the cognitive dissonance theory: that users expect sensory stimuli to align and are discombobulated when they fail to do so. However, if the Peck and Childer's (2003a; 2003b) NFT scale is considered, two arguments can be put forward: firstly, that there will always be individuals who have a greater need for touch than others, and will invariably tend towards the printed product (or a product with a haptical asset), as the haptic quality of a product will always be sought; secondly, that if we take the example of the decline in eBooks in the UK as the result of people's endeavour to seek a respite from the digital platform, then regardless of haptic dissonance, there is an intention to pull away from the digital world, particularly in leisure time. This has relevance to this research, as it suggests that consideration should be given to the haptic quality of journalistic content (specifically print), if a premium experience of consumption is to be achieved, specifically in leisure time, when users are looking for a respite from haptic homogeneity in the shape of the device used to access the same content. Gerlach and Buxmann (2011) posit the theory that the haptic dissonance experienced with reading an eBook is driven by what the reader believes the book should feel like. However, this would imply two things: firstly, that there is scope for the haptic

dissonance to diminish, as readers become more familiar in the activity of reading digital books, and therefore their belief system as to what the book should feel like shifts. That in turn leads to a second point that contradicts the NFT scale: that there is no *need* for touch, but a *belief* that we need to touch. A belief that a quality product needs to be touched, however, is still salient for this research, as it strengthens the argument that there is a place for haptic stimuli in an optimal consumption experience of journalistic content. In short, Gerlach and Buxmann (2011) highlight the importance of sensory stimuli with regards the perception of individuals within lived experiences. When this is aligned to journalism, I argue that the stimuli of optics (what we see when we read) fails to optimise the opportunity to maximise the lived experience of consuming content: this can only be achieved via the stimuli of other senses, and the synchronicity of that stimuli.

2.14 The journalistic product as an object

The lived experience of consuming journalistic content is influenced by the way in which the content is accessed, as my research will show, and the content has – up until the invention of the digital platform – been accessed via print. The conventional journalistic business model is based on advertising revenue, traditionally from advertising in a printed product for which the reader would usually have to pay (Whittaker, 2008). The internet allowed content to be accessed for free, which has dramatically upset the traditional business model. But if the industry were to shift its perspective from viewing digital-and-print platforms from merely vehicles to transport content to integral elements of the lived experience, the business model would become more robust. Fortunati et al (2015) claim that the current business model being used by some brands is ‘faulty’ (p831) and that brands that have focused their efforts on the digital platform – often to the detriment of the printed version – are failing due to the lack of appreciation of the experience afforded by

the physicality of print. Fortunati et al (2015) argue that the journalistic product as an 'object' (in other words, in print) provides a different experience for the reader than reading the content online in that there is value in 'matter' (p832). This value can be seen in the way in which a tangible product influences the ritualism of the consumption of journalistic content, where the purchasing and consumption of content is an integral part of the daily routine. This feeds into brand loyalty, where the reader purchases the content that aligns with their interests, but content that has been curated. Fortunati et al (2015) also refer to the bodily positioning when reading a printed publication, arguing that when a printed newspaper is read, there is a literal 'opening up' to the content, whereas the more insular positioning of reading content on a mobile-phone screen is more 'defensive' (p839). This interaction with a tangible product enhances the lived experience and is an experiential element that my primary research echoes, where some participants illustrate how they annotate printed content or archive printed products (or 'objects', as Fortunati et al (2015) refer to them) for reference at a future date.

There are a number of points that make the research by Fortunati et al (2015) relevant to my research. Firstly, there is the reference to the 'lived experience', albeit infrequently, that acknowledges there is more to reading journalistic content than simply optic stimulus: there are kinaesthetic elements that can enhance or disrupt the way in which the content is consumed. Secondly, Fortunati et al (2015) highlight the ritualistic element to the consumption of printed products, which my own research echoes. Thirdly, there is the acknowledgement that the journalism industry has been somewhat slow to adapt to the opportunities afforded by digital-and-print platforms that offer a cohesiveness of the consumption experience, rather than a replacement to the traditional vehicle of content distribution. Finally, Fortunati et al (2015) offer guidance with regards methodology, including students as participants in the study, which has influenced the research design of my own

studies. However, Fortunati et al (2015) do admit to the limitation of their study, in that it is positioned within Italy and thus, subject to Italian cultural behaviours that may differ from the UK. The study also adopts a qualitative approach, which is highlighted as a limitation because it restricts nomothetic application, which a multi-method research design, also incorporating quantitative methods, would help to remedy. Finally, the study makes no reference to haptics. There is minimal discussion in the Fortunati et al (2015) study with regards sensory stimuli, which is a key underpinning of my research: interaction with a tangible object involves sensory stimuli, which would require further exploration to gain a deeper understanding as to its relationship with the lived experience.

2.15 Haptics, kinaesthesia and brand perception

The importance of immersion in leisure settings, facilitated by print, has been discussed in relation to the consumption of eBook content (Gerlach and Buxmann, 2011). It is reasonable to argue that the haptic quality of content impacts upon bodily positions which in turn can help or conflict with the immersive-reading experience, as defined by Fortunati et al (2015). Paper as material, or a 'substrate' (upon which content is printed (Ambrose and Harris, 2006)), is considered more versatile in respects of the way in which one positions themselves in the consumption of the content presented. Taipale (2015) discusses the bodily positions that are assumed in reading and writing practices, and highlights a key shift in the way in which digital devices facilitate direct interaction with content that then potentially reaches a wider audience:

It is these new interfaces and the rise of collaborative media platforms together that have shifted the focus from 'read-only' skills to 'read and write' skills (Hartley, 2008). The consumers of new media have also become producers (or prosumers), who not only read digital contents but who also create them – shifting smoothly back and forth between these two practices. (Taipale, 2015, p767).

But the bodily position is only a chapter within the entire story of content consumption: there are other reasons as to why our reading of longform bodies of work is different on a screen than on a paper. These include: the strain on optic nerves reading backlit content; the distraction of pop-up advertisements and social media and/or email notifications, and the lack of experience-associated haptics (such as the pages of a book) that impact upon the full immersion of the reader's experience. This is the heart of this research: the lack of an experience-associated haptic quality (the touch of a page when the experience is reading a book; the weight of the product when reading a magazine) in the consumption of written material lessens the overall immersion with the reading experience.

Research relating to haptics spans the spectrum of physical, neurological and psychological development, but Paterson (2007) makes the connection of our sense of touch with technology and thereby associates the subject areas that underpin this thesis: haptics, technology and its effects. This is relevant to this thesis, because it lays the foundation for building bridges between the various disciplines (art history; marketing, for instance) and applying it to journalism studies. In addition, it is relevant with regards to its contribution to the methodology framework of this thesis. Paterson (2007) discusses the phenomenology of our sense of touch with regards our interaction with stimuli to our sense of touch, though I would argue the link made between technology and experience is more aligned with postphenomenology (Groot Kormelink and Costera Meijer, 2019). The approach that the author takes to examine a subject in a similar remit to this study is relevant, in terms of haptics' strong influence on experiences. As such, the resource is salient not only from the perspective of discussing haptics, but also from the point of view of discussing the appropriate methods relating to the exploration of this subject (see Chapter 3: Methodology). Paterson (2007) dedicates a significant

level of focus on haptics. There is discussion related to the mechanics of touch, its historical relevance, and the phenomenology related to this. For instance, there is discussion relating to the mechanoreceptors of our skin (effectively the channels of the stimuli relating to touch, as also explored by Linden (2015)); there is much focus on the work of Aristotle, as well as the work of phenomenology pioneers, such as Merleau-Ponty and Husserl (see Chapter 3: Methodology).

The impact that haptics has on perception aligns with a phenomenological methodology (see Chapter 3: Methodology), leading Paterson (2007) to refer to our sense of touch as a 'felt' phenomenology. When it comes to sensory perception, Paterson (2007) refers to the kinaesthetic element of haptics and how the perception of our lived experience is influenced by our awareness of body position and touch stimuli. In the context of this thesis, the kinaesthetic aspect of the consumption of journalistic content relates to the bodily position, movement of limbs and engagement with the publication that influences the lived experience, as explored by Fortunati et al (2015). For instance, a comparatively higher quality paper stock was seen to elicit more stroking of pages from a number of participants within this study (see Chapter 4: Findings).

2.16 Haptic technology

This research is positioned within the discipline of journalism and as such, the brand-specific haptic quality of a product is, currently, limited to print. However, haptic technology is progressing to enhance lived experiences via sensory stimuli and to influence perceptions. Lederman and Jones (2011) refer to 'perceptual illusions' (p273), where the virtual environment can manipulate the perception of an individual by the 'illusion' of touch stimuli. While there is no tangible product (such as the printed object), an illusion of one will manipulate the individual's perspective.

A lack of, or conflicting haptic stimuli impacts upon the consumer's comprehension (Fortunati et al, 2015; Sundar and Noseworthy, 2016), impeding the full understanding of what's being presented. Referring back to the impact of the sense of touch in our physiology and cognition, this is similar to that seen in childhood development, when there is a lack of haptic stimuli: a newborn's vision is underdeveloped, and even though a baby might have a visual imprint via its optic faculties, it doesn't actually 'see' an object, until the sense of touch comes into play. Paterson (2007) cites Diderot's 18th century work *Letter on the Blind*, arguing that touch has a vital role in facilitating an understanding of the object from the visual representation. 'In his questioning of the blind man of Puiseaux, Diderot assumes there is a spatial component to tactile experience, and that such tactile experience informs the eye,' (Paterson, 2007, p43). Simply looking at something, such as an iPad bearing the journalistic content of *The Guardian* newspaper, for instance, would - from this perspective - suggest that something is lacking in our understanding of what we see. A stimuli to our sense of touch is required to strengthen our level of appreciation and comprehension of the visual stimuli to our sense of sight. Reinforcing the notion that an element of touch is intrinsic to our level of understanding of the world around us, and specifically with our interaction with technology, is a short YouTube video of an infant interacting with an iPad and a printed magazine (UserExperienceWorks, 2011). The 85-second clip, published as part of the UserExperienceWorks channel, is entitled 'A magazine is an iPad that does not work'. It demonstrates a one-year-old child 'using' an iPad: it touches the screen, and uses the swipe motion with its forefinger, with the caption, 'This one works'. The child is then filmed interacting with a printed magazine: the forefinger continues with a swiping action, the pages flicked through, with the caption 'This one doesn't work'. The implication here is that the infant is expecting the same results from different platforms. The video is contextualised with this explanation: 'Technology codes our minds, changes our OS. Apple products have done this

extensively. The video shows how magazines are now useless and impossible to understand, for digital natives.' It is arguable that a one-year-old could even be considered a digital native, and that the angle of the UserExperienceWorks channel is one that is biased to a digital landscape, bearing in mind its focus on online user experience. The thread of user comments reinforces this: one user argues that 'babies touch everything'. Babies touch everything because, if we refer back to Diderot's work, that is how they deepen their understanding of what they are seeing. The inference here is, that from an early age, we are programmed to touch the things we see so that we can 'aid and inform the eye' (Paterson, 2007, p42). Applying this to journalistic-content consumption then, it would be reasonable to argue that haptics assists with the understanding of the content that's being consumed.

In terms of converging technology and haptics, the design of the technological hardware has been a significant factor. The ergonomic design of Apple products, for instance, has been deemed a key element in the persuasion of customers to make a purchase. In 1994, the *Harvard Business Review* published an article citing Apple as one of a small number of companies that were 'extending the parameters of design' (March, 1994). This 'extension' reached beyond the simple ergonomics of the product by taking into consideration the user, as well as the physical manifestation of an idea. Referring to this as 'user-centred design', the article explores how Apple was exploring and responding to the cognitive and emotional aspects of a customer's interaction with a product. The article confirms, 'Admittedly, this is no easy task. The new dimensions deal with feelings about experiences that defy concrete definitions - for instance, about how a car handles,' (March, 1994, NP). Increasingly, user-centred cross-modal design is gaining traction in the development of products. For instance, in 2008, a team of researchers from the University of Tokyo made early advances in what has recently been referred to as

‘ultrahaptics’ (Carter et al, 2013). The team developed the notion that virtual objects (such as in computer games) could be ‘touched’ through ultrasonic waves. The 2008 idea of using ultrahaptics in computer gaming has opened up opportunities for other ‘virtual’ and digital environments to incorporate haptic feedback, with other researchers picking up the mantle. More recently, there have been studies into how certain types of haptic feedback through bursts of air on certain areas of the hands could elicit different emotional responses (University of Sussex, 2015). ‘Touch’ to the outer palm of your hand, and to your little finger, by slow, moderate bursts of air was seen to elicit a less positive reaction than responses than more frequent, sharper bursts to the centre of the palm, thumb and index finger. Similarly, the University of Bristol has also been pioneering work, specifically in ultrahaptics, that has sparked the creation of a company, based within the city - originally called Ultrahaptics, but now known as Ultraleap, and established in 2013. The company develops hardware and software that enables touch stimuli via ultrasound. Companies can now buy ultrahaptic ‘kits’ that enable interaction with the technology. One of Ultraleap’s TOUCH Development kits can be purchased for nearly £2,000, allowing haptic sensations in mid-air. For instance, a company that manufactures media technology in the shape of television remote control handsets may consider using a TOUCH Development kit to explore ways in which a handset can be used with ultrahaptic technology.

2.17 Enhancing the experience

To reiterate, my initial premise is that haptics impacts the lived experience of consuming journalistic content and that phenomenology provides an appropriate methodological framework within which to explore the experience of consumption (see 3.2 Introducing Phenomenology). Yet, because our sense of touch is physiological, any study should explore the physiological aspect to the experience

of consuming journalistic content. In that respect, I am interested in electrodermal activity (EDA). Our EDA is the physiological response that correlates with emotional response (Vilja, 2004; Tröndle and Tschacher, 2012). Schubert et al (2016) offer the example of goosebumps which physiologically show increased EDA and emotionally signify feelings of trepidation or arousal (Schubert et al, 2016). I contend that EDA allows us a way to understand the physiology of phenomenology, in that it offers a measurable element to our experiences. EDA relates to skin conductance (electrical activity in the skin) which Tröndle and Tschacher (2012) measured in empirical studies relating to physiological responses of visitors to artwork exhibitions. This study ‘mapped’ the experience of 532 visitors to the Kunstmuseum (Museum of Fine Arts) St Gallen in Switzerland during 2009. The visitors each wore an electronic glove that tracked the visitors’ movements around the exhibitions as well as monitored physiological changes in terms of heart rate and skin conductance level. Prior to the electronic glove being worn, the visitor was given an ‘entrance’ interview; after the visit, an ‘exit’ interview was conducted. The questions in the structured interviews included rating scales and closed questions (see appendix 8) with the intention to ‘validate the quantitative data qualitatively’ (Tröndle and Tschacher, 2012, p77). In other words, the intention was to reinforce the quantitative data with the findings from qualitative methods: a correlation between physiological fluctuations and verbalised emotions. The study contributed to a limited discussion of the visitor experience in fine-art museums and its focus on the ‘physiology of phenomenology’ aligns with my research and its original contribution to the consumer’s experience in journalistic-content consumption.

An example of the correlation between the surveys and the physiological data in the Tröndle and Tschacher (2012) can be seen in the participants’ reactions to artwork by the artist Andy Warhol (1928-1987): *Campbell’s Condensed Tomato Soup* (1962). Participants expressed a strong reaction to this artwork both verbally in the

surveys as well as physiologically, with the electronic glove recording fluctuations in skin conductance (conventionally regarded as being a signifier of emotional response (Braithwaite et al, 2015)) as well as less movement around the artwork - indicating that participants stopped to view (and thus, experience) this particular artwork. The recorded movements of the participants were correlated with the physiological data from the electronic glove as well as the responses in the surveys. Similar correlation between verbalised interpretations of a lived experience with physiological measures can be observed in Wood and Kenyon's (2018) study of memory. While the Tröndle and Tschacher (2012) study was positioned in the discipline of art, the Wood and Kenyon (2018) study was positioned in the discipline of event management and tourism, and explored how shared memories of experiences informed future consumptive behaviours. Both studies adopted a mixed-methods approach, where qualitative data was enriched (or 'validated' (Tröndle and Tschacher, 2012, p77) by the quantitative data afforded by physiological measurements. Wood and Kenyon (2018) interviewed two female participants in their 20s who were friends and had attended a live-music event. The interviews were designed to explore the participants' shared memories of the event on a qualitative basis, with the data enriched with quantitative data from a Q Sensor wristband measuring physiological changes - most specifically, EDA. The participants were asked to wear the wristband two weeks' prior to the event, to establish an unstimulated baseline, and then two hours before the event, 12 hours after, and during the subsequent interviews. The interviews involved photographs of the event that the participants had provided prior to the interviews and were used as visual cues (much like the *Delayed Gratification* issues I used as cues). Wood and Kenyon (2018) then 'tied' the data (p171) from the interviews to the EDA data gathered via the wristbands by connecting fluctuations in the EDA measurements with dialogical emphasis in the interviews. This was particularly evident in the use of the word 'happy': when this word was spoken by the participants, the researchers

noted peaks in EDA. A key finding of the study was the positive recollection of the experience (as demonstrated both verbally and physiologically) of attending the event as a whole - rather than simply watching bands. This experiential consumption aligns with that of my research, and subsequent studies to the 2018 live-music memory recollection involved Wood using the E4 Empatica wristband to continue the exploration of EDA and the lived experience. Linguistically, the study has relevance with regards the repetition of a particular word: in the Wood and Kenyon (2018) study, this word was 'happy'; in my study, that word was 'nice' (see Chapter 4: Findings).

2.17.1 The Tate Sensorium experience

The ultrahaptics technology, mentioned previously, is being interpreted in a variety of ways, and translated to different contexts, and EDA measurements provide an insight into the way in which these contexts are experienced. The motivations behind this often relate to providing a more immersive experience, a point that Gerlach and Buxmann (2011) demonstrate has wide appeal. An instance of the creation of an immersive experience with cross-modal sensory stimuli can be seen at a London art exhibition in 2015. The Tate Britain gallery and exhibition space showcased an installation that was innovative in its attempts at providing a multi-sensory show. 'Tate Sensorium' was an exhibition open to the public where four artworks from the gallery's collection were reinterpreted to stimulate not only our optic senses, but other senses as well. This included the sense of taste: the viewing of paintings was enhanced with the opportunity to consume food, such as edible charcoal, sea salt and cacao nibs (Pursey and Lomas, 2018). Herein was an opportunity for the technology developed by Ultraleap (then known as Ultrahaptics) to be integrated as a stimulus to the sense of touch. The four pieces of 20th century artwork were: David Bomberg's *In the Hold* (1914); Francis Bacon's *Figure in a Landscape* (1945); John Latham's *Full Stop* (1961), and Richard Hamilton's *Interior*

(1964). All four pieces were accompanied with specific sounds, chosen to complement themes within the artwork. Hamilton's work, for instance, was accompanied by some of the sounds of the objects that feature within the picture (the artwork includes objects characteristic of an interior living space, such as a television and a chair). Some were accompanied by smells, to enhance an olfactory experience: the exhibition of Bomberg's painting, depicting a ship's hold in abstract, included the smells of substances commonly found on a ship of that era, such as fuel and tobacco. Only Latham's painting incorporated a stimulus to our sense of touch. The ultrahaptics technology allowed the visitor to 'feel' objects in mid-air, meant to reflect the notion of positive and negative space represented in the painting itself.

Flying Object was the creative agency behind the realisation of Tate Sensorium, working with partners - including University of Sussex using the technology developed by Ultrahaptics - to create the multi-sensory experience of a gallery visit (Pursey and Lomas, 2018). Despite only four paintings being on display, the exhibition was a sell-out, and attracted 4,000 visitors over its three-and-a-half week duration. In a press release from the University of Sussex, Dr Obrist said: 'The future of entertainment is in technology that engages with all your senses.' The responses of visitors to the gallery were recorded via technology related to the tracking of physiological changes. The technological hardware was that of a wristband, and had been originally designed to track physiological changes in people who suffered from epilepsy. The wristband monitored the physiological changes and alerted the wearer to indicative signs of an impending epileptic seizure. The wristband - in this instance, the E4 model - was designed by a company called Empatica and is the same model I used for my primary research (see Chapter 3: Methodology and Chapter 4: Findings). The device measured the wearer's rate of perspiration, heart rate, skin temperature, and electrodermal

activity (EDA). The latter does give an indication into the feelings of the wearer, in as much that it gives the physiological indicators of someone who is ready for action - whether that be to enjoy with something pleasurable or uncomfortable (this is the commonly-called 'fight or flight response'). This is recorded by the E4 wristband as sympathetic activation, inline with the stimulation of the sympathetic nervous system. The visitors to the Tate Sensorium were given the opportunity to wear E4 wristbands, in order to measure their responses to the multisensory experience. Each visitor was then able to obtain the record of their reactions to what they had seen, smelt, heard and felt.

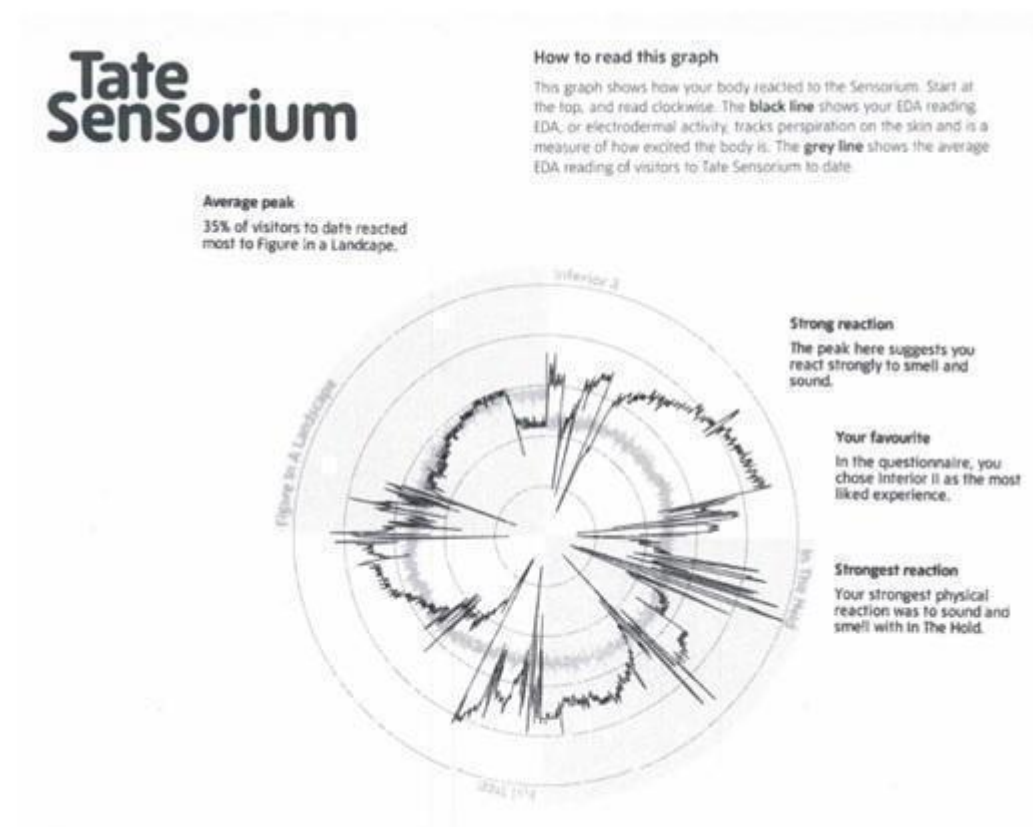


Figure 2 'A unique experience at the Tate Sensorium Arch Exhibition' (Crouquet, 2015)

The representation here is of the EDA of a visitor, who subsequently blogged about the experience. Reading the black-line graph clockwise, spikes of reaction are

measured, suggesting that the user was affected by the multisensory artworks but on differing levels. From this graph, we can see that, while the user specified a particular favourite in a questionnaire following their visit (*Interior*, which was complemented with related sounds and smells, such as hairspray), the strongest reaction was to *In The Hold*. Again, the experience of viewing the painting was enhanced by sound and smell, but the literal representation here involved the smell of diesel, and the sounds of being in a ship's hold. This demonstrates that multisensory experiences can elicit contrasting reactions between mind and body. If I relate this to journalistic content, it would be reasonable to suggest that some people think they prefer to access information online, while their body's reaction is stronger to that in print - and vice versa. This is echoed in my findings, where a participant stated a preference for online news, due to its convenience with regards access, but the participant's EDA suggested a physiological preference for high-quality print (see Chapter 4: Findings).

A similar contradiction was experienced by another visitor, who made available their E4 wristband data:

Tate Sensorium

How to read this graph

This graph shows how your body reacted to the Sensorium. Start at the top, and read clockwise. The **black line** shows your EDA reading. EDA, or electrodermal activity, tracks perspiration on the skin and is a measure of how excited the body is. The **grey line** shows the average EDA reading of visitors to Tate Sensorium to date.

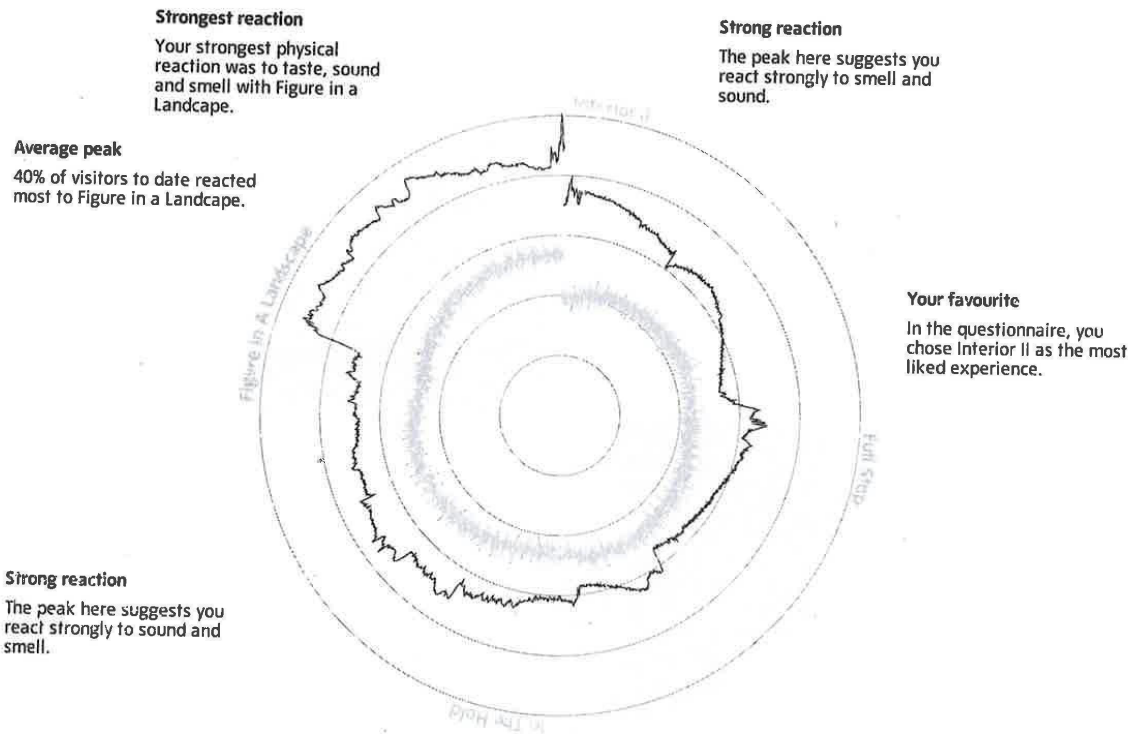


Figure 3 : 'Tate Sensorium' (Stoneman, 2015)

This graph again indicates that the strongest reaction related to a painting that was not cited as the visitor's favourite in the subsequent questionnaire. Physiologically, the visitor was more moved by *Figure in a Landscape* but the visitor cited *Interior II* as their preference. This reiterates the connection between physiology and the experiential, reinforcing the argument that the experiential is influenced by cross-modal stimuli. The accompanying blog post from this visitor highlighted the point of excessive stimuli and its impact upon emotional responses: 'Over stimulation didn't relate to a more pleasurable experience,' (Stoneman, 2015). If we

relate this to the consumption of journalistic content, I can reinforce the argument that content - or proliferation of content - is not king, and it's the experience that is instrumental in consumers' reactions. In addition, the analysis of this data also suggests that over stimulation (and in this instance I can apply this to multimedia storytelling, clickbait links and pop-up ads) can elicit negative reactions. This aligns with Gerlach and Buxmann's (2011) argument relating to the immersive experience non-digital content offers consumers - within which cross-modal stimuli, particularly that which involves haptic stimuli, is crucial.

2.18 Phenomenology and news

The Tate Sensorium is an example of how a lived experience can be enhanced via somatosensation and how a conventionally qualitatively explored subject (such as the viewing of artwork) can be quantitatively explored (through the measuring of physiological reactions). Phenomenology offers the appropriate methodological framework within which to explore the lived experience of journalistic consumption, and the originality of my study contributes to that discussion but specifically in relation to the haptical framing of content. Existing literature examining journalistic consumption from a phenomenological perspective relates consumer behaviour as to being influenced by the platform upon which content is published. Paterson (2007) also discusses the appropriateness of phenomenology as the lens through which the lived experience in relation to haptics can be effectively viewed, which ties in with the individual perception of an experience. Paterson (2007) cites Merleau-Ponty's phenomenological stance that is formed by the impact of an individual's physiology. This aligns with my intention to demonstrate how physiological measurements can quantify the lived experience, and that our physiology can also influence our lived experience with regards our individual 'need for touch' (Peck and Childers, 2003a; 2003b). Ultimately, for Paterson (2007), the

sense of touch is the supreme albeit undervalued of all our senses. Without it, we would cease to exist - a point echoed (with regards cognitive development by Harlow (1958), Bowlby (1958), Linden (2015) and Leader (2016b). Paterson (2007) challenges Aristotle's positioning of sight as the sovereign of our senses and argues that without our sense of touch, all other senses are rendered redundant. The importance that Paterson (2007; 2017) places on our sense of touch and haptics in our lived experiences is one that aligns with my research, in that the optic stimuli of journalistic content and its subsequent cognitive processing is only one part of the consumption experience - an experience within which haptics has a significant influence. A dominant theme in Paterson's (2007) research is that of haptics and perception, a point echoed in my findings (see Chapter 4: Findings). Perception of a brand - and the way in which haptics can mould this - is a point that will be expanded upon in Chapter 4: Findings and Chapter 5: Discussions as one to consider for a conceptual business model for the journalistic industry.

More recently, Groot Kormelink and Costera Meijer (2019) explored phenomenology specifically in relation to news consumption. The research involved a sample of 13 participants, ranging in age from 28 to 60 who consumed content across multiplatforms, including social-media channels, such as Instagram, and on traditional media, such as morning television bulletins. The participants were filmed during the consumption of content, thus creating a two-sided, user-centric ethnographic approach, and the data explored from a postphenomenological perspective, in terms of the lived experience in relation to technological interaction. The research made the users more self-aware as to their consumption across platforms, with one participant echoing my own findings, in that online content is a less immersive experience because of the distraction of hypertextuality. Similarly, a participant named Norah in the Groot Kormelink and Costera Meijer (2019) echoes the point about ritualistic behaviour that is a finding from my own research (where

three participants - Andrew, Martha and Eva - state that consuming the printed version of a newspaper was a habit). For Norah, the integration of the Saturday morning newspaper spread out on the table in the living room was a weekly ritual. Yet, the research doesn't explore deeply the impact of sensory stimuli on the consumption of journalistic content: while participants do allude to stimuli such as acoustics (with the newspaper 'crackling' (p648)), there is more discussion with regards the participants' behaviours having been made self-aware of this via the video ethnography. Indeed, the paper acknowledges that news users' sensory experiences of them has been virtually overlooked, especially in an everyday context (for an exception, see Fortunati et al, 2015)' (Groot Kormelink and Costera Meijer, 2019, p638). My research builds upon the studies of Fortunati et al (2015), which explores the impact of the tangible 'artefact' of a printed newspaper, and explores the sensory experiences of consumption by applying the 'framing' concept as established by Mosely (2016) and reinforced by research relating to food-and-beverage packaging (Krishna and Morrin, 2008; Carvalho and Spence, 2019; Carvalho et al, 2019; Spence and Carvalho, 2019).

The phenomenology of news consumption is a concept developed further by Bengtsson and Johansson (2021) which is more explicit than Groot Kormelink and Costera Meijer (2019) in its connection to the philosophy of phenomenology. The study acknowledges the changing practice of news and argues that to understand news in its current form, scholars need to reconceptualise what news is so as to reposition perspectives away from traditional viewpoints. The disruptive technology of the internet has 'altered production and distribution contexts' (Bengtsson and Johansson, 2021, p2873), resulting in study of contemporary journalistic practice and the consumption of journalistic content that is rooted in traditional concepts. Bengtsson and Johansson (2021) argue that by rethinking what is meant by 'news' and using a phenomenological framework within which to explore this, a clearer

sense of what news means for the contemporary reader - and a reader that reaches beyond the 'Anglo-American' (p2878) model that they argue has dominated scholarly exploration - can be achieved. Bengtsson and Johansson (2021) propose to 'bracket off' the traditional assumption of what news is for the contemporary and non Anglo-American consumer, a term that is rooted in the phenomenological philosophy of one of its founding fathers, Husserl. 'Bracketing off' presuppositions enables a neutral perspective, according to Husserl (Sokolowski, 2000), which Bengtsson and Johansson (2021) argue will be instrumental in reshaping the narrative of what news is. However, it is debatable whether it is even possible to bracket-off presuppositions and be truly neutral, a point argued by Heidegger, another key figure in the history of phenomenology (Peoples, 2021) (see Chapter 3: Methodology).

Whilst Bengtsson and Johansson (2021) may not clarify how the problem of bracketing off will be achieved in primary data gathering, they do highlight the questioning of sensemaking of news in its current incarnation. This is also explored by Mathews (2021) and Zhou et al (2021). Both studies explore the lived experience of journalistic-content consumption, albeit without making an explicit connection to phenomenology. Mathews (2021) examines the impact of the ceasing of operation of a weekly printed newspaper on a small community in the US. Nineteen participants were interviewed, ranging in age from 37 to 86, and the sample generally lamented the closing of the newspaper, because of the severing of a personal connection with an object. The closing of the newspaper meant that there was a questioning of the sense of self, with the research stating that it 'prompted a loss or lessening of self for the shuttered product's abandoned former readers,' (Mathews, 2021, p2). The publication had a role in the participants' lives, and connected the community with local news, as well as personal announcements, as gleaned from interviews. The findings also showed that the readers made use of

the printed product in a way that reinforced the sense of ownership, with the paper referred to as 'my paper'. This is a point echoed by the participant Frida in my research, who said she preferred reading in print because it allowed her to annotate an article before sharing with her partner for discussion. Mathews (2021) does incorporate a brief exploration of haptics with regards printed newspapers, but positions this in relation to how touch stimuli as a general theme impacts upon the sense of self, rather than in direct connection to the lived experience of content consumption. I would also argue that the focus of Mathews (2021) on the impact of nostalgia is centric to this sample: a sample of participants that have experienced a time prior to the internet and as such have stronger associations with non-digital artefacts. This is a point echoed by Zhou et al (2021) who acknowledge that physical affordances are underpinned by the individual's prior experience and previous associations. This also reinforces Heidegger's stance as to the impossibility of bracketing off presuppositions, because prior experiences are intrinsic to the sensemaking of current experiences. As with Mathews (2021), the study focuses primarily on the print medium and its affordances. Twelve participants were sampled, with ages ranging from 25 to 64, though each individual had been a reader of a printed newspaper for at least five years. As with Mathews (2021), interviews were conducted to gain a qualitative insight into the participants' experience in relation to the newspaper. While Zhou et al (2021) do not explicitly link the sensemaking of their samples with the lived experience of journalistic-content consumption, the findings do circle the impact that haptics has on that experience. For instance, one participant of the study explained how they archived the newspapers so that they could return to them at a later date, saving them 'because that's how you remember things,' (Zhou et al, 2021, p9). This is similar to the findings of the participant Jon in my research, who collected technology magazines to return to at a later date. Zhou et al (2021) also found that participants found the printed newspaper more aesthetically pleasing which made

the reading experience more positive. This ties into the impact of aesthetics and the object, as discussed previously, and also echoes the findings of my participants who preferred the immersive experience of print over the hypertextuality of digital content. Finally, Zhou et al (2021) also found that the participants generally trusted the printed content over the online content, because of the quality control they perceived to be in place for printed products, but also that the open access of the world wide web allowed all manner of content. Zhou et al (2021) do not fully explore how the haptical quality of the printed product impacts upon the readers' level of trust, which my research does in the *Delayed Gratification* experiment.

2.19 Conclusion

The conclusion in relation to the literature review is thus: there has been much research with regards sensory experiences and the importance of the maternal touch. However, there is a lack of research that bridges the areas of sensory experiences (specifically those relating to haptics) and journalism, and this is an issue that the thesis will explore. Key points of discussion to consider from this exploration of existing literature relating to haptics include: the significance of our sense of touch that can be traced back to in-utero development and continues to play a crucial role in our childhood physical and cognitive growth; the role that our sense of touch plays in our interpretation, recall and trust of content; that the 'container' of that content impacts upon our associations that subsequently shape our interpretation of that content (the content may be quality, but our perception of that quality is shaped by the container that holds it); and finally, that not only are there variables in the quality of touch but also the motivation to engage with touch stimuli. In short, our sense of touch plays a crucial role in our childhood development, in our cognition, in our recall, perception and experiences, but to varying degrees for different people.

The next chapter will discuss the methodology that was used to explore further the impact that haptics has phenomenologically as well as physiologically. It will build upon the exploration of existing literature relating to haptics and the multisensory that has been presented in this chapter.

3 3. Methodology

3.1 Introduction

This chapter argues that interpretative phenomenological analysis (IPA) is best suited to researching consumers' sensory engagement of journalist content. The chapter will give an overview of IPA by approaching it as a methodology. I will focus on IPA's key advantages for this research which are: analysing the interpretations of participants to an experience - specifically, the influence of sensory stimuli on that interpretation, and positioning double hermeneutics as a central point.

Hermeneutics, or the 'theory of interpretation' (Smith et al, 2009) is significant here, because to understand the interpretation of an individual's lived experience, a researcher must be mindful of the impact of previous lived experiences of both the individual (or participant) and their own. This chapter will also give an overview as to how phenomenology has iterated over the years since its foundation. I argue that IPA, which usually adopts a qualitative model and was originally developed within the discipline of psychology, can be complemented by quantitative measurements, including physiological measurements; in this case I deploy biotracking devices to gauge physiological changes. I argue that a mixed-methods approach is most suitable before detailing the methods I deploy, which are surveys, interviews and focus groups. After a discussion of the research design, I explain how my analysis of data led to the production of three themes: the impact of haptics on consumer behaviour, brand perception and the sensory experience. These are discussed in more detail in the following chapter.

My thesis considers a question posed by Witschge et.al (2016, p327) that asks: "*What are people* (individuals, groups, professions, institutions) *doing in relation to media* [original italics] across a range of situations and contexts?'. In the context of

this research, the 'people' are individuals, the activity in 'relation to media' is the consumption of journalistic content, and the 'situation' is the individual consuming the same journalistic content on different paper stock. For the purposes of my research, I define 'journalistic content' as still images and written copy of magazines and newspapers, and 'consumption' refers to the buying, reading and collecting of publications. It echoes the arguments of Paterson (2007; 2017) and Parisi and Archer (2017): that the impact of haptics on our experiences has been underestimated.

3.2 Introducing phenomenology

Methodology is the term given to theoretical, philosophical, political and ethical values that shape the choice, adaptation and deployment of methods (Hammersley, 2010); for Harding (1987), methodologies are the theories of the research process, and the methods are the tools for gathering data. Braun and Clarke (2013) and Creswell (2014) argue that the same method can be used across many methodologies. Methodologies shape and guide how methods are used and its subsequent data analysed. My research is shaped by phenomenology, specifically its derivative, interpretative phenomenological analysis (IPA).

There are two modes of phenomenological research: one is philosophically grounded while the other is grounded in qualitative research (Paley, 2016). It is the qualitative approach that this research explores while positing the notion that a mixed-methods approach can enable the use of quantified data and methods which I discuss later in the chapter. Creswell (2014) argues that phenomenological research is an identification of the 'essence of human experiences' that is acknowledged in descriptions from participants in the research (Creswell, 2014, p14) - the 'essence' resulting from refinement of data via reduction and the

hermeneutic cycle (Peoples, 2021). Phenomenological analysis, then, allows an exploration of participants' interpretations relative to a specific experience. More specifically, interpretative phenomenological analysis (IPA) explores how participants make sense of their personal, cultural and social worlds (Smith and Osbourne, 2015). A double hermeneutic is at play, as participants make sense of their experiences and the researcher then makes sense of the participants' accounts. This means that the researcher has an active role in the research process and the focus is on subjective accounts and sensemaking (Smith and Osbourne, 2015).

What makes IPA of specific use to this thesis is its orientation to the sensory. It is here that IPA's own genealogy has relevance. IPA's origins can be found in psychology and forms part of a shift towards qualitative psychology and interpretations of the lived experience (Sokolowski, 2000; Simmons and Benson, 2013; Ashworth, 2015). The interpretative aspect of a lived experience is two-fold: that of the individual verbally describing the lived experience and the researcher's interpretation of that verbal description (Ashworth, 2015). Thus, while a participant can describe an experience to a person, that person cannot live an identical experience, and this highlights the difficulty for the researcher to fully appreciate the experience as experienced by the participant: what is recorded is the verbal description of the experience, but not the actual experience itself. Smith and Osbourne (2015) argue that it forces researchers to think more critically about the subjective and intersubjective dynamics of meaning-making. Even in this brief account, it is possible to see how IPA has relevance to my research on haptics, with its focus on the subjective perception, experience and individual interaction with stimuli. Firstly, IPA affords an insight into perception and responses to the lived experience and in this context, it is the perception of journalistic content (for instance, with regards how trustworthy the content is deemed to be) and responses

to its consumption (in terms of consumer behaviour in the way in which the content is sought out, read and archived) that will be explored (Sokolowski, 1999; Moran, 2002; Romdenh-Romluc, 2011; Smith, 2017). Secondly, it enables the analysis of qualitative and subjective experiences (Mertens, 1998; Sokolowski, 1999; Smith, 2017). The qualitative methods in my research design, which includes semi-structured interviews and focus groups, allow a dialogue with participants exploring their experiences. This is important to the thesis, because it provides an insight into experiential consumption that's not my own: from a double hermeneutic consideration, this assists the 'bracketing off' of my own presuppositions (Alase, 2017; Brinkmann and Kvale, 2019). And thirdly, IPA allows analysis of the phenomenon in relation to the person's understanding of it (Sokolowski, 1999; Tröndle and Tschacher, 2012; Smith, 2017). The latter is a salient point, because the significance of haptics can be seen to impact the person's understanding of an experience. For instance, haptic stimuli (such as the quality of materials used in product packaging) impacts upon the perception of the quality of that product (Krishna and Morrin, 2008; Gerlach and Buxmann, 2011).

Phenomenology stems from European philosophers of the early 20th century, where a school of thought was founded by Edmund Husserl (1859-1938) regarding consciousness and the analysis of the 'experiences of thought' (Moran 2002, p59). The Cartesian approach of the 17th century was to slice the concept of reality into two separate elements: that of the 'extended substance', which is constituted physically, and that of the 'thinking substance', which refers to consciousness (Stewart and Mickunas, (1974). This ultimately led to a positivist approach to explorations of consciousness which phenomenology railed against, for two reasons:

[Q]uantitative methods of science are not adequate to treat the nature of consciousness [because] (1) consciousness itself is not an object among other objects in nature, and (2) there are conscious phenomena which cannot be dealt with adequately by means of the quantitative methods of experimental science. (Stewart and Mickunus, 1974, p4).

In other words, exploring consciousness in a quantifiable way prohibits rich insights into the attributes of consciousness and interpretations of lived experiences, because consciousness is not a 'thing' that can be measured. In this sense, phenomenology, as founded by Husserl, can be seen to be an anti-positivist approach: one that is more suited to study through an interpretivist philosophy. A principal theme of phenomenology is 'intentionality', where our senses are directed towards an object(s) that are the focus of, or are entwined in, a lived experience (Moran, 2002; Peoples, 2021). Iterations of Husserl's thinking, by phenomenologists such as Heidegger (1889-1976), Merleau-Ponty (1907-1960) and Sartre (1905-1980) build on the concept of our lived experiences being an individual process, viewed through our own idiosyncratic prisms that have been shaped by our interpretations and interactions with the world around us (Sokolowski, 2000). Exploring key figures in phenomenology gives an insight into its evolution and how new shoots of thought have sprung up from Husserl's foundations (Zahavi, 2013). Some of those branching-off thoughts are considered below but it is worth noting that there are many figures associated with phenomenology, such as Georg Hegel (1770-1831), and that the figures included below are those whose philosophical approaches are more aligned to the context of this research (Heidegger, for instance, has been included, due to the appropriateness of hermeneutics).

3.3 Classical and contemporary phenomenology

Widely considered to be the founding father of phenomenology, the work of Edmund Husserl (1859-1938) was largely a reaction to the attempts of applying

positivism to the study of consciousness that had arisen due to the Cartesian approach of diverging reality into the 'thinking substance' and 'extended substance'. A key component of Husserl's philosophy was the idea of 'l'epoché', where our judgements of an object are 'bracketed off' or 'neutralised' (Sokolowski, 2000; Peoples, 2021). In other words, judgements and/or beliefs are put aside during the analysis of a lived experience. This is relevant to my research, because the intention was to explore the impact of haptics on the consumption of journalistic content, but being mindful of the fact I consider myself to have a comparatively high need for touch, particularly when it comes to the printed product, I needed to restrain my assumptions that haptics had an impact on everyone (Peck and Childers, 2003a; 2003b; Butler, 2016). This 'suspension of certain commonly held beliefs' (Stewart and Mickunas, 1974, p26) facilitates that bracketing off of judgements and presuppositions: where the interpretation of a lived experience is little influenced by previous interactions. In the context of this research, my previous experience of preferring the printed journalistic product to a digital one needed to be bracketed off so that I could explore the lived experience of a participant in a way that was not coloured by my own lived experience - and preference - for consuming journalistic content. The 'reduction' of the lived experience to its very essence - removing the superfluous and therein identifying the *eidos* or 'form' of a thing - underpin Husserl's phenomenological philosophy (Stewart and Mickunas, 1974; Uehlein, 1992; Sokolowski, 2020; Peoples, 2021). In other words, there is a refinement of an individual's interpretation of a lived experience, by the shedding of previous interpretations.

Heidegger (1889-1976), however - another key figure in the history of phenomenology - questioned the phenomenological philosophy of Husserl, arguing that *epoché* was unobtainable and that it was impossible for our presuppositions to be bracketed off in our exploration of lived experiences (Peoples, 2021).

Heidegger's philosophy was more revisionist and incorporated a hermeneutical element, wherein our interpretations of a lived experience are honed iteratively but are shaped by our presuppositions (Blackman, 1952; Sokolowski, 2000; Peoples, 2021). Other notable phenomenologists who developed the philosophy as it swept up thinkers across Europe (and, as a result, sparked the term 'continental philosophy' (West, 1996)) include Jean-Paul Sartre (1905-1980) - an advocate of existentialism, and the author of *Nausea*, an abstract from which opened this thesis. While Sartre shifted to a new discourse based less on consciousness and more on representation (Rajan, 2002), his fellow Frenchman Merleau-Ponty (1908-1961) focused on the significance of bodily perception in our interpretation of lived experiences (Moran, 2002; Carman, 2008). We can only make sense of the world if we are of the world, according to Merleau-Ponty, and we are of the world because of our literal bodily perceptions that orientate us in worldly experiences (Matthews, 2006; Carman, 2008).

But interpretative phenomenological analysis (IPA) - which is the iteration that this research adopts - is a more contemporary development, refined by Jonathan Smith in 1996 (Smith et al, 2009). Smith refocuses on Husserl's initial explorations into how individuals make sense of their lived experiences and how hermeneutics impacts upon the researcher's understanding of that experience (Smith et al, 2009). This is where the 'interpretative' aspect of IPA comes in, to a double-hermeneutic degree: '[T]he researcher is trying to make sense of the participant trying to make sense of what is happening to them,' (Smith et al, 2009, p3). In other words, the researcher must endeavour not only to understand the previous experiences of the participant that informed their interpretation of the experience that is being studied, but must be aware of their own previous experiences that may impact upon their interpretation of the participant's account. IPA is appropriate to this study, because - from a research-design perspective - it is particularly suited to small sample sizes

where data is collected via semi-structured interviews. This study adopts this approach, but makes its own iteration in terms of its quantitative and physiological aspects.

Phenomenology, then, is a philosophy that comprises branches of knowledge that have grown from the underlying concept proposed by Husserl. Those 'branches' have been propagated by the thinking of individuals such as Heidegger and Smith. It is, however, worth viewing phenomenology more broadly, to identify the commonalities that exist but also identify the particular shifts in perspectives that, while positioned within an iteration or 'branch', relate to the wider concept of phenomenology and therein, relate to this study of the lived experience of a participant reading a magazine. In broad terms, phenomenology can inform a methodology within which research relating to human experience and 'intersubjectivity' - the sharing of experience - can be positioned (Sokolowski, 2000; Duranti, 2010; Romdenh-Romluc, 2011). Intersubjectivity is where individuals make sense of the world by sharing meanings - essentially, where an individual's objective interpretation of reality merges with their subjective, belief-orientative perspectives (Smith, 1998; Simmons and Benson, 2013). Intersubjectivity is the third aspect of a trinity that shapes an individual's interpretation of lived experience, as posited by Husserl, with the two other elements being subjectivity and objectivity - or in other words, the 'self, other, and world' (Simmons and Benson, 2013, p25). Schutz (1899-1959), one of many subsequent phenomenologists influenced by Husserl's work, developed this idea further, by arguing that there 'are no hard facts, only interpretations - that facts are intersubjectively constructed,' (Smith, 1998, p164). It is our interpretation of a lived experience, informed by our beliefs and conscious relationships, that shapes our 'reality' but there are often commonalities to those interpretations that lead us to the intersubjective constructs (Sokolowski, 2000). For instance, and in the context of this research, the readership of a

particular newspaper could be seen to occupy an intersubjective space, with the objective position being that a newspaper is an object to convey news and current affairs, and the subjective belief being the political leaning and/or general socio-cultural attitudes that taps into the readers' general interests. It is this trifold relationship that moulds the interpretation of the individual's experience (Sokolowski, 2000).

The philosophy of phenomenology - in all its iterations, from Husserl and beyond - makes it appropriate for studies relating to perception and lived experiences. As such, it has been used in disciplines such as social sciences, nursing, and cultural studies. Examples include: queer phenomenology, in terms of the lived experience of sexual orientation and relations with objects (Ahmed, 2006); the phenomenology of close friends reliving memories (Wood and Kenyon, 2018), and the lived experience of hospital patients and their friends and families (Sundler et al, 2019). IPA is often applied to research relating to psychology and social sciences, including experiences of depression (Smith and Rhodes, 2014) and early onset of dementia (Clare, 2003). These all share a concern with exploring the interpretation of participants' subjective experiences (Tomkins and Eatough, 2010; Braun and Clarke, 2013; Ashworth, 2015). Smith himself, who developed IPA, originated the approach in the discipline of psychology, and has applied the methodology to areas such as motherhood (Van Parys, Smith and Rober, 2014) and juvenile Huntington's disease (Quarrell et al, 2013).

3.4 Key principles of IPA

There are two key principles within the IPA approach that underpin this research: idiography, which relates to a single study of an event or individual, and the impact of sensory stimuli to the experience. It is my contention that there is more to

consuming news and features than simply reading: consumption is multisensory. For instance, reading a news story on a phone involves haptic stimuli (touching the device), optic stimuli (reading the content) with the potential of acoustic stimuli (audio commentary). Technological changes, such as the Gutenberg press in the 15th century, and the internet and world wide web in the 20th century, have incited developments in the practice and product of journalism (see Chapter 4: Discussions), and there have been behavioural changes in the ways people consume journalistic content (Carr, 2010; Jabr, 2013; Le Masurier, 2015; Pernice, 2017). For instance, Le Masurier (2015) argues that there has been a splintering in journalism production, into 'fast' and 'slow' journalism, where slow journalism (traditionally, longform articles in print and thus, with a haptical element) encourages the reader to immerse themselves in the content. Readers are used to scanning content online - skimming the shortform articles (Pernice, 2017), a surface-level form of consumption which can hinder the recollection of the content consumed (Carr, 2010; Jabr, 2013). The impact that haptics has on the consumption of content has been underestimated (Parisi and Archer, 2017), despite the importance of sensory experiences being highlighted in media such as marketing and advertising (Lindstrom, 2006; Paterson, 2007; Krishna, 2012; Krishna, 2013).

The relationship between haptics, the appropriateness of phenomenology as a methodology to explore it, and its relationship with and influence of the lived experience has been identified by Paterson (2007) in what he explores as phenomenology that is tangible. Paterson (2007) makes the connection between haptics and kinaesthesia (the awareness that one has relating to bodily positions), to understand how this impacts upon the individual's perception of a lived experience. This has relevance to this thesis, as my findings show that participants who have a higher need-for-touch (NFT) (Peck and Childers, 2003a; 2003b) value

sensory interaction with a tangible product (such as a magazine). Paterson (2007) also argues that our sense of touch is our most 'basic' of senses and that it is 'prior to the other sensory modalities' (p17). Journalistic-content consumption potentially offers cross-modal stimuli depending upon the substrate upon which the content is offered (olfactics, with the scent of ink and paper; haptics, with the sense of touch of paper or screen; acoustics, with the sound of pages turning of printed content, or sound feedback from digital devices). Paterson (2007; 2017) highlights not only the significance of haptics in terms of lived experiences but argues for a rethink in its hierarchical positioning in respects of its impact upon perceptions of lived experiences and positions phenomenology as the appropriate methodology to explore haptically-influenced phenomena.

To recap, IPA is a suitable form of methodology for my research that focuses on meaning-making (Alase, 2017; Sokolowski, 2020) including experiences of external stimuli (Smith and Osbourn, 2015). My own research explores the experiences of consuming journalistic content with a focus on sensory stimuli. More specifically, I am interested in IPA as a means to explore haptics because, following from Paterson (2007), haptics involve participants' personal meanings and lived experiences to various degrees. This last point is evidenced in the need-for-touch (NFT) scale, developed by Peck and Childers, which demonstrates how consumers value touch-stimuli in different ways (Peck and Childers, 2003a; 2003b; see Chapter 2: Haptics Literature Review). IPA inherently affords the opportunity to gather qualitative information, which is relevant to this research, focused as it is on exploring participants' experiences. But, I also argue that quantitative data can offer statistical evidence to capture participants' experiences of consumption on a physiological level - the body's response to the sensory stimuli of touch (haptics). As mentioned, there are two modes of phenomenological research: one is philosophically grounded while the other is grounded in qualitative research (Paley,

2016). It is the qualitative approach that this research explores while positing the notion that a mixed-methods approach can enable the use of quantified data and quantifying methods, and where the physiology (from which quantitative data was collected) can give insights into the lived experience of the participant. Creswell (2014) argues that phenomenological research is an identification of the essences that constitute human experience and this is acknowledged in descriptions from participants in the research. IPA offers a route to qualitative data gathering, with coding of the data as a means of analysis (Wagstaff et al. 2014). The subjectivity of a participant's experience of a phenomenon is influenced by previously lived experiences (Smith and Osborn, 2015; Wagstaff et al. 2014). But if I consider the role of haptics, if any, in those previously lived experiences, and correlate this with the 'need for touch' (NFT) scale (Peck and Childers, 2003a; 2003b), as explored in Chapter 2: Haptics Literature Review, then I can begin to acknowledge a physiological element to what IPA argues is a subjective understanding of an experience. On this basis, an idiographic system of study - where each individual's contribution is analysed - is appropriate but the physiological underpinning of our experiences in relation to haptics would allow the IPA philosophy to broaden its framework to encompass nomothetic modes of exploration.

My main contention is that IPA can be complemented by quantifying the experience of consuming journalistic content via the physiological alterations. In this case, I will be using data recorded by the E4 Empatica biometric-tracking wristband (see Chapter 2: Haptics Literature Review). The E4 Empatica has been included in research relating to other non-clinical disciplines, such as event management (Wood and Kenyon; 2018), computing (Ragot et al, 2018; Furuichi and Worsley, 2018), stress assessment (Ollander et al, 2016) and the 2015 Tate Sensorium exhibition (see Chapter 2: Haptics Literature Review). The Ollander et al (2016) study measured electrodermal activity (EDA), blood volume pulse (BVP - the

volume of blood passing through a localised point, such as the wrist) and heart rate (Braitwaite et al, 2015; Empatica, ND). The study found the E4 Empatica was effective in measuring EDA in comparison with an alternative device on the fingers of participants. The physiological aspect of this research demonstrates how the body can interpret experiences and how this interpretation will influence a participant's sensemaking of that experience, primarily through the interaction with hands, as the skin is the prime receptor of touch stimuli (Linden, 2016). Individuals were also interviewed, using a semi-structured interview method with open-ended questions, whilst wearing the E4 Empatica wristband. This monitored physiological reactions, such as heart rate and electrodermal activity, much like the Tröndle and Tschacher (2012) study and the electronic glove. EDA has been studied since the 1900s when skin was found to be electrically active (Biopac, ND). These physiological aspects, and the wristband's ability to monitor changes, relate specifically to the device's main intention of use for clinical research. However, Empatica also manufactures a wristband for personal use that monitors physiological changes in sufferers of epilepsy (Empatica, ND). With the inclusion of a device measuring physiological changes, this thesis explores the opportunity to quantify the subjectivity of that experience.

3.5 Research design: a mixed-methods approach

I have established IPA as my methodology and the reasons for its suitability to this research. I have also stated that I will be using both quantitative and qualitative data. Paterson (2007) suggests that the respective merits of 'truth' (quantitative) and 'experience' (qualitative) provide the ground for a mixed-methods approach to this research. Mixed-methods research design converges qualitative and quantitative methods, enabling the complementing of quantitative data with qualitative, and vice versa (Holliday, 2007; Tröndle and Tschacher, 2012; Creswell,

2014). Its emergence is attributed to the notion that all methods have weaknesses, and bringing the advantages of qualitative and quantitative methods together may lessen the impact of this (Creswell, 2014; Yardley and Bishop, 2017). The mixed-methods approach has been used previously in IPA, where the physiology of phenomenology is explored, such as by Tröndle and Tschacher (2012) in their study of the physiology of art-gallery visitors, and Wood and Kenyon (2018) in their study of emotions experienced when recalling memories. The benefit of doing this is that the subjective interpretation of that lived experience can be correlated with the quantitative data from the physiological reactions. There is also a benefit with regards to double hermeneutics and addressing the issue of whether the bracketing-off of suppositions is (as Husserl argued), or is not (as Heidegger contended) possible. I may, for instance, interpret a response from a participant in such a way that is overly positive due to my own lived experience where a high-quality haptical element makes for more pleasant consumption. However, the physiology may reinforce or contradict this point. This was actually observed in the account of Joe's lived experience: the participant's interpretation of consuming journalistic content lacked vigour and resolution in terms of how they felt. Their verbal account was almost nonplussed when it came to describing the lived experience of journalistic content. I could have interpreted this in a way that erred towards the positive, while the physiological readings demonstrated that the participant's EDA readings remained steady, suggesting that he was minimally impacted by haptics in his consumption habits (see Chapter 4: Findings).

I adopted a convergent parallel mixed-methods design in some of the areas of the research. This means that qualitative and quantitative data was gathered simultaneously. For example, I interviewed a participant (and gathered qualitative data) whilst the wristband monitored physiological changes (and thus gathered quantitative data) (Demira and Pismek, 2018). It involves the collection of data via

qualitative and quantitative means, separate analysis, and subsequent correlation. For instance, if a participant in the interviews with closed-ended (quantitative) questions responded in a particular way that highlights the importance of haptics in their consumption of journalistic content, this can be correlated to the qualitative response, that offers the opportunity to respond to an open-ended question - thus, adding 'colour' via the richness of language to the statistical representation of an experience as afforded by the close-ended questions. An example of one of the close-ended questions used within a Likert scale is: 'how likely are you to recommend this magazine?' This complementing of data is a key benefit to the mixed-methods approach, particularly with regards to the IPA methodology (Yardley and Bishop, 2017). This is because it gives a converging representation of the phenomenon of the journalistic-content consumption experience. A participant can describe the lived experience of consuming journalistic content which converges or diverges from the statistical quantitative data, allowing me to measure the experience. The advantage here is that the lived experience of journalistic-content consumption can be illustrated and discussed from subjective and objective perspectives. The quantitative lived experience shown by physiological measurements (such as an increase in EDA, suggesting that physiologically, this is a stimulating experience) can be correlated with the qualitatively described lived experience (such as a statement claiming that the experience is not affected). This ultimately leads to further research that questions the impact of double hermeneutic approaches in the analysis of phenomenological data, because quantitative data (or 'truth' according to Paterson (2007)) is less reliant on subjective interpretations of the researcher.

3.6 Ethical considerations

Research involving participants is subject to ethical approval to ensure there is no risk to personal safety or professional status, and each is treated fairly and respectfully (Hammersley and Traianou, 2012; Husband, 2020). Ethical approval involves the declaration of the research intentions that is then considered by a review board. The issue with IPA studies relates to the confidence that the participant has in the researcher: there is a 'sacredness' (Lewis and Adeney, 2014) to the stories that participants share with the researcher and this should be regarded with respect. In addition, participants relating their interpretation of a lived experience must be reassured that the potentially personal information is treated sensitively. Ethical considerations in other IPA studies relate to the participants' reactions to their settings as well as the types of questions being posed in both focus groups and interview environments (Green and Hart, 1999; Eatough and Smith, 2006; Murray and Holmes, 2014; Tomkins and Eatough, 2010). There is the issue of autonomy of each participant's involvement, offering the opportunity for participants to withdraw their contributions following their informed consent (Brinkmann and Kvale, 2018; see appendix 1). This allows the participant to feel 'ownership' of their contribution, encouraging a deeper degree of participation and enhancing the sense of trust from readers (Schaefer and Wertheimer, 2011). The agreement to participate in research is considered supererogatory and therefore the option to withdraw is deemed a right of the participant who has agreed to contribute in a bid to, in a general sense, positively assist in the development of knowledge for the greater good (Schaefer and Wertheimer, 2011). As such, for this research, which was given ethical approval, participants were provided with a consent form that enabled them to clearly articulate their understanding of the research, how their contributions would be used, and their right to withdraw. In addition, those participants wearing the E4 Empatica device were provided with the consent form an hour prior to the interview. This allowed each to have an awareness of the term 'haptics', to understand what I required them to do, and to give them the right to

withdraw their participation (Schaeffer and Wertheimer, 2011). This also meant that, once the interview had started, I could concentrate on exploring the individual's interpretation of their lived experience while consuming journalistic content to achieve rich data (Wagstaff et.al, 2014). The culmination of dialogical and thematic analyses provides an opportunity to explore connections (or lack thereof) between the verbally articulated interpretation of the experience with physiological fluctuations. The mode of analysis allows a rich picture of the experience that the participant is interpreting (Tröndle and Tschacher, 2012; Wood and Kenyon, 2018). That interpretation is often signified via discourse and as such, IPA often uses analysis of words to identify patterns in the description of that experience, or 'commonality' (Goulding, 2005).

3.7 Methods

Below, I explain each method before discussing issues of recruitment, the participants and the practicalities of the research itself.

3.7.1 Focus groups

A focus group is a valuable tool in qualitative research, enabling discussion on a subject in an environment that can offer interaction between participants, all the while being moderated by the researcher (Wilkinson, 2015). Whereas an interview can potentially make a participant feel awkward with the perceived formality of the one-to-one situation, a focus group can encourage dialogue between participants and thus ease the pressure of being the sole person in a research-led environment (Michel, 1999). Traditionally used in market research, the focus group has become prevalent in qualitative research, as it enables more collaborative dialogue and personal interaction, and offers the potential of new knowledge to be identified by

the researcher (Wilkinson, 2015). The focus group is flexible, in terms of the setting in which it can take place, and can make valuable contributions with regards qualitative (subjective responses; observations) and quantitative (responses to surveys, for instance) data (Barbour and Kitzinger, 1999). The focus group allows for discussion of experiences relating to a subject (or, the focus of the group) and as such, it is particularly suited to IPA. Barbour and Kitzinger (1999) argue that while the subject (or, the focus) of the focus group varies, the focus-group method always allows the opportunity for participants to discuss their interpretation of that subject.

While focus groups enable the discussion of a particular subject, it also - as with interviews - allows observation of participant behaviour (Silverman, 2019). This meant that I was able to gather data relating to the behaviour of the participant in their verbal discussion of haptics, magazines and journalistic-content consumption as well as in their body language - a point echoed by the research of Fortunati et al (2015) exploring consumer behaviour with printed newspapers and how body language differed in the consumption of content. Participants were more likely, for instance, to stroke the pages and flick through the magazines printed on comparatively higher quality paper stock (see Chapter 4: Findings). I used cues in the focus group in the form of magazines distributed around the group and these cues sparked the discourse relating to haptics and journalistic content while also providing more 'naturalistic' data in the way each participant physically interacted with the artefact (Silverman, 2019). These were recorded by note-taking but I also had an assistant who took photographs of focus-groups one and three, showing the participants' interactions (see appendix 5). Focus-group two took place in a primary school which had restrictions on photography.

Focus groups do have limitations, particularly if not moderated or facilitated effectively with regards to levels of participation. For example, if one participant dominates the dialogue and is allowed to do so by the moderator, other participants may feel reluctant to contribute and thus, the discussion is skewed to one participant's contribution (Wilkinson, 2015). Stimulus, such as video, can be incorporated into the focus group to facilitate the discussion but this has to be chosen in such a way that allows open discussion that could potentially challenge a researcher's hypothesis (Barbour and Katzinger, 1999). For this study, issues of *Delayed Gratification* (focus groups one to three, as well as interviews) and blank magazines (focus-group three) were used. In addition, there is also the potential influence of context or environment within which the focus group takes place to consider (Barbour and Katzinger, 1999).

3.7.2 Interviews

Semi-structured interviews are the conventional method used in IPA (Smith and Osborne, 2015). This is because it allows the participant to disclose their interpretations of lived experiences on a one-to-one basis. There is the opportunity for a dialogue, and while the researcher may have some idea as to the structure of the interview, the semi-structured nature enables flexibility in that proposed questions can be altered to participants' responses. A key benefit of semi-structured interviews is that they maximise the opportunity for the researcher to find issues that they potentially had considered insignificant. Crucially, the semi-structured interview method demands active listening from the researcher so that any alterations to proposed questions can be made: the researcher must be 'receptive' to responding flexibly and embrace the challenge of interviewing the participant when perhaps new ground is being explored in relation to the lived experience (Eatough and Smith, 2008). This requires the questions to be

open-ended as opposed to closed, so that the participant can respond in such a way that allows for discussion of that lived experience. The issue here, however, relates to the structuring of those questions that allows the participant to elaborate on their interpretation of a lived experience without feeling as if the researcher expects a 'correct' answer; it also requires the researcher to limit any bias in the formation of the questions, to ensure that the responses elicited don't merely back up initial hypotheses (Usher and Jackson, 2014). Examples of studies where semi-structured interviews have been used in IPA studies include interpretations of anger (Eatough and Smith, 2006) and the lived experience of individuals with Parkinson's disease (Bramley and Eatough, 2005).

Interviews can make a valuable contribution to idiographic study, due to the very nature of its one-to-one structure. However, there are limitations to be mindful of, particularly with regards the two-staged process of interpretation: the interpretation of the research of the participant's interpretation of a lived experience, or the 'double hermeneutic' (Smith and Osborn, 2015). As mentioned previously in the chapter, this is a key principle of IPA and is an attempt at addressing the solipsism that underpins the phenomenological, inherently interpretivist philosophy. The lens through which a lived experience is viewed is composed of that of the participant's and that of the researcher's, each of whom have their own beliefs and previous experiences to draw upon that continually refocus that lens. In other words, you'll verbalise your interpretation of the experience of consuming journalistic content, and I will interpret your interpretation, based on my own experiences of consuming journalistic content. There is a colouring to the lived experience from participant and researcher, that takes the lived experience away from its *eidos*: that which is the essence of the experience (Stewart and Mickunas, 1974; Uehlein, 1992; Peoples, 2021).

3.7.3 Samples

For my research, I used non-probability sampling, which means that certain individuals will have more chance of being selected than others (Henry, 1990; Acharya et al, 2013; Taherdoost, 2016). It has been used throughout the methods of focus groups, interviews and surveys, with the 'convenience' element relating to geography and accessibility (Henry, 1990; Acharya et al, 2013; Taherdoost, 2016). My participants were either based in the Yorkshire city of York (where I lived) or in the Yorkshire city of Leeds (where I worked as an academic). The issue here was that the pool from which I could sample was determined by the demographic of the area of England from which participants were sampled (Yorkshire and the Humber), which according to the 2011 Census is predominantly white British (gov.uk, 2020). This ethnic diversity (or lack thereof) was reflected in my participants, with 82% of the sample identifying as 'white British'. This is slightly more diverse than the population at the time of the 2011 Census, where 85% of the population of Yorkshire and the Humber was white British. The participants included parents of primary school children, undergraduate students, media professionals and media consumers and were either contacted directly by me or responded to a general email that I circulated, with the consent and information form attached (see appendix 1). The generality of circulation meant that a sample of consumers with potentially differing behaviours would be gathered, and this would provide a richer range of data but also allowed for any behaviours inconsistent with my own: in essence, it was a way to force the bracketing off of my own presuppositions. The email was targeted to potential participants who were conveniently geographically located, which minimised issues relating to the organisation and conducting of interviews. I wanted to include media professionals because the industry insight they had would potentially provide a rationale as to the industry's undervaluing of

haptics in the consumption experience of content. This would then inform the conceptual business framework that I ultimately propose, of which the primary data of my research underpins.

Three pilot studies (discussed further later on in the chapter) were conducted to identify any potential issues with the format of my proposed methods, such as the clarity of questions (Creswell, 2014). The convenience-sampling method for the pilot studies involved corresponding with students and school parents via email that gave an overview of the research at that point (to ascertain behaviours with regards journalistic-content consumption) and a link to the surveys. Similarly, participants were convenience sampled for each of the focus groups. The undergraduate students in focus-group one were sampled from a degree upon which I taught modules exploring journalism and were active consumers of magazine content (though not wholly in print) as well as e-commerce (particularly fashion, as the students were enrolled on a fashion degree). Participants of focus-group two attended the group prior to a parents' evening at the primary school. These participants differed in age as well as in their consumption behaviour: none were interested in fashion magazines (as participants of focus-group one were) but they showed a greater penchant for newspapers and books (non-fiction and fiction). Participants of focus-group three involved snowball sampling, where the wife (Frida) of the focus-group two participant Morgan was keen to be involved in the study. Frida was also keen to be involved in the interviews.

Participants for the interviews were sampled conveniently, in that they were either contacted directly by me, but there was an element of snowballing, where participants were referred to me by someone else who was aware of the discipline

within which I was researching and felt that their contact would be interested in participating (Acharya et al, 2013). This kind of iteration is one to be expected in qualitative research, where the research activities of data collection and analysis leads to 'refocusing' (Maxwell, 1996, p2). For instance, Spencer, the blind participant, was referred to me by a charitable organisation who I had contacted speculatively to explore impacts on the haptical experience when another sense (in this case, that of sight) did not influence the interaction with paper stock. 'Wes', a white British male journalist, living and working in Japan, was referred to me by 'Frank' (the participant of focus-groups one and two). Polkinghorne (2005) refers to a 'participant pool', where a 'snowballing strategy' is implemented to allow a group of participants to culminate from which the researcher can sample (Polkinghorne, 2005, p141). This was observed to occur in my research: potential participants were referred to me (such as Spencer and Wes) or were made aware of my research through their own contacts and were keen to be involved (such as Frida). Overall, there was a general 'keenness' of participants to discuss their consumption habits: from the 18 potential participants I directly contacted to be involved, only one participant declined. The participant who declined the invitation to participate was the former editor of an international magazine brand. The brand's printed version had been closed and all content moved online, and the editor ultimately left the publication for a similar role on a printed Sunday supplement magazine in the UK. I contacted this potential participant to ascertain their opinion as to the decision to close the print version and its impact upon the reader experience, brand perception and consumer loyalty, but the potential participant declined due to their sensitivity to the situation.

The participants of the interviews regarding general journalistic-content consumption without wearing the E4 Empatica device were contacted (via either

email or directly verbally) because they had either a behaviour or interest (professional or personal) that aligned with that of the research, and/or they requested to be involved. For instance, 'Ben' was contacted for a semi-structured interview because he worked at a national newspaper. Ben, alongside other participants, such as 'Freddie' and Wes, were contacted because they are journalists and work in the industry to create journalistic content and informed the conceptual framework I wanted to develop that repositioned haptics to ensure greater value was given to its role in the consumption experience. They provide the content that relates to the lived experience of consumers, but because I posit that the impact of haptics has been underestimated in the consumption of journalistic content, it's valuable to ascertain the behaviours of those practitioners directly involved in the realisation of journalistic content. It is valuable because it will give insight into why the experiential has been underestimated and informed the shaping of future business models.

I conducted three focus groups with nine participants in the first, four participants in the second and three in the third. The nine participants of the first focus group were undergraduate marketing students, aged either 19 or 20 years old, who had opted for modules studying journalism: the fact that these modules were optional indicated that the students had an interest in the consumption of journalistic content (mostly on digital platforms, though some had a penchant for print) and would thus be able to contribute to the focus-group discussion with interpretations of their own experiences. The second and third were parents, with ages ranging from mid-30s to mid-40s, of pupils of a particular class in an urban primary school. The focus group with the students took place on campus while the focus group with the parents took place at their children's school (their children all attended the same school), and the third took place in the home of one of the participants. The same questions were

explored and the participants of each focus group were recruited via non-probability, convenience sampling. Focus-group three followed focus-groups one and two, and consisted of two participants of previous focus groups who expressed an interest to elaborate more on their responses. The 19 interviews consisted of six participants (interviewed at home) who were residents on a centrally positioned street in a UK city. Their responses were recorded via the survey as well as via physiological readings from the E4 Empatica wristband. In addition, there were 10 additional interview participants where the participants interacted with printed issues of *Delayed Gratification* magazine: three participants had children of the same age as the parents of the school but who couldn't make the focus group; and one participant who had no connection with the residential area or school/university community but who was blind, and who was interviewed to explore possible differentials in his individual haptic stimuli (Paterson, 2007; Herssens and Heylighen, 2010). Ten interviews were conducted without interaction with a printed magazine and explored more general themes relating to journalistic-content consumption.

As with the focus groups, participants of the semi-structured interviews wearing the E4 Empatica wristband were recruited via non-probability, convenience sampling: in this instance, the interviewees were residents of a street in central York, UK, which - as is typical of urban populations - was demographically diverse in comparison to the county as a whole (Census, 2011; Jedwab et. al, 2017). Residents on this street at the time of the study included: married couples with young children; married couples with adult children living at home; single parents; undergraduate students; postgraduate students; retired professionals, and two properties managed by charities for residents recovering from drug and alcohol addiction. It is classified as 2a3 'Students and Professionals' in the Office of National Statistics' area

classifications (2011). The community is close-knit, with: a WhatsApp group connecting a large proportion of the residents via social media; a number of residents working with the charities to support their service users, and a group of residents maintaining a communal garden. This afforded a reasonably diverse sample of participants who, while geographically similar - and therefore allowing the convenient distribution of magazines and of the wristband - were demographically variable with contrasting interests. For instance, one participant was a 35-year-old man, father of two, who readily admitted that his knowledge of current affairs 'came from his wife'. In contrast, another participant was an 80-year-old woman, retired but active in the community through regular volunteering, who 'read the news every single day' (see Chapter 4: Findings).

The physiological experiment with participants wearing the E4 Empatica device involved six residents, ranging in age from 29 to 80 years of age. This is a small sample, and there are benefits and limitations to incorporating a small sample in research. A key benefit is the ability for me, as a sole researcher, to dedicate more time to each individual and concentrate on obtaining 'richer' and 'emotive' data (Wagstaff et al, 2014). This is particularly significant for IPA because of its idiographic approach: that of the individual's lived experience and their idiosyncrasies that may influence it (Cohen et al, 2007; Wagstaff et al, 2014). A sample of this size allowed me to invest time with each participant to unpick the lived experience that potentially differed from mine - and as such, I could endeavour to 'bracket off' my suppositions in a semi-structured interview, because I had the opportunity to let the participant discuss but also elaborate on their experience (Alase, 2017; Brinkmann and Kvale, 2019). The limitation of the small sample, however, is that it is difficult to gain data that can be used, on its own, for nomothetic discussion. The ability to dedicate resources to individuals was a priority

in this instance, in part due to the limited access I had to the E4 Empatica wristband but also to facilitate the gathering of that 'emotive' data that was integral to the IPA approach. All but one of the participants were employed, while another was retired, and therefore there were time commitments to consider in the organisation of interviews, with some participants more able to dedicate themselves to an interview than others. In the interests of consistency, however, I asked all participants to be available for an hour. During that hour, the interview was structured in such a way to facilitate a degree of understanding of the participant's 'need for touch' (NFT) (Peck and Childers, 2003a; 2003b; see Chapter 2: Haptics Literature Review), the participant's interpretation of their consumption habits, and to wear the E4 Empatica wristband while interacting with the *Delayed Gratification* editions.

3.8 Participants

To reiterate, this study conveniently sampled a range of participants who aged from 19 years old to 80 years old. A third of the participants was male and all resided (either full-time or as students) in the northern county of Yorkshire, with the exceptions of Wes, who was an expatriate living in Japan, and Ben, who lived in London, but both of whom had grown up in the county. The participants consisted of content consumers (those who enjoyed reading newspapers, for instance), content creators (those who worked in the industry), and individuals (such as Joe and Lucy) who professed to rarely read newspapers and/or magazines. This gave a rich source of data to analyse, because there were variable perspectives in the lived experiences of each participant. A list with demographic information regarding the participants (with given false names), as well as the method(s) within which they were involved is included in appendix 17.

Ethnically, the sample is representative of the county within which the participants had lived in or were currently living in at the time of research, with the majority (82%) identifying as 'white British'. However, my sample was not representative in terms of the ethnic minorities residing in the county, specifically of the Asian community: at the time of the 2011 Census, 7.3% of the population identified as 'Asian'. This study was not intended to be 'location specific', but ultimately the lens of the research has been trained on this specific UK county - and two key cities, in particular (Leeds, in west Yorkshire, and York, in north Yorkshire) - because of the method of convenience sampling that has been adopted. However, there is scope for this research to identify ethnographic influences in the phenomenology of journalistic-content consumption, and even further to explore the variances of physiology in the phenomenology of journalistic-content consumption. For instance, recalling the study exploring the gender variations with regards Peck and Childers's (2003a; 2003b) study positing the 'need-for-touch' (NFT) scale, Lee et al (2017) found that Korean female fashion consumers had a higher need for touch than men: in other words, women are higher autotelic than men, and - in the context of fashion - prefer to touch the fabric of potential fashion purchases than men for pleasure, rather than to assess its durability (see Chapter 2: Haptics Literature Review). The fact that the majority of participants in my study were female may have had an impact on the findings of this research, with all female participants (apart from the 80-year-old Eva who was a participant of the E4 Empatica study) demonstrating - either qualitatively or quantitatively - that haptics had an impact on the experience of consuming journalistic content. Considering the gender-specific markets of magazines that are currently distributed (women's and men's magazines), this has implications with regards the production of gender-specific magazines in terms of the impact of haptics in the consumption of content. For instance, the Lee et al (2016) study showed that female Korean consumers were more autotelic than male Korean consumers. As such, it would be fair to posit that

female Korean consumers would value more than their male counterparts a tangible, printed journalistic product with high haptic quality, which would in turn, make it reasonable to invest more in the haptic quality (paper stock; binding) for women's magazines than for men's (see Chapter 5: Discussions).

3.9 Overview of research design

The first half of this chapter explained why IPA is suitable for this research, as well as the suitability and limitations of the chosen methods (focus groups and interviews providing quantitative and qualitative data in line with the mixed-methods approach). The second half of this chapter will now demonstrate how the primary research was conducted in the exploration of the physiology of the phenomenon of consuming journalistic content, with specific focus on the impact of haptics within that 'lived experience' of content consumption. Prior to the semi-structured interviews and focus groups, I conducted three pilot studies: two using questionnaires and the other observations. Conducting pilot studies is considered good practice, as it allows a trial run and hence, an identification of issues that may impede the process, such as the type of environment chosen for the focus group not being suitable (Oliver, 2014). The first pilot study aimed to obtain a general idea with regards consumption habits, and the second, was conducted with undergraduate students who had worked on their own printed publications to ascertain the value they placed on print (a survey gave some insight into the interpretations of the students with regards the impact of haptics on their consumption of content, but did not allow for effective double hermeneutics). Both pilot studies (involving questions relating to consumption haptics of journalistic content) gave me a sense of general consumer behaviour, which then informed the questions for the subsequent semi-structured interviews. The third pilot study involved a class of 12 undergraduates divided into groups of three, and each

assigned a number from one to three. In front of the class were four boxes, and the contents concealed, with only a hole in one side of the box providing access. The 'threes' of the group left the room as the 'ones' placed their hands inside each box, and described to the 'twos' what they felt. They were prevented from guessing the publication that was held within; instead, they were instructed to give adjectives to the 'twos' in relation to the product that they could haptically sense, and give an indication as to the kind of brands and lifestyle that they associated with the haptics of that product. Once they had interacted with all four boxes, the 'ones' left the room, and the 'threes' re-entered. The 'threes' were able to see each product in the box, though the 'twos' were prevented from doing so. The 'threes' described what is in the box, in terms of optics and haptics. Again, they discussed the kinds of brands and lifestyle they associated with the product.

The study concluded with the 'twos' showing the rest of the group the responses of the 'ones' and 'threes'. They identified patterns between the two responses, and whether being aware of the brand impacts upon the reader's interaction with the haptics of a journalistic product. They used their findings to assist in the development of the haptics of their own journalistic product, but would also give some shape to informed projections as to how haptics could be developed in the future. The assumption was that each box held a printed product - despite the reiteration of the box containing a 'publication'. However, in the final box, there was a magazine published on a digital platform via a tablet. The students were to give some indication as to the haptics of that platform, and while a journalistic product was displayed on the screen, only the 'threes' knew this. The findings demonstrated the contribution haptics made to the experience of interacting with a publication and to the participants' perceptions of the brand (see Chapter 4: Findings). For instance, one participant who blindly put their hand in a box, described the magazine as

'greasy' and visibly recoiled from the box, but the publication held within was a weekly supplement to a newspaper that featured high-end, designer fashion. As such, the content was at significant odds to what the haptic quality conveyed and there was a degree of sensory disconfirmation (Sundar and Noseworthy, 2016). These pilot studies alluded to the fact that haptics had a significant role in the consumption of journalistic content, but in order to explore that 'fact' in more detail, I wanted to conduct semi-structured interviews to allow participants to elaborate on their lived experience in relation to content consumption.

To summarise, participants of the 20 interviews that I conducted included a mix of 'practitioners' (such as the head of production at a printing company) and consumers (such as a reader of independent magazines). One interview occurred with a national-newspaper editor and another with the owner of an independent bookstore that stocked magazines printed on high-quality paper. Focus groups followed the interviews, allowing a discussion on some of the points brought up in the interviews, such as the perception that it was 'luxurious' to invest time and money on a haptically superior publication. Three focus groups were conducted with different demographics, in order that variables in 'lived experiences' based on demographics could be explored. Further interviews were conducted using issues of *Delayed Gratification* magazine, where participants were given two versions of the same issue as cues to discuss the impact of haptics in the context of a specific issue of a specific magazine (see below: *Delayed Gratification* focus groups).

These occurred in the homes of participants and six of the participants wore the E4 Empatica wristband which monitored physiological changes whilst the participant engaged with a printed magazine. Three interviews occurred with participants not wearing the E4 Empatica wristband, primarily due to funding and accessibility: each E4 Empatica device (the version used in this research) costs nearly \$1700 (around

£1,200) and the device used in this research had been borrowed and was thus subject to the research activities of its owner. The interviews with the three participants were conducted in a consistent way with the six participants who were wearing the device but the physiology of the phenomenon they described in terms of interacting with the two versions of *Delayed Gratification* could not be measured. However, while their physiology could not be measured, their responses could be recorded, and the responses of the three participants echoed those of the participants who were wearing the E4 Empatica wristband. Observations of the participants were also conducted, in order to ascertain if there are any external indications of the participant's lived experience (such as interaction with the paper stock of magazines compared to the interaction with a mobile device, reading editorial content). The focus group on-campus was photographed with regards to body language. In qualitative study, discursive data can be complemented by observing the participants as well (Silverman, 2013; Mills, 2014). Observations are a useful tool to help 'remove' oneself from the situation that is being researched to analyse the behaviour of others (Fortunati et al, 2015; Silverman, 2019). The school environment, however, disallowed this for the second focus group. Notes were taken with regards body language of the interview participants as photography within participants' homes was considered ethically compromising to participation. In addition to a semi-structured discussion, the focus-group participants were also required to complete a questionnaire individually that provided qualitative and quantitative data. The research design is illustrated below in figure 4:

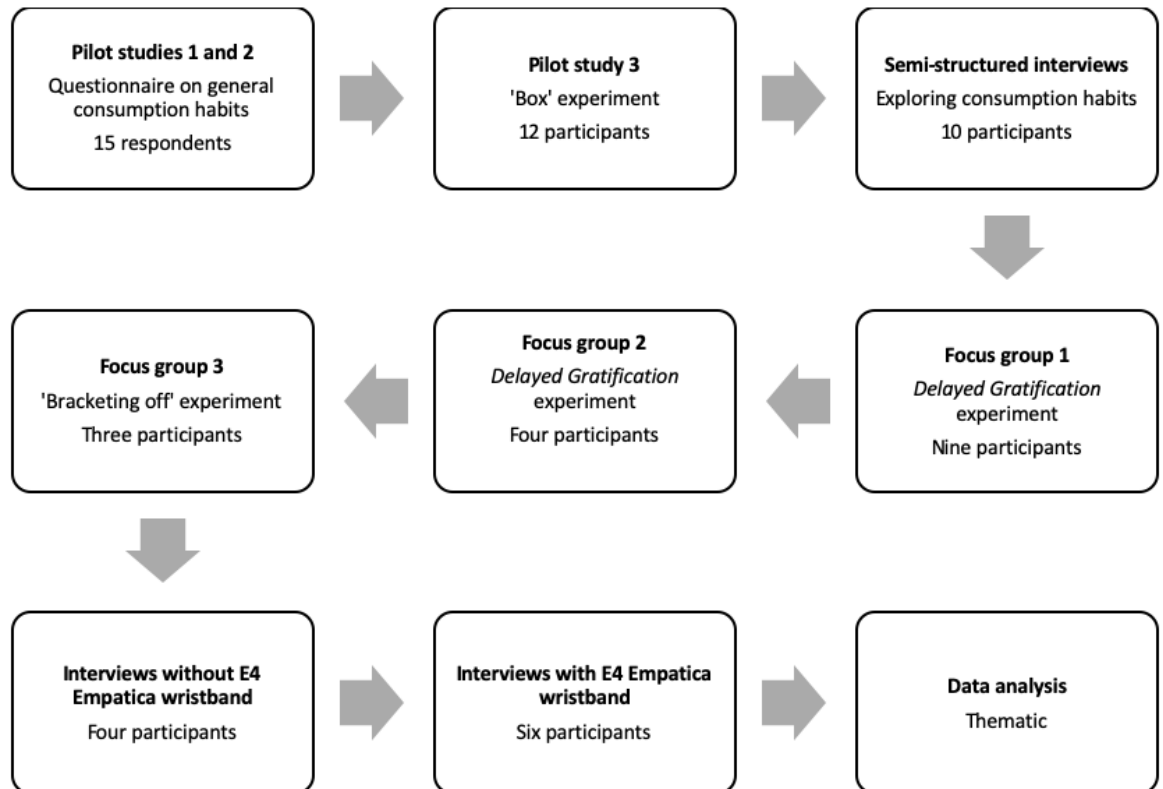


Figure 4 Primary-research workflow

3.9.1 Delayed Gratification focus groups

The objective of focus-groups one and two was to gain quantitative and qualitative insights into the participants' lived experiences in engaging with the same journalistic content that had been published in two different formats. The journalistic content to be consumed was issue 28 of *Delayed Gratification* magazine (see appendices 14 and 15). *Delayed Gratification* is a quarterly magazine, published by the Slow Journalism Company. The publication does have a website but its focus for editorial content is very much on the printed publication. This consumer magazine is published on high-quality paper stock, with 250gsm matte paper stock for its cover and 120gsm matte paper stock for interior pages. For context, general photocopying paper is usually 70gsm-80gsm. 'GSM' refers to the weight of the paper, in terms of grams per square metre, with 200gsm paper referred to generally

as 'thin card'. It is finished with high-quality ink and is perfect bound - where the publication has a 'spine' (Whittaker, 2008). Heavy paper coupled with superior finishing such as perfect binding was chosen by the publishers for its connotations of overall high quality. I reprinted issue 28 on comparatively inferior, cheaper paper stock: 170gsm silk paper stock for the cover, 90gsm silk paper stock for interior pages. The intention here was to explore the participants' experience engaging with the same content published on and with different paper stock: thus, counter-arguing the notion that it is the quality of content that is the most important element to that consumption experience.

Initially, the nine students in the first focus group were split into two groups and taken to two additional, separate classes, with each group assigned with one of the two versions of issue 28 of *Delayed Gratification*. A research assistant photographed the participants' interactions - with their consent - with their respective version of the magazine to produce evidence of any body language signals during the lived experience. After 10 minutes, the group swapped rooms, having been asked not to discuss their experience with the other group. This was to ensure that the participants' interpretations of the lived experiences did not influence others. After another 10 minutes, we joined together in another classroom and discussed the experiences. The participants provided qualitative and quantitative information via a digital form they accessed via an individual laptop (a physical form may have influenced the haptic interpretations) whilst interacting with the magazine, and the subsequent discussion provided qualitative data via discourse.

The second focus group was smaller, consisting of four participants who were parents of children who attended a primary school. The group took place in a

classroom, to ensure consistency in a focus-group environment with the larger focus group of students in terms of the setting being 'closed'. A closed setting means that access to the environment is controlled by a 'gatekeeper': an example of this could be an office where the researcher is the gatekeeper (Silverman, 2013; Silverman, 2019). Conversely, an 'open' setting is public and there is uncontrolled access to the environment (Silverman, 2013; Silverman, 2019). The group were firstly given the 'inferior' issue to interact with and discuss before the 'original' issue was distributed. The third focus group, consisting of three participants, involved the exploration of a range of paper swatches, as well as the *Delayed Gratification* versions, to study interpretations of paper stock when devoid of content. The aim of focus-group three was to explore specifically 'bracketing off' where they interacted with three blank magazines: in other words, removing the content from the pages and studying the impact that haptics has when there is no influence of content. Each paper swatch was bound in such a way as to emulate a magazine and each paper stock was of a different weight and texture.

3.9.2 E4 Empatica Interviews

The three focus groups allowed the discussion of a comparative analysis of the two different editions of *Delayed Gratification* in the classroom setting, formalising the discourse and encouraging debate with regards the impact of haptics upon our reading experience of a magazine. The interviews allowed a participant to describe more personally their experience of consuming the journalistic content (Smith and Osborne, 2015). The iterative nature of the methodology of the primary research determined self-reflective points to assess how efficiently the study was managed. From the focus groups, it was evident that many of the participants would have preferred a longer duration with the *Delayed Gratification* publication, to gain a clearer understanding as to the content and the magazine's brand values.

The setting of the interviews was the participant's own home, putting the participant at ease and thus encouraging them to contribute more personal verbalisations of their lived experience (Michel, 1999). The participant was asked to wear the E4 Empatica wristband and was informed of what it would do with regards the physiological measurements. The Empatica guidance suggests that the wristband is placed on the wearer before measurements are to be taken, to allow any physiological changes to settle (Empatica, ND). The E4 Empatica wristband involves a standard practice - wherein a person should wear the wristband for a minimum duration of 15 minutes, during which they should sit comfortably and relax (Empatica, ND). This is to facilitate the establishment of a baseline for that particular person, particularly with regards their electrodermal activity (EDA) to provide a comparison of fluctuations in readings upon interacting with the magazines (see Chapter 4: Findings).

The interviewee chose the area within the home that they preferred to conduct the interview - this was generally either at the kitchen table or in the living room. The interviewee was made aware and consented to the fact that the interview would be audio recorded. This would allow me to fully focus on any body language cues that might be missed if I was concentrating on writing down the responses (Smith and Osborn, 2015). Notes were taken, however, as a way to record any cues as well as to record the environment, to ensure a fully rounded overview of the setting and participant's non-verbal contributions could be acknowledged. In addition, my journalistic experience has taught me that a participant may find it uncomfortable to be observed as they discuss a potentially sensitive subject, and so averting attention to a notepad can ease the participants' awkwardness. A key advantage of conducting the interview within the participant's home was that I could take cues

from the interior as to the participant's NFT. For instance, one participant had an extensive collection of CDs on the shelves in the living room. Commencing the interview with a positive comment and related question to an interior cue eased the participant into the experience of a research interview and also provided me with an insight into the consumption habits of the participant. This is a benefit of semi-structured interviews: that there is scope to allow the participant to guide the direction of the interview, allowing for 'richer' responses (Braun and Clarke, 2013; Brinkmann and Kvale, 2018; Husband, 2020). The participant with the CD collection was pleased that I had positively commented on the collection and explained that they enjoyed the 'physicality' of CDs when they listened to music - thus, suggesting that there was a NFT in the consumption of audio content. Once we had settled, the participant was given the original edition of issue 28 of *Delayed Gratification*. The point at which the participant was given the edition was 'marked' on the E4 Empatica wristband - the wristband provides the functionality of pressing a button that 'marks' an event (this instance, the 'event' being the initial physical interaction with the magazine). The 'mark' serves as an indication on the subsequent quantitative data as to the event so that any variations in the physiology can be correlated with any event. The readings obtained from the device show the 'mark' as a vertical red line with which physiological readings (such as EDA) could be correlated. Open questions were asked to ascertain the participant's qualitative experience with the publication before closed questions were asked to provide quantitative experience in line with the mixed-methods approach (Creswell, 2014). Similarly, the event of the participant being given the original edition of *Delayed Gratification* was marked on the E4 Empatica wristband, open questions were asked to ascertain the participant's response to the haptic variation before quantitative questions were asked. The interview concluded with the E4 Empatica wristband being deactivated to ensure the data measured related specifically to the

lived experiences of interacting with the two different editions of the same magazine.

3.9.3 Analysis

There are a number of analytical methods that academics have posited in order to examine qualitative data (Hardy and Bryman, 2004), specifically data obtained via IPA, including Colaizzi's (1978) seven-step process, Smith and Osbourn's (2015) hermeneutic cycle, and Alase's (2017) three-stage generic cycle. All of these have a commonality: that of iteration, wherein data is analysed and interpreted, before further analysis based on initial interpretations, and so on, until the 'essence' (Alase, 2017). Colaizzi's (1978) seven-step process, as cited by Morrow and King (2015), involves: reading the participants' narratives; identifying specific words that are repeated and are aligned to the phenomenon in focus; meanings established and attached to these keywords; themes identified; reduce these patterns in such a way that can provide insights to the behaviour linked to the phenomenon, and the potential to correlate the researcher's interpretation with that of the participant.

Similarly, the 'hermeneutic cycle' (Smith and Osborn, 2015, p39) involves the repetition in data analysis that allows an examination of the 'whole' and 'parts' of the whole: words that are repeated, for instance, are viewed as a part, while the overall interview is viewed as a 'whole'. The hermeneutic cycle can be considered as offering a lens of analysis that can be adjusted to examine details (such as a particular word) and the whole (such as the context of where the word was used). In an effort to minimise the risk of misinterpretations, the data (such as interview transcripts) should be read repeatedly: Alase (2017) argues that the data should be read three times, in 'generic cycles'. The first generic cycle is where lengthy responses are organised into 'chunky' statements; the second generic cycle hones these statements further, while the third and final generic cycle identifies the

essence of the participant's experience (Alase, 2017). It was this approach that was undertaken for this research, the reason being that this study was mixed-methods and not wholly qualitative, and quantitative data demands a more positivist approach rather than constructivist. The below diagram provides a visual indication to this process:

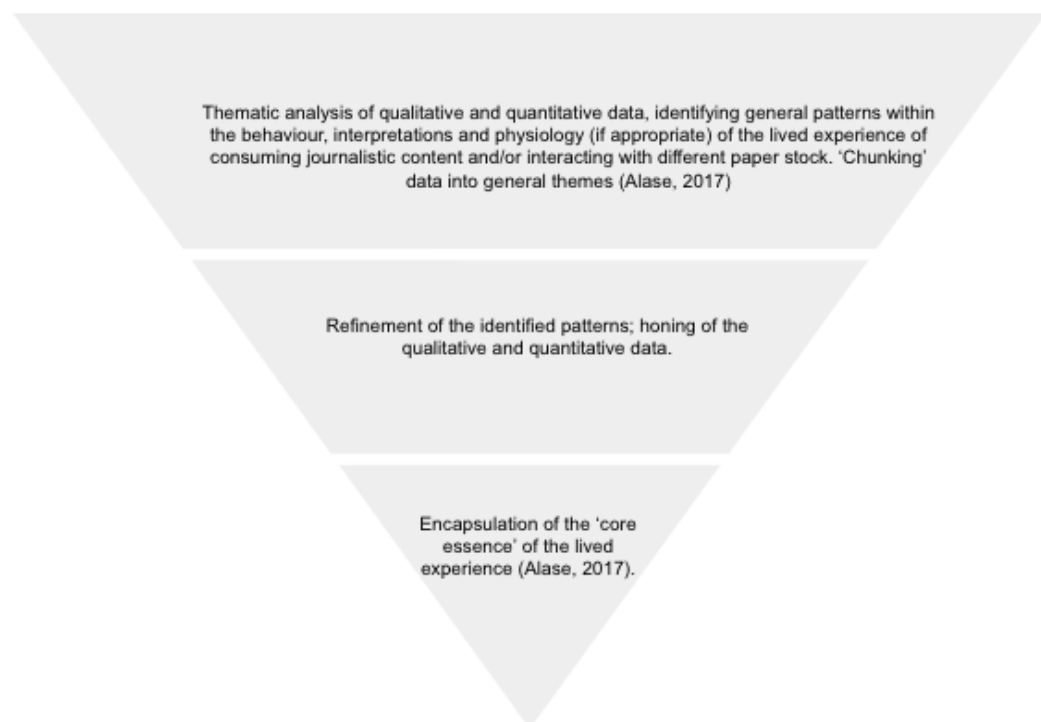


Figure 5 Overview of cyclical analysis of lived-experience interpretations

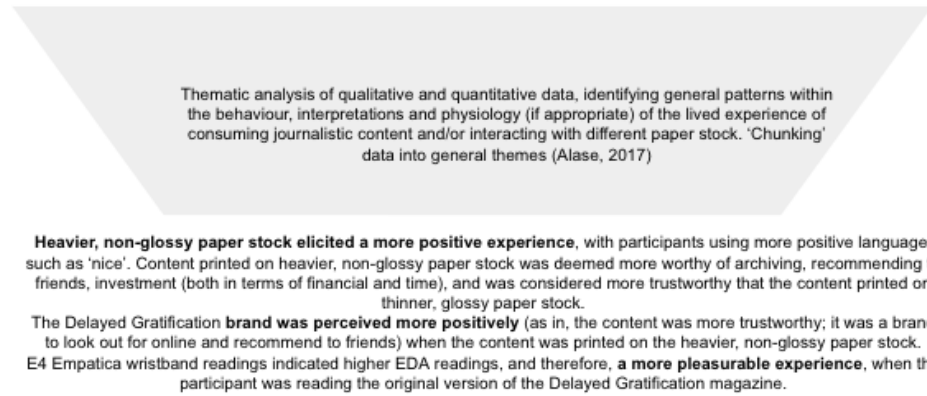


Figure 6 Cycle one: 'chunking' (Alase, 2017)

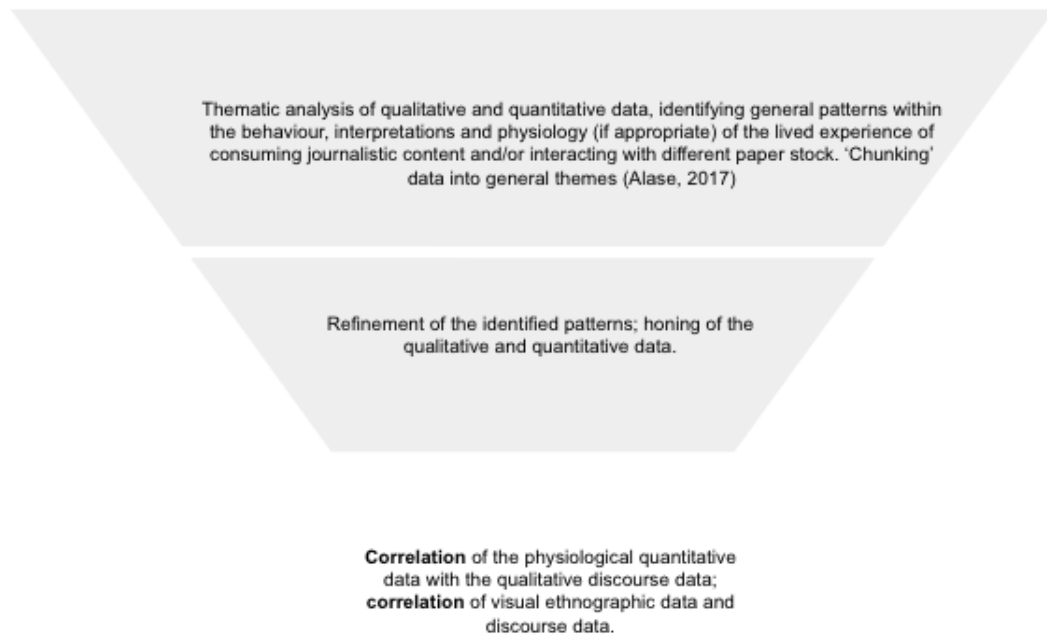


Figure 7 Cycle two: further honing the themes established in cycle one (Alase, 2017)

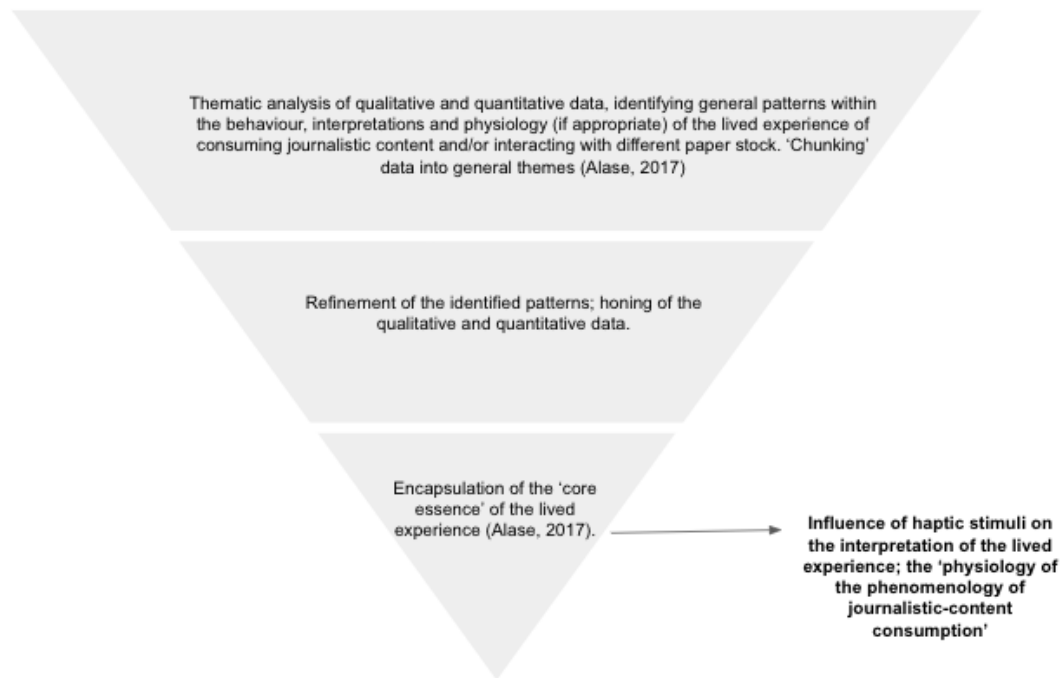


Figure 8 Cycle three: the 'essence' of the experience (Alase, 2017)

As an example of this approach in practice, my overall interpretation of the 36-year-old Elsbeth's contribution to the study is that here is an individual upon whom haptics was an important influence in the consumption of journalistic content. Cycle one of the analysis involved the chunking of data into themes, and for Elsbeth, these themes were 'luxury', 'trust in content', 'investment', 'enjoyment in sensory stimuli' and 'perception of brand'. Cycle two refined these themes further: for instance, I identified that the perceptual impact that haptics had on Elsbeth was something that she equated to more than just a brand: she made the link between weight of the paper stock to the weight of a baby as a signifier of strength. Cycle three honed the themes even further to ascertain a more acute sense as to the essence of the experience for Elsbeth: value. Haptics for Elsbeth was a valuable asset to the lived experience, one that she invested in as a form of self-value: haptics is an investment and a luxury that signifies she is carving out time for herself from her busy schedule as a full-time professional and mother of two (see

Chapter 4: Findings). As such, this cyclical approach helped to distil the lived experience of the participants from a transcript of the interview to the essential elements of that lived experience.

3.9.4 Correlation

My research explores the idiographic nature of journalistic-content consumption and the impact of haptics via both qualitative and quantitative data, but also makes the connection between the lived experience verbalised qualitatively by the participant and the lived experience interpreted quantitatively on a physiological level. Previous studies have taken a similar, albeit mono-method approach: Tröndle and Tschacher (2012), for instance, in their study of the physiology of visitors to an art exhibition, established a correlation between physiological fluctuations (as measured by the electronic-glove device that participants wore), spatial movement (as in the participant's progress through the exhibition) and quantitative response to artworks (as measured by surveys upon entry and exit of the exhibition). The electronic glove tracked each participant's movements around the exhibition and monitored physiological fluctuations, in terms of heart rate and skin conductance (for which EDA is the umbrella term (Braithwaite et al, 2015)) and correlated the physiological measurements with the data gathered from the survey with participants.

The thematic analysis of the focus group was primarily associated with the survey responses of participants as they interacted with each edition of *Delayed Gratification* (the 'original' version, printed with higher quality paper and finishing and the 'inferior' version, printed with lower quality paper and finishing) and discourse following the participants' interactions with each edition. The participants were provided with a digital form (the intention here was to minimise any haptic stimuli other than that of the magazine) on which they were asked to answer

questions before discourse in the focus group when participants congregated together. Despite the fact that the data provided was quantitative, the multiple generic-cycle method (Alase, 2017) was applied: the data was reviewed initially, before themes identified and then reduced. The same principle was applied to the focus-group discussion, where dialogue was logged and examined. The iterative quality of phenomenological data assumes a process of distillation: the ingredients come together (in this instance, contributions from participants via group discussion and survey response) and then refined to the essence (Alase, 2017) of the experience as to the reactions the participants had when interacting with the different versions of the *Delayed Gratification* magazine. A double-hermeneutic strength of IPA can also be considered its weakness: the risk of the researcher's interpretation colouring the participant's interpretation of a lived experience (Tomkins and Eatough, 2010; Wagstaff et al, 2014; Smith and Osbourn, 2015; Alase, 2017). However, the iteration of analysis (such as the generic cycle (Alase, 2017) and Smith and Osbourn's (2015) hermeneutic cycle) can minimise this impact via the repeated 'honing' of data and identifying of themes - particularly when the researcher 'brackets off' their own suppositions (Moustakas, 1994). An example of my own endeavour to minimise the influence of my own suppositions on my interpretations was to ask the participants to elaborate on certain words I had identified as already becoming a commonality in the discourse. For instance, the word 'nice' was repeated on a number of occasions by a number of participants. Not only does this word have the potential for a wide scope of contemporary meanings but its etymology suggests that it has had a range of interpretations, including 'wanton', 'coy' and 'foolish' (Hoad, 2003). My interpretation of the word 'nice' is that it implies something fine yet not significantly great, and this interpretation may differ from a participant. This clarity in description is crucial in IPA, if the researcher is to gain a clear picture of a participant's lived experience.

3.9.5 Themes

While the qualitative responses via the survey and subsequent discussion was analysed, a quantitative perspective was provided via the rating scales (Barbour and Kitzinger, 1999; Wilkinson, 2015). The key themes that were identified following analysis of the data evidenced that haptics made an impact on the consumption of journalistic content but to different degrees for different people. This aligns with Peck and Childers's (2003a; 2003b) NFT scale that argues consumers have varying requirements for tactile interaction. The findings of the research will be explored in Chapter 4: Findings, but the thematic analysis of the data showed that there was a commonality in the dialogue in both the focus groups and the interviews (with the word 'nice' used frequently), that there was a perception of better quality to content when packaged in such a way that suggests quality, and physiologically, that high-quality packaging increases the EDA response of the consumer, thus enhancing the pleasure factor of a particular experience. Discourse analysis is often favoured in the exploration of qualitative data (LeGreco, 2014). In the context of this research, the transcripts of participants provide discursive indications as to the experience of journalistic-content consumption, and the three-cycle analysis approach will enable distillation of the lived experience of the participants in the studies (Alase, 2007).

3.10 Reflexivity in practice

A period of reflexivity allows the researcher to reflect upon the research process and that of the influence of the researcher (Braun and Clarke, 2013). Reflection is a useful tool when it comes to conducting a 'cycle of enquiry' with a view to identifying key points (or 'critical incidents') in research (Ramsey, 2006) but reflexivity also considers the influence of the researcher (Braun and Clarke, 2013). That influence relates to the researcher's beliefs, experiences and practice and in this context, my

personal belief was, and professional experiences and practices led me to believe that haptics has a positive impact on the consumption of journalistic content. Reflexivity demands that the researcher be aware of these beliefs and how they may influence the research but this is an ongoing process, wherein the research is reflexive recursively (Probst, 2015). This is appropriate for phenomenology, with the hermeneutics relating in this context to that of the researcher's interpretation of the lived experience that is research. The ongoing process of reflexivity reinforces the point that our interpretations are not static and are fluid, being moulded by our continuous exposure to events and our understanding of ourselves and the world around us (Etherington, 2015). This is applicable to the initial structuring of the research, the mining of secondary data and gathering of primary data, and ultimately the analysis and identifying of themes. The original statement of intent at the outset of the research was informed by my interpretations of lived experiences relating to haptics and the consumption of journalistic content, and these interpretations continued to be shaped throughout the research process. Reflexivity demands that the researcher acknowledge and be mindful of their (informed by both conscious and unconscious bias) position when it comes to the exploration of a subject. The continual active reflection on our understanding and beliefs that evolve as our understanding expands on a subject allows us, as researchers, to also acknowledge the relationship between the subject being studied and the person studying it (May and Perry, 2014).

Reflexivity is a process that is both recursive and active, and much more than simply looking at myself. If I consider 'reflection' as the image that is reflected back at myself in a mirror, reflexivity can be argued as watching myself reflecting upon that image: I should take into account the position, my interaction and my responses to that information conveyed within the mirror (Markham, 2017). Envisaging my position on the subject of journalism, consumption of journalistic

content and haptics, I am aware that I have the interpretation of journalism from both a professional and consumer point of view. I am aware, for instance, of the cost implications of print and binding, and know that a publisher has invested in its product when I hold a magazine that is printed on high quality paper stock and is perfect bound (Whittaker, 2008). Professional knowledge such as this positions my interpretation of the lived experience of consuming journalistic content in a way that may be different to the participants'. Reflexivity - and particularly making the effort to practise this recursively - ensured that the interpretation of the participant was individual to them and the risk of my interpretation colouring theirs was minimised.

As an individual who is higher up the NFT scale, I'm aware that I value the impact that haptics has upon my consumption experience. This relates to the consumption of journalistic content but also to other behaviours: for instance, I value the experience of shopping for clothes on the high street, because I can touch the fabric and this will influence my buying behaviour (Peck and Childers, 2003a). Similarly, I have a different perception of a product when the packaging is of a higher quality: I value that product more than if it was packaged poorly (Krishna and Morrin, 2007). My interpretation of the impact of haptics, then, is that it is a positive one, that benefits the experience. But what does 'positive' impact mean? My positionality is that print offers an immersive experience, both from a journalistic and consumeristic point of view. 'Immersion' in terms of investing time, money, space in a home (in terms of archiving), brand perception and brand loyalty: these points work on both levels within professionalism and consumerism. In this regard, immersion equates to an impact. This research has explored the 'impact' from the haptical perspective but this could equally be explored from an olfactory or acoustic perspective, where a sense is stimulated and thus enhances the lived experience. A critical incident in this research was the realisation that the experience of consuming journalistic content could be measured physiologically (Ramsey, 2006;

Tröndle and Tschacher, 2012; Wood and Kenyon, 2018). The inclusion of physiological measurements demonstrates that haptics does have an impact on the experience of consuming journalistic content, but this varies for different people, which aligns to the NFT scale as proposed by Peck and Childers (2003a; 2003b).

3.11 Research philosophies and process

There is a landscape of philosophical considerations to navigate when it comes to the research process. Crotty (1998) distils the various components of research design into four elements: epistemology; theoretical perspective; methodology, and methods. Epistemology is the ‘enquiry into the nature, scope and justification of human knowledge,’ (Williams, 2016, p37). In other words, it explores notions such as: ‘What do we know?’ and ‘How do we know it?’ The epistemology of this research project is constructionism, in that a key focus will be on the participants’ interpretations of the lived experience of consuming journalistic content. Ultimately, the stance of constructionism of this research involved the construct of meaning by the individual, based on the interplay between object (publication) and subject (participant): the individual brought together meanings that were extant and then applied this to the object in question - namely, the issues of *Delayed Gratification* (Schwandt, 1994; Crotty, 1998). Positioning myself as a researcher within this project, I acknowledge that my industry experience as a journalist producing both online and print content, coupled with my conjecture that I am an autotelic individual with a high need for touch (Peck and Childers, 2003a; 2003b) has shaped my assumption that haptics does impact upon the lived experience of journalistic-content consumption but the impact will differ for each individual.

The experiential aspect to journalistic-content consumption and my assumption that haptics is an integral component of this steered the research to a deductive

approach that is grounded in physiology and biometric measurements. The E4 Empatica device facilitated the quantification of an experience via the measurement of an individual's EDA as they interacted with a publication and my hypothesis was that EDA would fluctuate during the experience. But it was unclear as to the extent of the impact of haptics upon the experience. Phenomenology - specifically, IPA - provided a compass to assist with the exploration of that lived experience, and an inductive approach provided the opportunity to gain an understanding as to the impact of haptics of those individuals and their lived experiences. The mixed-methods design was appropriate in coupling these two approaches.

The theoretical perspective is interpretivist, which is often the approach taken in qualitative research but remains relevant in the context of this research, because of the focus on interpretations of lived experiences. As the researcher, I had to be aware of the impact of my own lived experiences, and - in the context of journalistic-content consumption - those lived experiences are generally more pleasant when there is touch stimuli. For instance, I have a personal preference for reading longform text in print as opposed to online. My interpretation of my participant's interpretation of the lived experience risked being coloured by my personal preference, and I was aware that the double hermeneutics element of IPA would require mitigation (see Chapter 3: Methodology). Similarly, because of the convenience-sampling technique that I adopted to recruit participants, I had to be aware that I was potentially sampling from a pool of participants that, demographically, reflected my own. As such, while I position interpretivism as the most appropriate theoretical perspective for this research, I acknowledge that the social realities of the participants, coupled with my own, are somewhat consistent. However, the findings retain value, because: they are applicable to the participants involved in this study; they highlight issues specific to the interpretative aspect to experiential journalistic-content consumption, and they show a technique in which

the conventionally qualitative approach of phenomenology can incorporate quantitative data (see Chapter 4: Findings).

The process of research is one that is iterative and can shift as new literature is explored and primary research conducted. A key point to consider was ascertaining the most suitable methodology for this research. There were stepping stones in the initial stages of this research design that facilitated opportunities to pause, consider a methodological approach, and then move in an appropriate direction. One 'stepping stone' was literature relating to grounded theory (Charmaz, 2006; 2014; see Chapter 6: Conclusion) that provided a window of reflection as to its suitability to the thesis. This methodology held an appeal in that it could develop theories rooted in empirical observation and studies of social processes. While the focus and refocusing of a grounded-theory lens on the subject of haptics and journalistic content was useful in the early stages of research design, in that it was interpretative and inductive, it was the stepping stone of phenomenology - specifically IPA - and its emphasis on lived experiences and meaning making that was considered the most appropriate. This is because I could integrate the physiological aspect of haptics, as well as its impact upon the consumers' sense making of the *Delayed Gratification* content. In addition, I could contribute a quantitative aspect to IPA that would potentially move forward the value of phenomenology within a mixed-methods context. Ultimately, the iteration of research design, and specifically the consideration of phenomenology and grounded theory, is an approach advocated by Reiter et al (2011), who argue that 'delayed research method selection' facilitates an opportunity to assess the appropriateness of each, without closing the door on either one.

3.12 Conclusion

Interpretative phenomenological analysis (IPA) enables the exploration of hermeneutic phenomenology, which in this context of research, is the consumption of journalistic content. The notion that it is the content that is 'king' (Gates, 1996) is challenged, and the argument is posed that it is the 'experience' that is king. The experiential consumption of journalistic content relates to sensory stimuli, and this research focused on the sense of touch. IPA is an appropriate methodology when it comes to the study of experiences, because it offers the opportunity to unpick the interpretations of journalistic-content consumers. The focus-group method of gathering qualitative data was an effective way to facilitate a discourse on a group of non-probability, convenience sampled participants. However, the quantitative method of a survey that preceded the focus group allowed me to gather a statistical representation of that lived experience of interacting with a printed product. Similarly, the interviews allowed participants to expand upon their interpretations of the lived experience of interacting with a magazine. The participants, sampled via non-probability, convenience means, could elaborate on key parts of their responses, such as their meaning of the word 'nice' to indicate a positive aspect of the lived experience. Again, quantitative data was gathered - as appropriate for a mixed-methods design as the one this research adopted - but in this instance, it was gathered via the physiological measurements afforded by the E4 Empatica wristband. Crucially, it was the ability to offer participants the interaction with the same content but with contrasting haptic qualities that proved instrumental in this research. The participants' interactions with the two editions of *Delayed Gratification* - both in the interviews and focus group - demonstrated clearly that the interpretation of an experience with the same content was different when the haptical element was altered.

This research explores the phenomenon that is the consumption of journalistic content, and the impact that haptics has on that lived experience. The qualitative

and quantitative data gathered from participants as part of this mixed-methods approach has indicated that haptics can have an impact upon the phenomenon of consuming journalistic content. The following chapter will discuss the findings of the thematic analysis in more detail and will be followed by a discussion with regards the implications this data has for future business models in both marketing and journalism.

4 Findings

4.1 Introduction

This thesis explores the impact that haptics has on the consumption of journalistic content, adopting an IPA framework and mixed-methods approach to ascertain how the haptic qualities of a printed publication (such as paper stock) influences brand perception, consumer behaviour and the experience of consumption. I highlighted in Chapter 2: Haptics Literature Review that media studies is experiencing a 'haptic moment' (Parisi and Archer, 2017; Parisi et al, 2017). The findings of this chapter will contribute to the discussions relating to that 'haptic moment' but in the context of journalism through the lens of IPA. This chapter summarises the haptic-related findings from the focus groups and interviews. My analysis has produced three themes within the lived experience of consuming journalistic content of participants of my sample. These relate to: 'consumer behaviour'; 'brand perception'; and 'sensory and physiological'. The first theme refers to the ways that participants interact with and respond to different qualities of paper stock, such as stroking the pages, assessing the weight of the publication and noting the smell of the ink and paper. My findings demonstrate how the behaviour of some participants in my sample were influenced by the superior haptic quality in terms of keeping the publication, revisiting the publication, and generally being more loyal to the publication (in terms of repeat purchases and recommendations). The second theme - brand perception - refers to a relationship between an initial impression of a brand and the quality of the paper stock. Significantly, participants trusted content published on comparatively higher quality paper. The final theme addresses the physiological findings of the interviewees wearing the E4 Empatica wristband, to

demonstrate fluctuations in electrodermal activity (EDA) when the two versions of *Delayed Gratification* were consumed.

4.2 Themes

4.2.1 Theme 1: Consumer behaviour

My analysis produced two sub themes to the theme of 'consumer behaviour': archiving and ritualism. 'Archiving' refers to the inclination of a participant to keep a publication with the intention of future reference; 'ritualism' refers to the habits of consumers in the purchasing and reading of the publication. The findings of this research project indicate that haptics does have an impact on the experience of consuming journalistic still images and copy but on variable levels, depending upon the individual's need for touch (Peck and Childers, 2003a; 2003b), and this in turn impacts upon their behaviour. Behaviour in the context of this research relates to observable activities, such as stroking the pages, 'weighing' the publication in their hands by moving the hands up and down whilst holding the publication, as well as archiving the publication (such as keeping the publication on book shelves or on coffee tables) and thus, visibly showing a statement of intent (which in the context of this research is the indication of the participant's interests that the publication aligns to). I now take these in turn to explore these in relation to the consumption experience of participants.

4.2.1.1 Archiving

Participants reported that superior paper stock or even simply consuming content in print affected their behaviour in terms of the likelihood of the participants keeping the publication with a view to show a statement of intent (for instance, keeping the publication in view of visitors as a way to indicate their interests and intentions to be informed on a particular subject). Craig, a male in his forties and a participant in the

semi-structured interviews, stated that, while he did not currently read many publications in print, there was one publication that he archived for ease of future reference: it was easier and more convenient to refer back to a printed publication than it was a digital one and reading longer articles was preferable in print. Craig stated:

I don't like reading longform off a screen. Because it hurts your eyes, it's not a nice format. Your attention is more likely to waiver when every third line is linked to something else. That's not to say I don't do that, but given the choice I would always prefer print to read longform stuff.

Craig also referred to the accessibility of print and digital content:

I've got access to all of the [digital] archives, and I can search by word, but I never do. I read it [in print] every month, and then I put it on the pile. And on the spine of them, it's got the main articles, so you can quite easily look through them if you go back to them.

Archiving publications also evidenced a sense of loyalty to a particular brand. For instance, Jon, a full-time professional in his 40s who was a participant in the semi-structured interviews, stated that he had a sense of loyalty to a specific specialist printed publication:

For the last 10 years, I have bought a magazine called the *Edge* which is about video game design, because I'm fascinated by games. I really like playing them but I don't really get a chance to play them very much. They pile up in the bathroom until the shelf runs out of space, then they go up in the attic or there's a load at my mum and dad's house. They take up a lot of room when you buy them so consistently.

Similarly, Elsbeth, a married mother in her 30s who was also a participant in the semi-structured interviews, stated that she archived a particular publication because of the ease of reference and the statement of intent to pursue a particular interest. In this instance, the magazine and interest related to crafting and lifestyle:

When I initially get them, I'll probably look at them for about half an hour, but then I'll keep picking them up, and going through them, and then if there's something I really want to read properly, you know, when the kids aren't there, then I'll leave that for later. But I go back to them all the time, particularly with the craft magazines. I like to look at the patterns - even if I don't make anything, I enjoy just looking at them.

Elsbeth's behaviour is one that was echoed across responses from all methods: that engaging with a printed product was one that demanded investment in time, was considered a luxury and was an 'artefact' that was repeatedly turned to. This links into Fortunati et al's (2015) study exploring newspapers as artefacts and the relationship that consumers have with them. That notion was echoed by Jess, a full-time professional in her 50s involved in the semi-structured interviews, who said that while she did not read magazines regularly in print, she had a habit of archiving publications to refer back to when the content had been 'forgotten':

I'm very pressed for time. My leisure time is scant. I don't have the gaps to luxuriate, but it's in certain spaces that I happen to be - I do buy them on holiday. I flick through, I forget about them, I go back to them.

But the quality of paper stock was referred to in terms of the longevity of archival, with Linda Ann, a focus-group one participant, stating in reference to the poorer-in-haptic-quality *Delayed Gratification* issue: 'If people wanted to keep the magazine it would be difficult to keep it in good condition.' Overall, focus-group one showed an increase in the likelihood of archiving publications of comparatively higher quality paper stock. Beverly, a 20-year-old participant of focus-group one, summed up the general attitude of the group by stating:

I am more likely to pay more for this magazine rather than the other one as the paper instantly feels higher quality and more expensive...I am more likely to archive it and reread it as it feels like more time had gone into it.

Quantitatively, focus-group one showed a 69% increase in the likelihood of archiving the original version of *Delayed Gratification* in contrast to the reprinted version. This was the greatest differential with regards the likelihood of keeping the original version out of focus-group two and the semi-structured interviews using *Delayed Gratification* issues as a cue. The demographic of this focus group was between 19 and 20 years old and all participants were female undergraduate students. Bearing in mind the perceived media-consumption behaviour of this demographic ('digital natives'; prolific on social media (Deloitte, 2014; Deloitte, 2015), it is worth noting this significant

difference. There is value placed upon a haptically superior product in terms of archiving the product (or 'artefact' (Fortunati et al, 2015) for a demographic whose media consumption is largely grounded in the digital landscape, where haptics has no brand-specific bearing on the consumption experience. Similarly, this group showed a significant increase in the likelihood of re-reading the content of *Delayed Gratification* when the content was printed on the superior paper stock. The group showed they were 45% more likely to reread the content, in comparison with focus-group two, who were 19% more likely to reread the content. As a reminder, the demographic of focus-group two were participants in their late 30s/early 40s with children at a specific urban primary school. This group's media consumption was less inclined to online content (Deloitte, 2014; 2015), giving them more exposure to consumption experiences where haptics had an influence. The absence of haptic exposure in this study then, could be argued to echo that of Harlow's experiences in the 1950s on the significance of the 'maternal touch' (see Chapter 2: Haptics Literature Review), in that when there is a haptic-shaped void in an experience, the need for haptic experiences becomes more keenly felt.

In terms of the likelihood of keeping (in other words, archiving) the publication, the interview participants rated 6.1 in terms of keeping the original and 5.7 in terms of keeping the reprint. Participants were more likely to recommend the original publication (a mean of 7 compared to 5.4 for the reprint) and slightly more likely to reread the content of the original than the reprint (a mean of 3.4 compared to 3.25). A key contrast with the interviewees wearing the E4 Empatica wristband was the likelihood of participants searching for content online, with the mean of 6.25 for the original and 4 for the reprint - a difference of 56.25%. This suggested that the level of interest and subsequent search for more related information was greater when the content was consumed on the original - and comparatively higher quality - paper stock. Elsbeth, for

instance, in her discussions in the interview on her chosen specialist magazine on the subject of art and crafts, equated the weight of paper to the weight of a newborn baby:

Perhaps on a base level, it is to do with baby weight? The heavier the baby, the healthier and stronger the baby. When we feel something of weight, it has the suggestion of strength. You trust their opinion in design and craft, because it's on a higher quality paper. And because it feels more like a book, you trust in their opinions a little bit more.

Louise, a 19-year-old participant in focus-group one, echoed Elsbeth's interpretation of the connection between trust of content and haptics: 'The pages in this magazine [the original edition] are much thicker and better quality, due to the quality increase I think the magazine seems more trustworthy [than the reprint].' In terms of archiving the original publication, the mean response for focus-group two was 9.5, compared to 7.5 for the reprint - a difference of 26.7%. A similar response was found in the likelihood of rereading the content, with the mean response again being 9.5 for the original, and 8 for the reprint.

In summary then, the participants' behaviours were influenced to collect and archive publications with haptical assets, in a dedicated space, for future reference and as statements of intent. This was more sharply seen in focus-group one, where the demographic of participants was younger than those participants of other methods in the study and can potentially be an area for future discussion with regards media formats for this digitally climatized consumer (see Chapter 5: Discussions).

4.2.1.2 Rituals and experience

The findings of this research also echoes that of Fortunati et al (2015), Mathews (2021) and Zhou et al (2021) with regards ritualistic consumer behaviour, wherein the participants showed that haptics enhanced their inclination to financially invest in a premium product that offered the opportunity of a pleasant experience. Haptics

influenced habitual behaviour, wherein participants stated that the physicality of an object provoked the desire to collect it, archive it, or even integrate interaction with the object into their day (for instance, walking to the shops specifically to buy the newspaper was a ritual - a habit that Eva was keen to maintain and also a habit participants in the research of Mathews (2021) shared). Annalise, a 38-year-old participant in focus-group two stated: 'I've gone back to books from reading a Kindle. I don't like the experience of reading it on a Kindle, the technology is not right for me at the moment.' Beverly, a 20-year-old participant in focus-group one, argued that she would be more willing to pay for the original version of *Delayed Gratification* because she would be more likely to keep and refer back to the publication:

I am more likely to pay for this magazine [the original] than the other one [the reprint] as the paper instantly feels higher quality and more expensive. I still believe £10 [the cover price for a single issue] is a lot for it as I think this is because of how small it is. I believe if it was bigger than A4, the price might make more sense.

This response is indicative of the impact of haptics not simply in terms of paper stock but the size format of the publication. *Delayed Gratification* is a custom-size format of 197mm x 240mm (the A4 format is 210mm x 297mm) and is thus, comparatively smaller than the standard A4 format. Beverly feels that she gets more for her financial investment with a larger format.

The findings relating to consumption behaviour indicated the impact of haptics when the paper stock itself was blank. Here, the influence of content was removed, with participants in focus-group three - Frank, Morgan and Frida - interacting with plain paper but bound in such a way that was characteristic of a magazine: namely, perfect bound (where there is a 'spine' from the glueing together of the pages or 'saddle stitched', where pages are stapled (Whittaker, 2008)). The blank publication referred to as 'A' and consisted of 100 GSM (photocopying paper is generally 90 GSM); silk (a smooth texture), and saddle stitched. Publication 'B' consisted of 170 GSM (cover);

120 GSM (interior); matte and perfect bound. Publication 'C' consisted of 250 GSM (cover); 130 GSM (interior); silk, and perfect bound, as shown below:

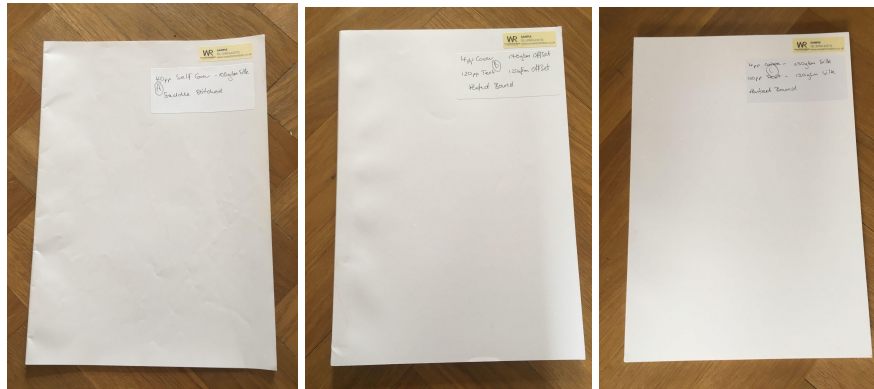


Figure 10 From left to right - A (100 GSM; silk throughout); B (170GSM matte cover; 120 GSM matte interior); C (250 GSM silk cover; 130 GSM silk interior)

Publication 'A' (the lightest paper stock and with a silk texture and stapled) incited the strongest negative response, with the participants clearly showing adverse reactions (including swearing). A publication that 'felt nice' encouraged archiving due to its association with quality. Frank, the male 38-year-old focus-group three participant, made a point that aligned with the argument of Le Masurier (2012): that there is a place for the printed product, particularly one that had pleasant tactile qualities (in the context of Le Masurier's research, this was specific to independent magazines, such as *Delayed Gratification*). Frank argued that:

[It was during] the digital revolution, where they said print would die. But then really what happened was that anything that was cheap ended up online and then print survived and flourished because it meant in print, it was actually something worth printing. So actually the quality of print massively increased. People paid a lot more for it because it became more of a niche type thing.

This reiterates the notion of printed products being 'artefacts' - and artefacts that some consumers are willing to pay for. This aligns to the 'materiality' of printed newspapers that some readers favour (Fortunati et al, 2015), particularly those with a higher need for touch (Peck and Childers, 2003a; 2003b). This 'materiality' that most participants

favoured gave a sense of tangibility, a physicality that they could interact with when they wished and archive in a way that suited them. There is a 'realness' to the printed publication that participants highlighted. The (anonymous) preliminary survey with undergraduate students working on a magazine as part of an assessment revealed the value of printing their work from screen. The assessment made it optional to print their digital magazine but a number of the students within this class (and historically, as part of my journalistic teaching) chose to print their publication. Responses from the five participants in the preliminary survey exploring why they felt a need to spend the money to print the digital publication mirror that of one of the novelist Somerset Maugham's characters in the book *The Razor's Edge* when discussing the publishing of his book to a small audience. The character - Larry - says, 'I'm only writing it to get all that material out of the way, and I'm publishing it because I think you can only tell what a thing's like when you see it in print,' (1944, p253). Over 70 years later, the undergraduates in the preliminary survey made similar statements. Responses included: 'It wouldn't feel complete otherwise'; 'Looks nicer to lay the images and copy in a magazine rather than just have a bog-standard scroll-up-and-down article on a website'; 'I think having a physical copy is better than just a digital one'; as well as:

I wanted the final product to fully showcase how much time and effort was exercised when creating the publication, which I thought would be best achieved if it was experienced physically... I thought the content would also be better engaged with if the readers were presented with the ability to flick through the magazine's pages. Printing the final product was essentially a personal reward I bestowed to myself upon the magazine's completion.

The latter response was from a participant who showed a keen interest in printed magazines and she was proud of her achievement in producing a magazine, but it only felt 'finished' when the publication was made tangible in a printed product, with a brand-specific haptic element. Her response was echoed by another student who had invested an expense in travelling abroad to create content for her magazine project and felt it demanded attention in its consumption:

I decided to print because I felt the work would be better suited to a physical object where viewers can flip through the pages and interact with it as a packaged individual product rather than a piece of data on their already existing digital devices. I think that there is a huge difference in the way the work would be consumed if it was only available as a digital copy. I wanted readers to take the time to read and interact with the product so given the viewing patterns of web vs. print I knew that readers should generally engage with the publication more if it was printed.

These participants felt that the project was only fully realised when it became tangible. Bearing in mind that these participants were ‘digital natives’, it is worth noting that they valued this tangibility, and as content creators themselves, they felt there was value added to their readers’ experience in consuming the content when brand-specific haptics was involved. Incorporating a brand-aligned haptic element into the overall product can impact upon the way in which the consumer develops habits in relation to their consumption of that product: Bartmanski and Woodward (2013) explore the significance of rituals in the consumption of content - in this paper, that content is music. One of its claims, with regards vinyl’s resurgence, is the fact that a vinyl record is not simply a commodity, but a highly valued, cultural object that facilitates ‘a series of emotionally charged rituals and experiences on which various communities thrive,’ (Bartmanski and Woodward, 2013, p7). Andrew, the 61-year-old participant in the E4 Empatica experiment, discussed his ‘ritual’ of spending time browsing shops with the intent purpose of finding vinyl music and CDs. He enjoyed the immersive experience of visiting the physical space of a shop, touching and looking at the vinyl and vinyl covers (along with its associated artwork) and then buying the physical, tangible product to take home. At home, the ritual would continue, with Andrew explaining that he enjoyed reading the vinyl and CD sleeves in depth, and listening to the music, and then archiving the artefacts within a dedicated storage space - thus, echoing Bartmanski and Woodward (2013) but applying the same ritualistic approach to journalistic-content consumption where haptics was instrumental to the experience. Andrew’s ‘downtime’ and strategy to practise mindfulness in life involved music, specifically music on vinyl records and CDs: he practised the ritual of immersing themselves in the transportation

of the physical self from point A (often the home) to point B (a charity shop), selecting and picking up the physical object, making a purchase, returning home, listening to the recording (which we can refer to as the 'content', if we refer back to Bill Gates's essay) and then archiving the vinyl or CD. While Andrew's ritual was not related to journalistic content, the impact of haptics in the forming of a habit is a notion that's transferable. When making the effort to go into a store, to engage with the physical retail environment, the consumption behaviour adopts more of a 'quality over quantity' stance, with some records being considered a work of art, and/or an investment. There is also the community aspect to buying a physical product in a retail environment, and this is a similar aspect to be found in newsagents and independent magazine stockists, where shoppers take their time to select a product, and can sometimes be observed talking to shop staff who are often knowledgeable about the stock. Leanne, a 48-year-old owner of a shop selling independent magazines (including *Delayed Gratification*) said: 'Many of my customers enjoy the fact that we have curated good magazines which they can pick up and flick through, perhaps go for a coffee at the cafe [next door].' Again, I note a ritualistic habit wherein the experience is not simply limited to the 'product' (or content) itself, but other experiential elements around it. Following on from the point regarding ritualistic habits, the findings of this study echo the point that printed products encourage ritualism (Gerlach and Buxmann, 2011). There is a lived experience that is enhanced because the individual is able to interact with a tangible object.

The 'bracketing off' experiment of focus-group three, where the participants interacted with blank and bound pages, was designed to explore the impact of different paper stock upon participants' consumption experience. The 'A' sample elicited the most negative response. These included 'It doesn't feel nice', 'It's not something I'd want to keep', and 'I would expect a brochure or catalogue, not a magazine on this'. The two matte paper stock, perfect bound, examples elicited roughly equally positive

responses. Conversely to the blank-and-saddle-stitched gloss pages, responses related to the document feeling 'nice', and exuded 'quality'. Participants in focus-group three - Frank, Morgan and Frida - stated that they were more likely to keep and archive a magazine that was printed on this type of paper stock, and bound in this particular way (perfect bound, where the pages are glued to form a spine). Morgan stated that the example would be something that she would archive and keep on a shelf, wherein it would form part of the interior decor. She said:

It feels more like a book, it feels more substantial, it's just a bit more... if I read an article on this one [swatch C] and the same on that one [swatch A], I'd be more interested to finish it even if it was something I wasn't completely engaged in.

These findings reinforced the notion that we have preconceptions when it comes to the paper stock we interact with, aligning with the phenomenologist Heidegger's (1889-1976) contention against Husserl (1859-1938) that it was not possible to bracket off our preconceptions (see Chapter 3: Methodology). This is not limited to our reactions when we haptically interact with the publication. Frida spoke about how she came across *Delayed Gratification*: it was displayed in a newsagents' outlet at an airport where she was to leave for an overseas holiday, in an area that interested her (news and current affairs). She saw it, liked the look of it, picked it up - and liked the feel of it, before even browsing the content. Frida was asked if she would have picked up *Delayed Gratification* had it been printed on a glossy stock, and had been saddle stitched: she said 'No'. It would be 'too shiny', she said. 'There would be too much glare on the pages' and that it 'wasn't something that I would keep with me on holiday'. Crucially, when the blank gloss, saddle-stitched example was held up next to the publication she bought at the same time (*Monocle*: high pagination; perfect bound), and she was asked if she would still pick up *Delayed Gratification*, she said 'No'. The publication on better quality stock overshadowed the publication of a similar market but printed on a lower-quality paper stock.

4.3 Theme 2: Brand perception

It has been argued that impact of haptics (and cross-modal stimuli) can confirm or disconfirm the consumer's initial perception of the brand (Krishna and Morrin, 2008; Sundar and Noseworthy, 2016). My own research adds support to this: haptics influenced my participants' perception of a brand with regards to the association of quality. My analysis produced two sub themes: 'trust' and 'premiumisation'. In terms of the sub theme of trust, this related to the confidence the participants had that the content of *Delayed Gratification* (which is news and current affairs) was accurate. In terms of the general attitude towards trusting 'the news', there was little discussion in the focus groups or the interviews about the implications of fake news, media bias or inaccurate reporting. The point about trust in this research related to the content specifically being published in the versions of *Delayed Gratification*. The content of this issue included: the rise of the far right in the US; pay grades at the BBC, and an earthquake in Mexico City (see appendix 15). In terms of 'premiumisation', the participants referred to the increase in perceived quality of content when published on better paper stock. That sense of quality was related to the perceived value for money, the likelihood of recommending the publication to friends, and haptics' impact on increasing the likelihood of remaining loyal to a brand.

4.3.1.1 Trust

Participants of this study trusted the content more when it was consumed on higher-quality paper: even though the content was exactly the same, and had been subjected to the same quality-control processes that is characteristic of journalism, including sub-editing, where facts are checked (Whittaker, 2008). This is a key finding: that participants trusted an article more when it was distributed with a haptically superior format (in this case, the paper stock). The aspect of trust with regards journalistic-content consumption is particularly significant, with journalistic-content

creators associating their work with the exposure of facts: 'The heroes of journalism are reporters. What they do is find things out. They go in first, amid the chaos of now, battering at closed doors, sometimes taking risks, and capture the beginnings of the truth' (Randall, 2000, page 1). However, my research shows that for my participants, the extent to which something is interpreted as 'truth' is impacted upon by haptic influence. For instance, both qualitative and quantitative data from my research evidence that participants in focus-groups one to three, and in the interviews with *Delayed Gratification* trusted the content printed on higher-quality paper stock more than they did the content printed on comparatively inferior paper stock: even when the content was identical. Participants responded on a quantitative basis via the rating scale that they trusted the *Delayed Gratification* content more when consumed on the higher-quality paper stock than on the comparatively inferior paper stock. The participants of focus-group one (nine participants, aged 19-20 years old) averaged 8.7 when it came to trusting the content they read on the original version of the magazine, compared to 7.8 on the reprint, with the rating scale of trust being '1: not at all' and '10: completely trust'. focus-group two showed a similar result, with an average of 9.5 of trust of the original-print content, and 8.8 of the reprinted content. This equated to a difference of nearly 10%, with focus-group one participants more likely to trust the content that was printed on the superior paper stock.

Similarly, the interviews with participants wearing the E4 Empatica wristband indicated a higher level of trust of the content printed on the original paper stock than the reprint. A quantitative overview of the survey questions is illustrated in appendix 2. The numbers refer to the average response given, on a rating scale of 1-10, with 1 being 'not at all' or 'unlikely', depending upon the question, and 10 being 'completely trust' or 'highly likely', again depending upon the question. The mean level of trust for interview participants of the original content was 8.5 compared with only 7 for the reprint - a difference of 21.4%. The least variation in response related to the likelihood of trust

was seen in focus-group two (the conveniently sampled group of parents at an urban primary school), with the mean response for the original version being 8.75 and for the reprint a mean response of 7.74 - a difference of 12.9%. One qualitative response from Liza, a 41-year-old participant in focus-group two, indicated that while she had identified that she enjoyed the content of the reprint, she placed more value on the original publication: 'I have decided that I like the content [and] now it's on thicker pages, I'd be happier to hand over the money.' Joanna, a 19-year-old participant in focus-group one makes clear the connection between haptics and the perceived quality of the publication: 'I don't *feel* [my italics] that the magazine is worth £10, it looks like there isn't much content and the cost of production doesn't look that high.'

4.3.1.2 Premiumisation

The perception of the brand was impacted upon in terms of brand loyalty being increased when there was a high-quality haptical element. Elsbeth, a participant in the semi-structured interviews, highlighted the point that was echoed in the study involving the reprint of *Delayed Gratification* magazine: that if the same content was printed on a different, lower quality paper stock, their loyalty would be affected because they would perceive the quality of the brand as comparatively inferior. She said: 'I associate quality with the paper.' The magazine in question for Elsbeth was a craft magazine and the participant stated that she regularly bought this publication but that her loyalty would be affected if the print format was altered negatively:

I'd be less inclined to buy it, if they made it cheaper but printed it on glossy paper. I associate quality with the paper... You trust their opinion in design and craft, because it's on a higher quality paper. And because it feels more like a book, you trust in their opinions a little bit more. With the thin, cheap paper, I associate it with TV magazines, because that's what we got when we were little. So I have that association, that it's something that's thrown around, and no one can find it, and it's not loved very much.

This was echoed by Jon, who had regularly purchased a technology magazine over a decade, demonstrating the impact that haptics has on a consumer's loyalty to a brand which in turn strengthens the perception of quality.

It's like a compulsion that I've been carrying on, keeping that going... I must have over 100 issues with one missing... There's definitely [a sense of loyalty]. I like the editorial, it has evolved nicely over the years. [Print-format changes] always seem like an awkward step. It seems wrong, you get so attached to the format... They do have an online magazine but it's rubbish.

The impact of haptics upon brand perception aligns with the findings of Spence and Carvalho (2019) (where the colour, texture and weight of the cup holding a type of coffee impacted upon the taster's perception of the product) and Sundar and Noseworthy (2016) (where there is sensory harmony in cross-modal stimuli, with the product's tactility matching and thus reaffirming the consumer's expectations). In the context of this research, media consumers are reassured if a brand's product feels how it initially looked to feel, and less reassured if the brand's look and feel do not align: 'disconfirmation' can impact upon the reader's perception of that brand. If the magazine has a highly stylised cover model, with a sleekly minimal sans serif font, and coverlines (the text on the cover of a magazine or newspaper promoting the lead stories (Whittaker, 2008)) implying discussion of high-end brands, then the media consumer would attach a feeling to that initial look: one of high-end haptics. If the optic and haptic sensory perceptions do not align, the disconfirmation can unsteady the perception of the brand. The perception dissonance - either affirmed or disconfirmed by haptics - was a key theme that was identified in the findings. For instance, Sally - 20-year-old participant in focus-group one - stated that the original version of *Delayed Gratification* (at £10 per issue) was 'worth the amount being asked for' and that 'it is a unique publication'. Her response for the reprint indicated that the inferior print quality shifted their perception of the brand and that the 'quality of the magazine isn't something that I would pay for [at] this price... It's not something I would keep, [it] appears more like a "freebie" from a newspaper and consequently less informative'.

The findings from focus-group three demonstrated the impact of haptics upon the participants' perceptions of a brand. The associations that the participants had for the inferior publication (publication 'A') was one of poor quality, with Frank stating: 'F***ing hell, it's disgusting! I would expect to see an incredibly cheap catalogue of a very very cheap brand [printed on this paper].' In a discussion relating to the experience of consuming journalistic content whilst on holiday, the focus group was clear that the quality of paper could be detrimental. Morgan highlighted the problem of reading content on silk paper and stated she'd prefer the paper stock of publication 'B', which was of matte paper stock: 'I'd pick 'B' [out of the three blank publications]. Because, for a couple of reasons: the quality [and] there's no glare. So, if I'm sitting in a room or I'm sitting by a pool or whatever, there's not going to be glare on it.' At this point, Morgan was interrupted by Frank, who considered the significance of this: 'That's huge. Why don't [magazine] producers take that more into consideration?' Morgan continued to elaborate on the issue of reading content on silk paper stock: 'You have to hold it in this weird way and it all gets contorted and stuff. And if I wanted to make notes or something... I would want to do it on this.' This led to a lively dialogue between all participants - Morgan, Frank and Frida - where the annotating of content was a positive aspect of the experience of consuming journalistic content because it allowed tangible interaction with content. Frida stated that she would like to 'get some underlines in there' before passing the publication on, which the sharing function of digital content failed to compare. She stated that she would 'pass it around and say, "You'll see that I underlined something" so when [their partner] reads it she'll see something and go, "Oh, that's what she was thinking when she read that", and I might ask her about it.'

Crucially, the focus group was in agreement when asked what their response would be had they seen *Delayed Gratification* printed on the paper stock of publication 'A' (the comparatively inferior paper stock in terms of haptic quality), stating that they would

'overlook' the magazine - despite having established that they had enjoyed reading the content, having already bought the publication previous to the study. This ties in with the finding of the impact that haptics has on brand perception but also reinforces the point that content is not 'king'. Overall, in terms of brand perception for focus-group three, publication 'A' (lighter paper stock; cheaper binding; silk) was undoubtedly the group's least preferred publication, due to its associations of cheapness, which influenced their brand perceptions. Publications 'B' and 'C' both garnered positive reactions but with the general consensus highlighting publication 'B' as the preferred paper stock. Interestingly, in terms of haptics, this publication was of paper that was comparatively lighter in weight than publication 'C' but was matte rather than silk. This would suggest that texture of paper stock and not simply weight of publication impacts upon the experience of journalistic-content consumption: in this instance, the participants showed that they enjoyed the process of annotation to facilitate more of a collaborative and/or sharing experience (similarly observed in the experience of consuming vinyl records (Bartmanski and Woodward, 2013)).

4.3.2 Theme 3: Sensory and physiological

This section will show the quantitative findings in terms of the physiological measurements of participants wearing the E4 Empatica device during the semi-structured interviews. Bearing in mind I've adopted a mixed-methods approach to my research, I'll propose the idea of a methodology that quantifies IPA, demonstrate how my participants provided qualitative data in their descriptions of the pleasantness of their experiences when consuming content on haptically superior paper stock, before presenting the qualitative and quantitative data from the semi-structured interviews where the participants wore the E4 Empatica device to monitor physiological changes. Following the examples of Tröndle and Tschacher (2012) and Wood and Kenyon (2018) (see Chapter 2: Haptics Literature Review), the qualitative data of my research was correlated with the quantitative data by

linking emphasis in dialogue or use of adjectives to peaks in the EDA readings. Wood and Kenyon (2018), for instance, found correlations between the use of the word 'happy' with peaks in the EDA reading in their study of memory recall in participants. Similarly, I identified correlations between the word 'nice' or other positive adjectives with peaks in the EDA - thus signifying that the positive experience being articulated by the participant was mirrored by physiological fluctuations. These fluctuations were visually denoted via a graph and were correlated in relation to the 'marker' on the graph - a vertical red line. In the context of this research, the marker indicated when the participant was handed an edition of *Delayed Gratification* and the subsequent EDA fluctuations were correlated with the participant's verbal articulation of the experience with the publication. An example of this can be seen below:



Figure 9 The overall EDA reading of Samuel, including baseline reading prior to the interview and two vertical red lines: 'markers' signifying when the participant was given each version of *Delayed Gratification*

4.3.2.1 Quantitative Interpretative Phenomenological Analysis (QulPA)

The five senses (taste, touch, sight, smell, hearing) are fundamentally physiological and allow us to interpret our surroundings, activities and experiences.

'Somatosensation' is where the body is able to detect sensations such as heat (thermoreception), pain (nociception), pressure (mechanoreception) and movement

and positioning (proprioception), facilitated by four receptors in our skin: Meissner's corpuscle, Merkel disk receptor, Ruffini ending, and the Pacinian corpuscle (Open University, 2003; Paterson, 2007; Haeberle and Lumpkin, 2008; Linden, 2015; Leader, 2016b). Appreciating that the interpretation of many of our experiences in the consumption of journalistic content is shaped by cross-modal stimuli embedded in physiology strengthens my argument that our experiences can be quantified via physiological measurements. The significance of each of our senses can not be underestimated, with Leader (2016b) arguing that a lack of touch stimuli can have fatal consequences: 'A baby given food and drink yet deprived of any emotional contact with its caregivers will perish. Even Aristotle recognised that without sight or hearing, there could be life, but without touch, death would follow,' (p12). The Tröndle and Tschacher (2012) study, monitoring physiological changes of visitors to an art gallery, highlights the physiology connected with our interpretations of lived experiences and since physiology can be measured quantitatively, I posit the idea of quantitative interpretative phenomenological analysis (QuIPA), thus building on Smith's (1996) iteration of phenomenology that centres on double hermeneutics. Traditional IPA is rooted in qualitative analysis (Sokolowski, 1999; Smith et al, 2009; Duranti, 2010; Romdenh-Romluc, 2011) but quantitative data related to the lived experience - whether it be visiting an art exhibition (Tröndle and Tschacher (2012)) or consuming journalistic content - could be quantified to add another method of analysis and therefore understanding to our experiences, as well as address the issues that the double hermeneutic nature of IPA challenges me with: namely, my presuppositions impacting my interpretation of my participants' interpretation of an experience (Alase, 2017; Brinkmann and Kvale, 2019).

As with previous survey overviews, there is a marked decrease when it comes to the consumption experience of the same content on inferior paper stock for most participants wearing the E4 Empatica wristband (which monitored physiological

changes) in the semi-structured interviews. This was correlated in the EDA readings from the E4 Empatica wristband, where the readings showed fluctuations in EDA when handed the physical magazine. In addition, by obtaining quantitative data that relates to the experiential aspect of journalistic-content consumption on a physiological level, I can explore alternative ways to examine lived experiences, which may help mitigate the IPA issues of double hermeneutics (Smith et al, 2009). My findings in terms of the sensory element of journalistic-content consumption show how participants articulate their experience but also how the experience often corresponds with fluctuations in their physiology. For instance, 'pleasantness' was a notion (and not a word used to describe the interpretation of the lived experience) that was reiterated throughout the focus groups and interviews. One word that was repeated in discourse was the word 'nice', in the context of, 'It feels nice', or 'It's just 'nice'. Something that is 'nice' has contemporary connotations that are positive; with regards the lived experience of the participants in this study, 'nice' is related to a positive element. The word 'nice' was used as both a noun and verb but often in the context of, 'It just feels nice'. In its contemporary meaning, the word 'nice' is interpreted as conveying positive notions of pleasure, attractiveness, delight and satisfaction (Elliott et al, 2001). But there were also other words that were used to describe the positive element that higher quality paper stock brought to the lived experience of journalistic-context consumption. This positive aspect to consumption when the content was published on the higher-quality paper included: 'It felt nicer, it seemed better quality' (focus-group one response, comprised of undergraduate students). The importance of the experience relating to the interaction of magazine and newspaper content was a point that participants of both primary research and findings of secondary research (most notably: Bartmanski and Woodward (2013); Fortunati et al (2015); Gerlach and Buxmann (2011); Krishna and Morrin (2008) Le Masurier (2012); Peck and Childers (2003a; 2003b); Sonneveld and Schifferstein (2008), and Spence and Carvalho (2019)) reinforced. With the primary research, there was often the vague argument that it was 'nice' to consume

content in its printed version. However, from progressing with this kind of response from primary-research participants, and altering the primary-research methods, the meaning of the word for the participants became clearer, as did the descriptions of high-quality physicality of journalistic content. This multisensory aspect of reading a printed product is an observation also taken by Fortunati et al (2015) and this relates to the impact of sensory stimuli to the experience of consuming journalistic content. That multisensory aspect relates to the olfactics (the smell of the ink and paper), acoustics (the sound of pages turning) and optics (the content on the page), as well as the haptics, which in this instance is referred to as 'a particular texture, roughness of pages' (Fortunati et al, 2015, p841).

Indicative EDA readings are below, with the vertical red lines indicating the 'markers', with the first vertical red line when the participant started interacting with the original version of *Delayed Gratification* and the second vertical red line when the participants started interacting with the reprinted version. Three forms of data are featured below, evidencing the overall duration of wristband reading (including the baseline data prior to the start of the experiment), the marking and thus the EDA reading of the participant's interaction with the first version of *Delayed Gratification*, and the second marking and EDA reading of the interaction with the second version. Semi-structured interviews took place while the participant interacted with the magazine, to offer a qualitative insight to the quantitative data.

4.3.2.2 E4 Empatica readings

The E4 Empatica wristband provides a range of physiological data primarily for use in clinical research, including: heart rate (HR); blood volume pulse (BVP), and electro-dermal activity (EDA). The data demonstrated the baseline (where the participant wore the wristband in their own home without me present) before I arrived

and began the experiment. The red line - the 'marker' - is where I activated a button on the wristband to show when the participant had been given the version of *Delayed Gratification*. Any sudden variations or peaks in the EDA are referred to as a 'phasic' response or skin conductance response (SCR). The generally steady reading, which - though variable depending upon the individual's age, hydration, state of mind - is known as the 'tonic' response or the skin conductance level (SCL). When considered together, we refer to the EDA complex (Biopac, ND; Empatica, ND; Braithwaite et al, 2015). The EDA was the focus of analysis, due to its responsiveness to emotions. Other information was not included in the research, such as heart rate, as the focus here was on EDA, but consideration of other physiological changes could be considered in future research. As a way to lean into this idea, the BVP reading is provided underneath the EDA reading. This has also been included in the findings as a way to give context to the EDA reading and to correlate if there is an increase of BVP in relation to an increase of EDA that could lead to further studies into the physiology of consumption phenomenology. It is worth noting that there has been research into how emotional states can be indicated via the physiology readings of BVP, specifically the emotions of sadness, joy, stress, disgust and neutrality (Khan and Lawo, 2016). For instance, a high BVP reading can often reflect stress, which may reflect the BVP activity during the experiment, specifically between the two markers, where each participant was being questioned and were discussing their consumption habits. All names of the participants of the E4 Empatica experiment have been changed in discussions below.

4.3.2.3 Participant A - Joe

Joe is a 35-year-old father. He does not read content in print very often, preferring to obtain information about current affairs via a newsfeed on his phone and from what his wife tells and discusses with him. The readings below show Joe's baseline before I

arrive and start the experiment, with the first vertical red line the point at which Joe was handed the first (original) version of *Delayed Gratification*:

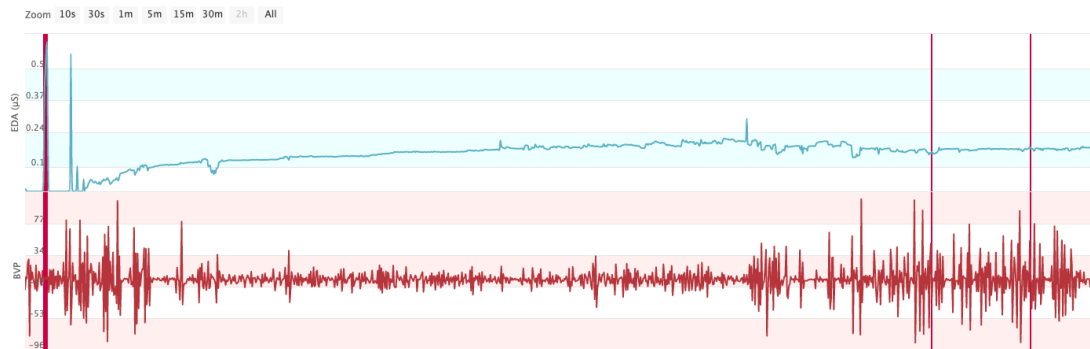


Figure 11 The EDA complex of Joe (blue line) with BVP readings on bottom row

I can see that Joe's EDA complex is very steady with significant peaks occurring as soon as he wears the wristband. This may reflect an emotional response with regards starting the experiment. Joe's interview responses suggested that here was a participant who had no particular compulsion to consume content in print and showed, in questions relating to his music-listening habits and shopping behaviour, that he was an individual with a relatively low need for touch (Peck and Childers, 2003a; 2003b; 2006). Indeed, his verbal responses relating to the lived experience of consuming journalistic content were nonplussed. From a double-hermeneutic perspective, I could have interpreted this in a way that was perhaps more positive than the participant actually experienced. But the physiological reading reinforced the point that for this particular participant, haptics impacted minimally. As such, the steady EDA complex was of no great surprise but was a little disappointing: this being the first participant in the study, I was hoping to see stronger fluctuations to strengthen the argument that haptics has a significant impact on our journalistic-content consumption.

On comparing the two mark-points, below, we can see that there is minimum fluctuation between the skin-conductance response (SCR) in Joe when handed the versions of *Delayed Gratification*:

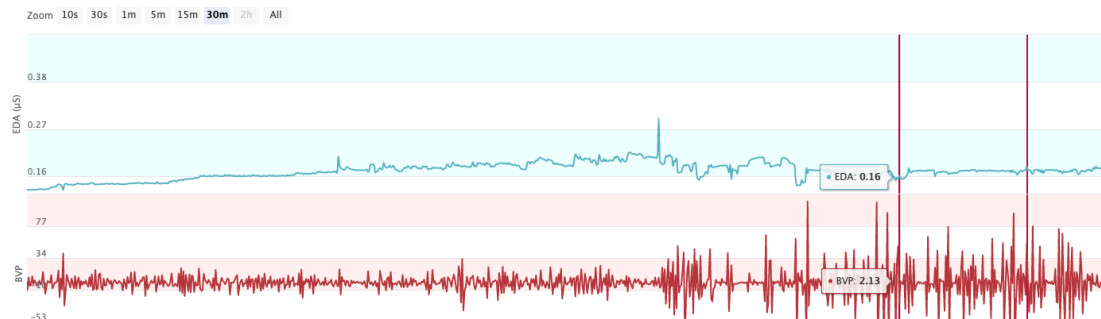


Figure 12 EDA reading of 0.16 (original version of *Delayed Gratification*)

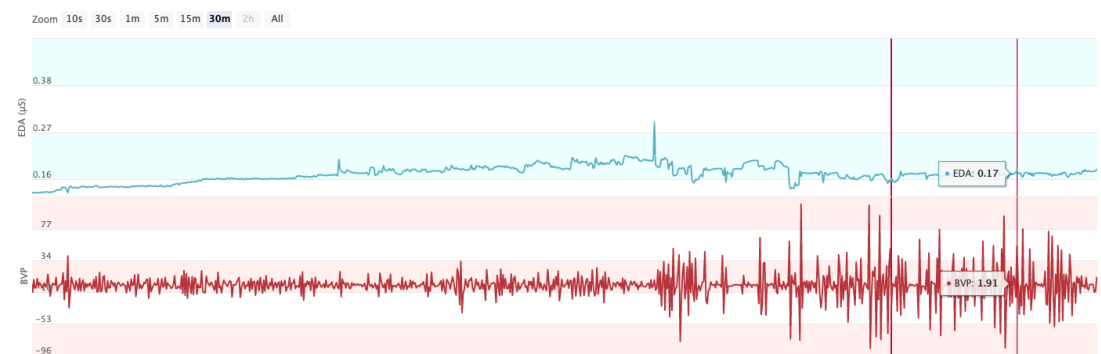


Figure 13 EDA reading of 0.17 (reprint of *Delayed Gratification*)

Physiologically, there is little to suggest that haptics has an impact on Joe's consumption experience. However, he does verbalise in the interview that his perception is impacted upon the quality of the paper stock, stating that he trusted the reprint far less than the original, and that he'd be willing to pay the £10 for the original version but not the reprint. He said, 'I'd only recommend the reprinted version if it was lower in price.' His answers to quantitative questions show that, while haptics in this instance played an insignificant role in the physiological experience of consuming *Delayed Gratification*, haptics did alter his perception of the brand. This is an example of the benefits of mixed methods: where data is made richer by obtaining it via different means.

4.3.2.4 Participant B - Eva

Eva is an 80-year-old retired woman living on her own. She is an active member of the community and regularly reads national and local newspapers. She prefers to read content in print but is not averse to technology, using a PC laptop for emails with friends, family, and fellow volunteers. The readings below show Eva's baseline or SCL before I arrive and start the experiment, with the first vertical red line the point at which Eva was handed the first version of *Delayed Gratification*:

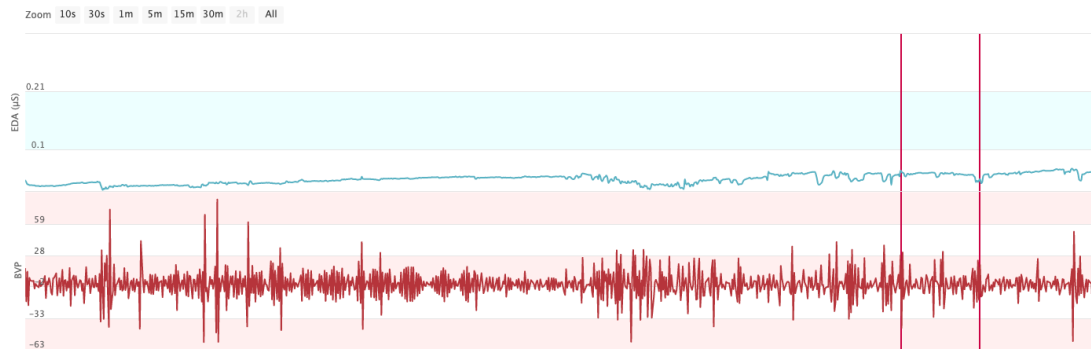


Figure 14 The EDA complex of Eva (blue line) with BVP readings on the bottom row

As with Joe, Eva's EDA complex is relatively steady with minimal peaks. Again, there is minimal fluctuation between the two mark points, which suggests that Eva experiences little physiological change from the haptical quality of the magazines. The two readings below show little change, but there is some fluctuation in the expected direction: namely, that the EDA decreased when consuming the reprinted *Delayed Gratification* magazine, suggesting a less pleasurable experience.

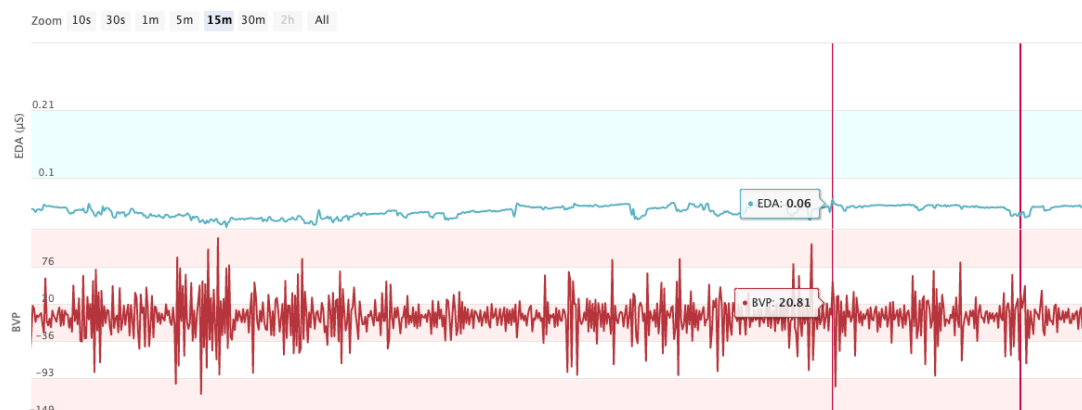


Figure 15 EDA reading of 0.06 (original version of *Delayed Gratification*)



Figure 16 EDA reading of 0.04 (reprint of *Delayed Gratification*)

Eva's responses in the interview were also consistent. She was adamant that she would not be willing to pay £10 for either version of the magazine, feeling that the original version was 'more like a book'. She would only recommend the magazine to friends who didn't read newspapers and was generally nonplussed about the magazine and its content. Eva's level of trust remained the same between the issues but she highlighted the fact that she generally believed the news was accurate, saying: 'I mostly trust the news, I have no issue with that.' With this participant, it would be beneficial to consider her media-consumption behaviours: particularly those relating to

her ritual of a daily walk to the cornershop. For her, her consumption of newspapers had a social element as well as an informative purpose.

4.3.2.5 Participant C - Andrew

Andrew is a 61-year-old male who shares a home with his wife and one of his adult children. Andrew did not read newspapers on a daily basis but did say that it was something of a 'habit' to walk to the local newsagents on a Sunday and buy the newspapers. Andrew does read - 'novels and music magazines' but usually when he's on the train, travelling to cricket or football events. Music is evidently a passion of Andrew's, with one room in his home filled with CDs and records. The semi-structured interview method enabled discussion of this, and Andrew's ritualistic behaviour when it came to consuming music echoed that of Bartmanski and Woodward (2013), in that it wasn't simply the musical product he loved, but the experience of researching the music (hence the music magazines), the sourcing and buying of music (CD and records - no streaming) and ultimately of listening to the music (in a dedicated room in a dedicated chair). The readings below show Andrew's baseline or SCL before I arrive and start the experiment, with the first vertical red line the point at which Andrew was handed the first version of *Delayed Gratification*:

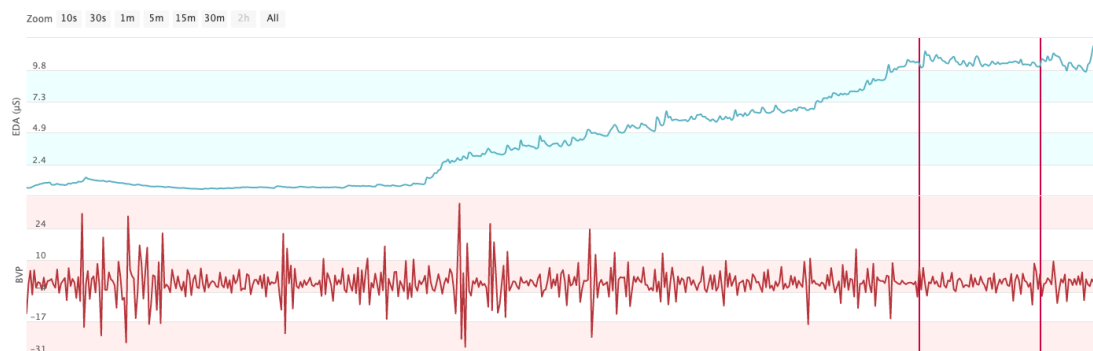


Figure 17 The EDA complex of Andrew (blue line) with BVP readings on bottom row

Prior to my visit, Andrew had listened to music, which shows a phasic response with the gradual increase in EDA and demonstrates the pleasantness he finds in that experience. Here was a participant who found value in experiences and sensory stimuli, albeit not related to journalistic-content consumption. But Andrew is an anomaly in the experiment because, though his EDA reading shows that he physiologically found it a more pleasant experience to read the original *Delayed Gratification* version, he preferred the reprint because 'it's more practical, more lightweight and takes up less room [in the house]'.

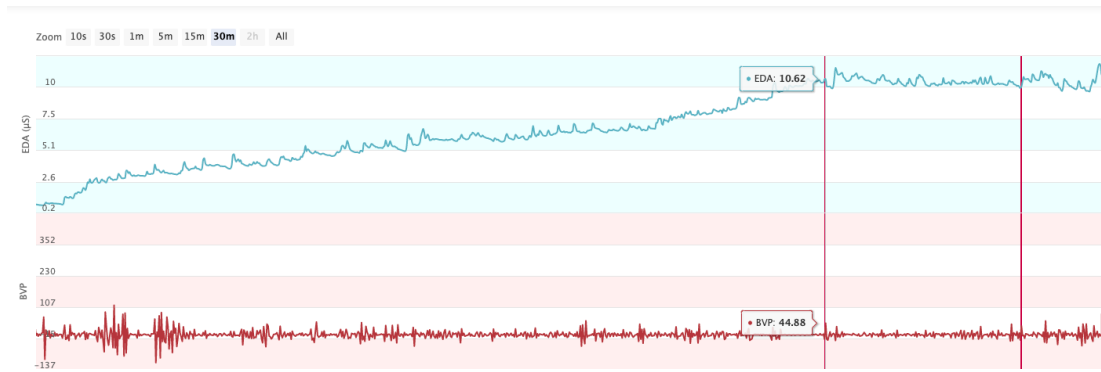


Figure 18 EDA reading of 10.62 (original version of *Delayed Gratification*)



Figure 19 EDA reading of 10.40 (reprint version of *Delayed Gratification*)

We can see the fluctuation in Andrew's EDA, showing a decrease in response when interacting with the reprinted version of the magazine. Andrew's EDA could also be interpreted as being comparatively high when we consider Joe and Eva's readings, but in actual fact, Joe and Eva's are generally lower than the considered average of EDA: between 1 and 20 microsiemens (with 'siemen' being a unit of electric conductance) (Biopac, ND; Braithwaite et al, 2015).

Andrew's qualitative responses showed minimal differentiation between the original and reprint versions of *Delayed Gratification*. With the original, he said: 'I might buy this, if something caught my eye. I read a lot on the train...[but] the cover doesn't tell me anything.' And with the reprint he stated: 'The thinness [of the magazine] doesn't change my view of the overall subject.' However, there were marked differences in Andrew's quantitative responses with the survey, showing the impact that haptics has on his consumption of journalistic content but with regards the practicalities of dedicating space to a publication when his priority is to retain space for his love of CDs and vinyl music. While there was a slight decrease in terms of Andrew's level of trust of the content when published on inferior paper stock (decreasing to 7, from 8, on the '1' being 'no trust' and '10' being 'completely trust' on the rating scale), he stated verbally that 'the thinness doesn't change my view of the overall subject and the idea of slow journalism'.

4.3.2.6 Participant D - Martha

Martha is a 58-year-old married woman, working full-time as a university lecturer. She keeps up to date with current affairs via a news app on her phone but also enjoys reading the Sunday newspapers. She enjoys knitting and craftwork in her spare time. Her EDA complex shows a steady tonic response before peaks and this can be attributed to the fact that she was knitting between putting on the wristband and my arrival to conduct the experiment - an experience she finds pleasant - and her BVP was steady (signifying that she was relatively relaxed):

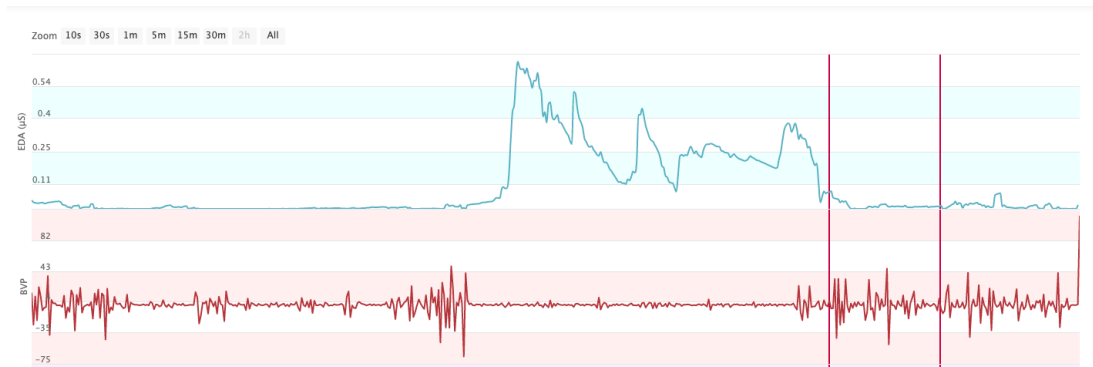


Figure 20 The EDA complex of Martha (blue line) with BVP readings on bottom row

Martha is married to Andrew and they both enjoy the ritual of reading the Sunday newspapers. Similar to Eva, Martha's responses to questions show little variation with regards any impact from the haptical quality of the original and reprinted versions of *Delayed Gratification*. However, her EDA readings suggest - as with Andrew - that physiologically, the experience of reading the original *Delayed Gratification* is more pleasant than that of the reprint:



Figure 21 EDA reading of 0.08 (original version of *Delayed Gratification*)

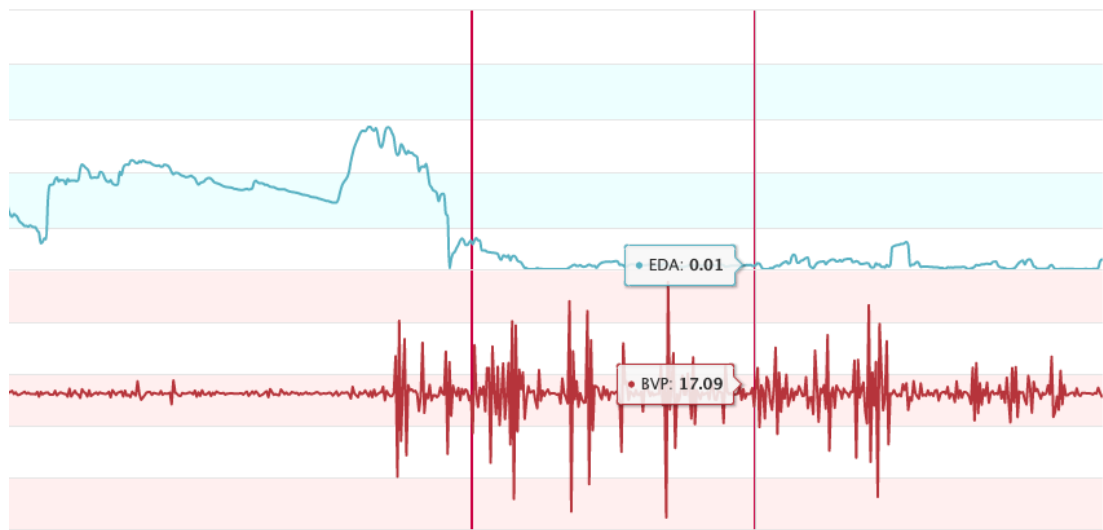


Figure 22 EDA reading of 0.01 (reprint version of *Delayed Gratification*)

Although Martha's quantitative responses rarely differ, she does mention the 'luxury' element of the original version that ties with the theme of brand perception, referring to the reprinted version of *Delayed Gratification* as 'not in the same luxury category as that [the original] one'.

4.3.2.7 Participant E - Samuel

Samuel is a 53-year-old father of two who works in the financial sector. He reads news regularly, a mix of online and print, and subscribes to the print version of a weekly news-related magazine. He enjoys reading fiction and non-fiction, preferring print to eBooks. The readings below show Samuel's baseline or SCL before I arrive and start the experiment, with the first vertical red line the point at which Samuel was handed the first version of *Delayed Gratification*:



Figure 23 The EDA complex of Samuel (blue line) with BVP readings on bottom row

While it does look as if Samuel's EDA complex is comparatively frenetic, it is worth noting the microsiemen (μS) measurements, which range from 0 to $5\mu\text{S}$. This remains within the general range of $0\text{--}20\mu\text{S}$, but is less steady than previous participants and this can be attributed to the fact that Samuel was working from home prior to the experiment and thus was not as relaxed as, say, Martha or Andrew who were engaged in leisure activities whilst establishing the baseline reading. This not being a physiological thesis, it's worth noting the measurement differential but the physiological aspect of Samuel is only the focus in the variation between EDA reading when consuming *Delayed Gratification*. This we see, as illustrated below:

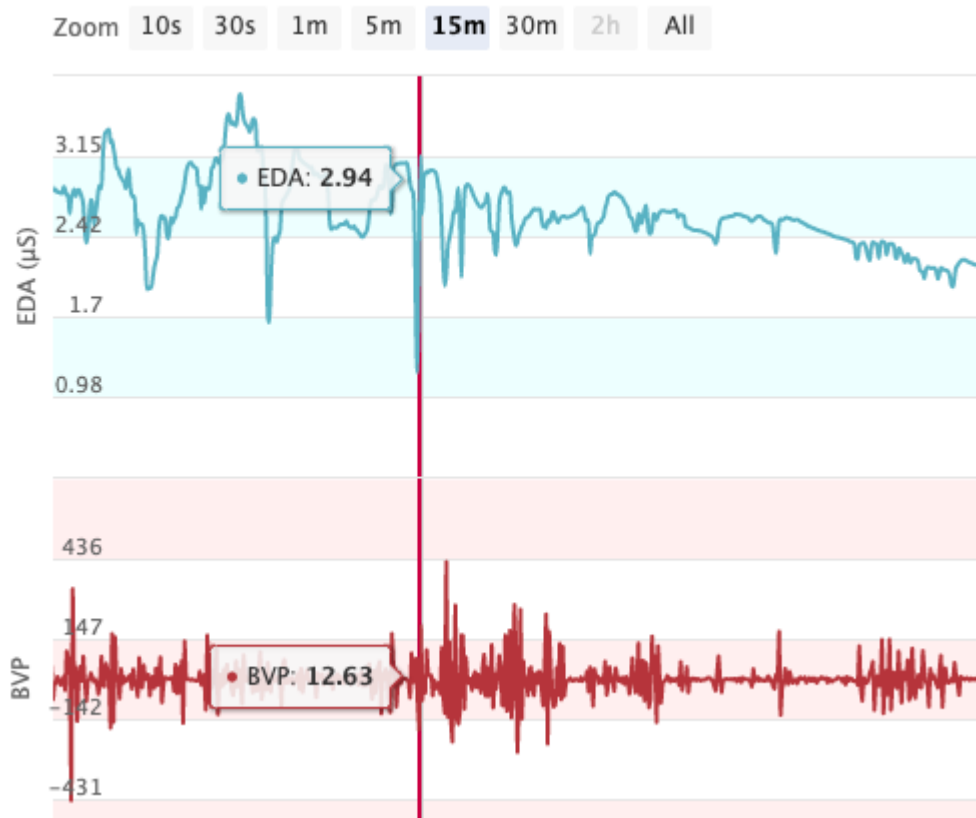


Figure 24 EDA reading (close up) of 2.94 (original version of *Delayed Gratification*)

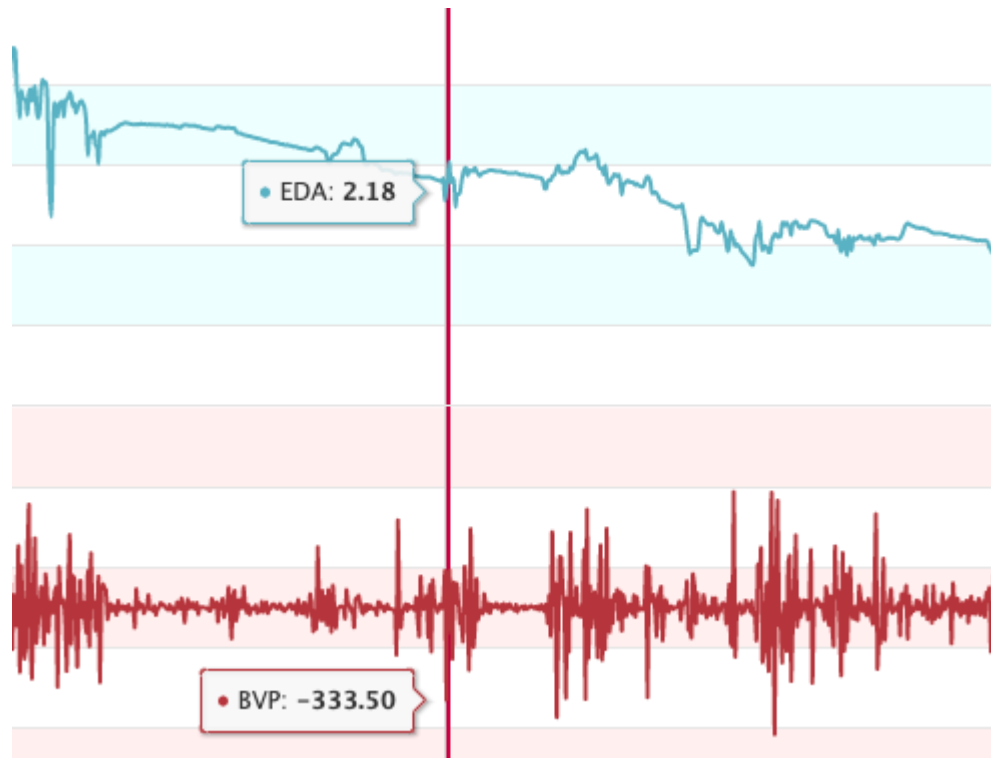


Figure 25 EDA reading (close up) of 2.18 (reprint version of *Delayed Gratification*)

Samuel responded positively to the brand and enjoyed the concept of ‘slow journalism’ (Le Masurier, 2015), having noted that the publishers were the Slow Journalism Company. The EDA readings show that there was a significant decrease in the EDA upon the reading of the reprint version. The impact of haptics on Samuel’s experience of consuming the *Delayed-Gratification* content was also echoed in his responses in the interview. He said he’d be willing to pay the £10 cover price for the original version but not the reprint, and he considered the annual subscription price of £36 ‘a bargain’. Samuel argued that he trusted the content equally, regardless of the haptics, but his consumer behaviour (in terms of recommending to friends and searching online for more information) differed significantly.

4.3.2.8 Participant F - Lucy

Lucy is a 29-year-old teacher who lives with her husband and young son. She rarely reads and never buys newspapers, and would only read magazines when she was brought them as a gift. Lucy didn't like reading the news and didn't like 'clutter' around her house, so preferred to not buy printed publications. The readings below show Lucy's baseline or SCL before I arrive and start the experiment, with the first vertical red line the point at which Lucy was handed the first version of *Delayed Gratification*:

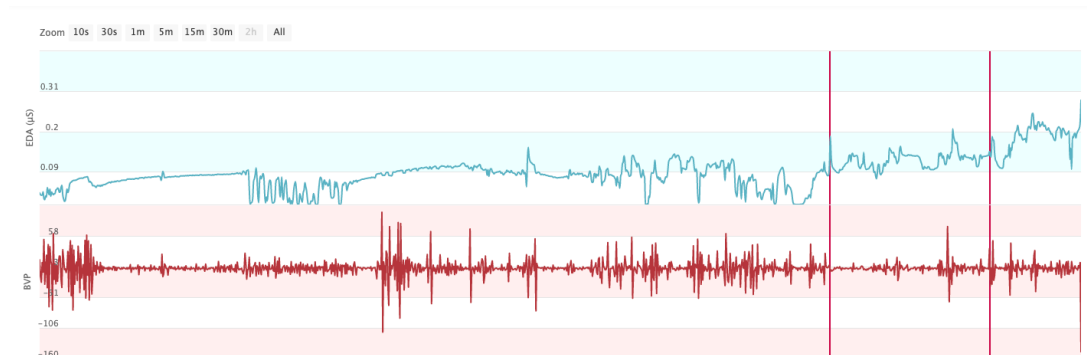


Figure 26 The EDA complex of Lucy (blue line) with BVP readings on bottom row

Lucy's EDA complex fluctuates though not significantly, but there is a decrease in EDA when she consumes the reprinted *Delayed Gratification*:

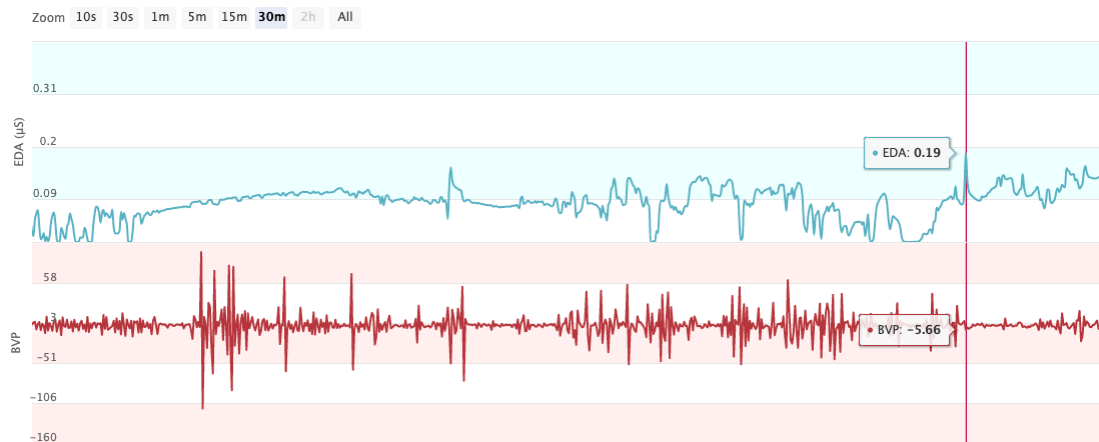


Figure 27 EDA reading of 0.19 (original version of *Delayed Gratification*)

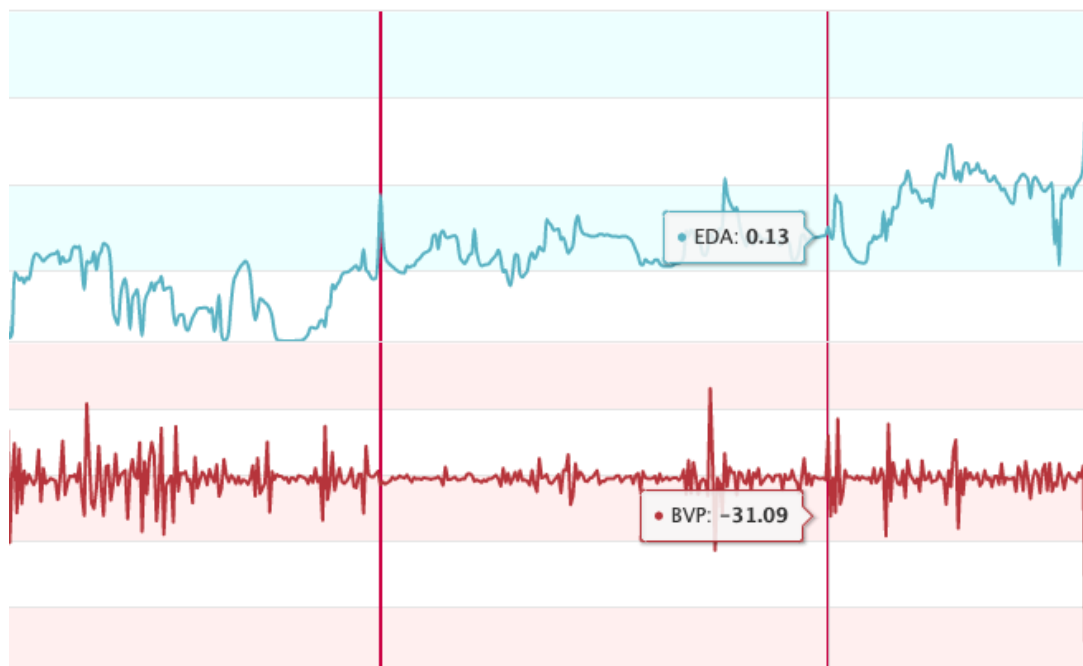


Figure 28 EDA reading of 0.13 (reprint version of *Delayed Gratification*)

Lucy's lack of habitual consumption of journalistic content is made evident in her responses to questions, but her EDA data does indicate that the haptical element of the publication has an impact on her physiology. She said, 'I don't like watching the

news.....[and] I don't buy magazines as I don't like clutter.' However, when discussing the reprinted *Delayed Gratification*, she said, 'I wouldn't buy this, purely because I don't read a lot of news but [if I did] I would pay more for the [better] paper stock.'

4.4 Impact of haptics: differentiations

The data of this sample of participants is diverse, as is representative of the residents of the street. The accessibility of convenience sampling has been beneficial in terms of setting a baseline with only one wristband (Ollander et al 2016). Sixty-seven per cent of participants demonstrated a decrease in EDA when they interacted with the reprint of *Delayed Gratification*, and those participants that did show an increase in EDA when interacting with the reprint showed a minimal increase: no more than $0.02\mu\text{S}$, whereas the increase with the original version increased up to $0.76\mu\text{S}$. The sample was small (thus aligning with the IPA approach (Smith et al, 2009)) but it echoes the themes of the focus groups with regards consumer behaviour, brand perception and sensory experiences.

4.4.1 Qualitative analysis: discourse

The E4 Empatica wristband showed fluctuations in the participants' reading experiences and the participants were interviewed concurrently with their interaction with the magazines, in order that the mixed-methods approach of gaining qualitative and quantitative data was achieved. But, regardless of the participants' EDA readings, each participant made reference to the haptical quality of the magazines. Eva, for instance, referred to the original as 'more like a book', whereas Samuel was more likely to recommend the original version of *Delayed Gratification* - a recommendation based on the 'feel' of the publication as opposed to the content. The sentiment of the E4 Empatica participants with regards sensory aspects of the consumption experience was echoed throughout the focus groups and interviews of this thesis. In focus-group

discussions and interviews, the general positive responses involving the word 'nice' or other adjectives and nouns with positive connotations were used to describe the experience of consuming content on comparatively higher quality paper stock. Frank, in focus-group three, said in the discussion relating to sample A (the inferior paper stock): 'Yeah, I mean, yeah - [sample A - inferior paper stock] it's not even nice. I mean, clearly it marks when you fold it and stuff, and it's crinkly.' Spencer, the blind participant in the semi-structured interviews, said while holding and interacting with the original *Delayed Gratification*: 'Well what a beautiful piece of quality this is, what lovely paper. What would I expect to see? I would expect [something] very classy.' Morgan, in focus-group three, highlighted the point that high-quality haptics made the product feel 'more real': 'It feels good, because it feels more real. It feels like people have put time and effort into it.' Jennifer, a 20-year-old participant in focus-group one, was clear as to the connection between the haptics and brand perception: 'It felt nicer, it seemed better quality.' This essentially sums up the general interpretation of the participants across all methods that a high-quality haptical element enhances the experience - in this instance, of consuming journalistic content.

Similarly, participants highlighted the impact of a publication's tactility in the experience. Elsbeth, a participant in the semi-structured interviews, made a connection between the tactility of paper stock and temperature: 'Shiny magazines are cold, and I don't like cold things... With the thin, cheap paper, I associate it with a TV magazine, because that's what we got when we were little. So I have that association, that it's something that's thrown around, and no one can find it, and it's not loved very much.' Jess, another participant in the semi-structured interviews, became self-aware in her discussion with me that she found the haptics associated with certain technology distasteful:

I don't want to use a mouse or a keyboard to look at a magazine. I just want to feel the paper. And also I find on a tablet, the hardness on your fingers, I found unpalatable. A phone I can do, a phone seems softer, but the iPad in particular is

too hard. Isn't that interesting! I notice with [the fortnightly women's fashion magazine] *Grazia* that the paper seems cheaper inside, I like glossy paper. I like the heaviness, I like the smell, I like the luxury of it. I feel I will always want that.

In summary, participants showed that there was an impact of haptics upon the experience of content consumption but to a variable degree (it mattered to some people more than others, thus tying in with the NFT scale (Peck and Childers, 2003a; 2003b)). The physiology of the participants involved in the E4 Empatica experiment showed that there were peaks upon holding an issue of *Delayed Gratification*, with four out of the six participants showing a decrease in EDA when interacting with the reprint. On average, there was a decrease of 1.08 μ S in the EDA reading when the participant interacted with the reprint. This could be attributed to the fact that the participant found the experience less pleasant because they were already familiar with the content. However, the verbal responses indicated that the general feeling towards the reprint was less favourable in comparison with the original.

4.5 Conclusion

Themes and commonalities have been identified across the methods used and the interpretative phenomenological analysis (IPA) methodology has provided insights into the lived experiences of participants, specifically in relation to the impact of haptics upon that lived experience of journalistic-content consumption. The findings from the qualitative and quantitative data have formed three themes: firstly, the respondents showed that haptics impacted consumer behaviour by influencing the likelihood of ritualistic habits, intentions to collect and likelihood to archive the publication (Gerlach and Buxmann, 2011; Fortunati et al, 2015); secondly, haptics impacts upon brand perception, where in the context of this thesis, comparatively high-quality paper stock implies a premium product and participants were more likely to trust the content with a superior haptical quality (Le Masurier, 2012; Gerlach and Buxmann, 2011; Krishna and

Morrin, 2007; Peck and Childers, 2003a; 2003b), and thirdly, the participants in the *Delayed Gratification* study showed the physiological and sensory impacts of haptics in the consumption of content (Tröndle and Tschacher, 2012; Sonneveld and Schifferstein, 2008). Referring back to the original aims of this study indicates the progress and achievements made:

Table 3 Aim and research questions of research review

Aim: Provide an insight into how haptics impacts upon the consumption of journalistic content				
Q1	Q2	Q3	Q4	Q5
What's our experience of consuming text? <i>Enjoyable, pleasurable, often associated with 'me time'.</i>	How important are touch stimuli in that experience? <i>For some of the participants of the study, touch stimuli was highly significant, in terms of trusting content and brand loyalty.</i>	What value does the journalism industry place on haptics? <i>Little, in comparison with the value placed on the convenience of distributing content digitally.</i>	How have journalistic-content consumption habits changed? <i>Multichannel distribution facilitates content consumption in a variety of ways, though many of the participants in this study opted to integrate print publications in that consumption.</i>	Can phenomenology provide a quantitative insight into the lived experience of consuming content? <i>Yes, when that insight is underpinned by physiological analysis.</i>

Key findings have been identified that ultimately shape a conceptual framework for future business models of magazines and newspapers that give more appropriate consideration to the role of sensory stimuli (with a focus on our sense of touch) in the consumption of journalistic content. These are all underpinned by the finding that haptics impacts upon the lived experience of a consumer's consumption of a magazine and/or newspaper. The participants evidence emotional responses that haptical qualities stimulate, such as 'gut feelings' and sensations (Sonneveld and Schifferstein, 2008), but which this research has been able to quantify via physiological readings and closed-end questions. These gut feelings and sensations were often articulated with

the word 'nice' or other positive affirmations, specifically when participants interacted with high-quality (usually in terms of heavier weight) paper stock. The qualified statement reinforces the need-for-touch (NFT) framework (Peck and Childers, 2003a; 2003b), but also reflects a physiological perspective (Tröndle and Tschacher, 2012). This is significant and a new contribution to existing knowledge of journalistic-content consumption because it indicates that, for this indicative sample of participants, there is variation in the response to the content read (such as the level of trust the reader has) depending upon the haptic influence asserted by the paper stock. From a quantitative perspective, the findings of the focus group and survey indicated that there was a clear distinction between the experience of consuming the *Delayed Gratification* reprint with the original, with the latter interpreted as being a significantly more positive experience. In this context, the term 'positive experience' encompassed: cover price (to indicate what the participant would be willing to pay; trust (whether the paper stock influenced the participant's trust of the content); archival (to ascertain whether the paper stock would influence a participant's motivation to keep the magazine); recommendation (whether the paper stock would influence the likelihood of the participant to recommend the publication to others); 'reread' (to identify how the paper stock impacted upon the participant's motivation to reread the magazine), and 'search' (to explore the participant's inclination to search for more information about the brand online, following their experience interacting with the publications). The findings of the focus groups and surveys demonstrate that for this sample of participants, consuming the journalistic content on the higher quality paper stock made for a more positive experience and that the brand perception (in terms of how much money would be paid for the magazine; how much trust the reader had for the content) was more positive.

As with any research, there are limitations to consider with regards the primary data of this thesis. Ollander et al (2016) note the restrictive aspect of only having access to one wristband which resulted in a limit in the number of participants used in the study.

A small sample of participants does have value in terms of obtaining 'emotive' data (Wagstaff et al, 2014) but a more representative insight would be gained if the sample was larger to ascertain whether the predominant theme occurring in my research (in that EDA decreases when the haptic quality is of a comparatively inferior quality) was representative of consumers of journalistic content. There are also issues with regards to the capabilities of the wristband to measure participants' reactions and in some instances, different readings may be gained depending on whether the dominant hand/wrist was used (Empatica, ND). In all instances in this research, participants wore the wristband on their dominant side but comparative studies between the left and right sides would demonstrate the differentials in EDA readings when it came to touch stimuli via haptics in the consumption of journalistic content. This would have implications for technology: for instance, if mobile phones had responsive screens that gave haptic feedback similar to paper stock, then devices would have to be adapted to suit left-handed and right-handed users to optimise the experience. In addition, the participants' pre-activities should have been considered more greatly, much like that given in the Tröndle and Tschacher (2012) study of the art exhibition (see Chapter 2: Haptics Literature Review), where the survey given to participants prior to the visit included a question on whether a stimulant (specifically caffeine) had been consumed, as this may impact upon the physiological readings (see Appendix 8). Samuel's baseline reading, for instance, was more erratic than Martha or Andrew's, and this can be attributed to Samuel's having to work, while Martha and Andrew were engaged in their hobbies of knitting and listening to music respectively.

Overall, the findings of this research show that haptics impacted the participants' consumption of journalistic content in three ways: in their behaviour towards the publication; in their perception of the brand, and in their physiology and sensory experience. This leads to discussion of a conceptual framework for future models of reader consumption and the journalism industry as a whole.

5 Discussions

5.1 Introduction

This chapter explores the significance of my findings for journalism as an industry and for journalism studies, and will offer a conceptual framework for future approaches to publishing, more specifically, journalistic publishing, based on the premise that some consumers value haptics in the consumption experience. I argue that the disruptive technology of the internet has trained the industry's focus on the future of the journalist rather than the future experiences of content consumption. My key argument here is that my research demonstrates the importance of haptics on the consumption of journalistic content for some consumers and that the collaborative relationship between the two can be useful to the industry as well as to debates around the reading experience. I argue that the impact of haptics on the journalistic-content consumption experience has been undervalued and that: the importance of the experience of content consumption (specifically with regards haptics) has been overlooked; that greater consideration should be given to investing in the haptical quality of a publication, to strengthen trust; and incorporation of brand-specific haptics leads to revenue opportunities based upon an improved brand perception. While my focus is on the printed product - because that is currently the main output for journalistic content with haptical qualities - I will discuss the implications of 'haptic-screen technology' on shaping future landscapes of the industry. Innovation is a point that Pavlik (2013) argues as something for the industry to embrace, to ensure progress in the 'building [of] audience and [the] generating [of] digital revenue,' (p181). I further posit that there is value in adding the quantified physiological data to the predominantly qualitative methodology of Interpretive Phenomenology Analysis (IPA). The mixed-methods approach that I undertook demonstrates the richness in data that can be gathered to enhance the understanding (both of participant and researcher) of a specific lived

experience. This chapter integrates the three key findings of my research - consumer behaviour, brand perception and sensory experience - into the field of journalism and academic studies of journalism.

To reiterate, my research shows that haptics impacts upon the behaviour of participants to various degrees, depending upon the participant's 'need for touch' (NFT) or autotelic tendencies (Peck and Childers, 2003a; 2003b). Regardless of the level of autotelicism, haptics played a crucial role in the behaviour of my participants, namely in terms of the likelihood to collect and/or archive a publication. This has ramifications for the journalism industry and journalism studies, because it demonstrates how consumption of content and its related behaviours are influenced by the haptical quality, and not simply by the perceived quality of the content itself.

5.2 'A state of flux'

When we consider consumption with regards to the subject of this thesis (the reading of textual content, whether online or in print), I argue that consideration should be given to the attributory qualities of the process of reading to that journalistic-content consumption: reading involves the stimuli of one of our senses, that of sight, but my research shows that the experience can also be enhanced by the haptical quality. Eisenstein (1979) cites the artist Francis Bacon as saying, 'that [the printing press] changed "the appearance and state of the whole world... take note of the force, effect and [its] consequences",' (Eisenstein, 1979, p3-4). This can similarly be applied to the impact of the internet, where 'the appearance and state of the whole world' was changed via the digital revolution of communication networks and information distribution - as was the behaviour of the consumer of journalistic content. Rather than archiving printed publications, consumers could bookmark pages on their browsers; rather than buying a tangible product,

consumers could freely access digital content online. Bird (2019) echoed the 'print is dead' argument, by stating that there was a 'death knell' being sounded for print journalism (p293). Franklin (2008) refers to the pessimism pervading the future of printed journalism, specifically that of newspapers, arguing that the general understanding of a newspaper was that of 'news' being circulated on 'paper' (p307), and that the digitalisation of news placed the industry in a 'state of flux' (p306). But the focus here was on the creation of content: whereas previously the professional journalist's content was published, the accessibility of the internet sparked content creators in the shape of citizen journalists, bloggers and user-generated content (UGC). The position of the journalist as creator of printed content was made vulnerable by the ability of the reader to also create content, albeit on a digital platform. '[A]nyone with something to say can be a journalist,' (Bird, 2009, p294): this encapsulates why the industry misplaced its attention from the experience of consuming content, to the creation of that content - the digital environment threatened the exclusivity of the physical newsroom, and the industry focused on the content creators rather than gaining a deeper understanding of content creation in a multiplatform world. My findings show that it's not simply the content that's valued, but the experience of consuming that content - and this includes later accessibility to published content. A number of papers and academic publications published in the 2000s referred to the 'future of journalism' (including: Franklin, 2008; Bird, 2009; Curran, 2010). But what these papers and publications were actually referring to was the 'future of the journalist'. This displaced attention from the experiential aspect of consuming content, a point that was considered in a 'Future of Journalism' paper, albeit one published in 1886. This did highlight the impact of the tangible product in the reader's experience, but - as with the more recent papers - placed the 'future' of journalism at the journalist's feet:

The future of journalism is a large subject... it overshadows the world...The future of journalism depends entirely upon the journalist... To influence men, you must be a man, not a mock-uttering oracle... For all power should be associated with responsibility, (p663).

The rustle of its myriad sheets, unfolded afresh every morning and folded forever at night... It has the necessary garniture of the civilised man... A man without a newspaper is half-clad, and imperfectly furnished for the battle of life... (p663).

5.3 Consumer behaviour

The depiction of a reader's physical interaction with a publication (the 'rustling' of sheets; the 'folding' and 'unfolding'; being 'half-clad' and therefore, not fully attired if you did not have a physical newspaper) does give some understanding as to the consideration given to the impact of haptics on the consumption of content, albeit very briefly: the main focus of the paper is on the journalist's role. An example of the impact of the tangibility of a publication on the experience of content consumption can be seen in my research with Craig's responses, the participant in the semi-structured interviews where participants did not wear the E4 Empatica wristband. He spoke about the ease of access to content that was printed: 'I've got access to all of the [digital] archives, and I can search by word, but I never do. I read [the printed version] every month, and then I put it on the pile. And on the spine of them, it's got the main articles, so you can quite easily look through them if you go back to them.' Craig readily admitted he was a keen user of apps and frequently accessed digital content, but only to consume shortform content (for instance, breaking news or short articles). Craig stated that he would refer to the printed publication for longform content or when he wanted to refer back to a subject: despite being digitally sophisticated (he worked in graphic design), he preferred engagement with a tangible product for deeper learning and understanding. 'Reading' editorial content is much more than simply reading the content the journalist has produced, as my findings demonstrate: reading is an

activity integrated in the experience of consumption, upon which haptics has a significant role - a role that has been undervalued by the industry, to its detriment. How we consume fiction and non-fiction information and content reaches far beyond the words we optically absorb (Marks, 2002; Parisi et al, 2017; Miller, 2020). I contend then that the focus of 'the future of journalism' should have been trained upon the 'future of content consumption', as opposed to the 'future of the journalist': an argument that the findings of this research contribute to.

Ultimately, the historical analysis of how technologies have impacted upon the consumption of content - journalistic, and otherwise - can inform projections on future business models within publishing and how technologies could reshape the publishing landscapes of the future. For instance, the resurgence of the independent-magazine market demonstrates that consumers are willing to invest in print (Barthelemy et al, 2011; Le Masurier, 2015). There are consumers, as Le Masurier (2015) and my research shows, that are willing to pay more for a publication that places a value on the quality of print - and the haptic quality of that publication is often a deciding factor in the consumer's willingness to invest, particularly if that consumer is higher on the NFT scale and has autotelic tendencies. With regards journalism studies and my finding of the haptic impact upon journalistic-content consumption, my research complements that of existing literature (Gerlach and Buxmann, 2011; Le Masurier, 2012; Le Masurier, 2015) that demonstrates there are consumers who value the haptical quality of a publication and are willing to pay for that value, because - as many of my participants stated - it is considered a luxury. My findings also show the impact of haptics upon the level of trust a consumer has of the content they're reading. What this means for the journalism industry, is that there is an opportunity to reposition brands that optimise the consumption experience by aligning haptic qualities to the demographic. For instance, luxury-fashion magazines (such as *Vogue*) could distribute the printed

product from a monthly to bi-monthly basis, using higher-quality paper stock, and raising the cover price, thus enhancing the brand perception of the publication being a 'luxury' product which would impact upon circulation which in turn would generate more revenue. *Vogue* would be a suitable model, particularly due to its female-dominated readership, a consumer that Lee et al (2017) argue is more positioned towards autotelicisism.

Adding to the discussion of consumer behaviour, is the consideration of the platform from which that content has been consumed: be it print or digital. My research posits the argument that the industry has overvalued the worth of content and undervalued that of the experience of consuming content, leading to the demise of print versions of several publications (such as the Condé Nast UK edition of the women's magazine *Glamour*, which folded in 2019). Consumption of content differs, largely affected by the particular platform upon which that content is published. Jabr (2013) advocates paper (no indication is given, however, with regards the impact of the paper quality) when it comes to consumption of content. Jabr (2013) takes the stance that paper offers advantages to the experience of reading. The impact of the 'tangibility' of reading in print is noted, and how it encourages deeper engagement with the content. For instance, readers of digital content engage less with metacognitive strategies to ensure the content has been understood (Jabr, 2013). Moores (2014) argues that there is a tangibility in our interaction with technological devices, and while we may interact with, for instance, our laptop as we scroll through social media, we are still responsive in our interactions - and that response is multiplicitous (relating to online channels, and technological devices). Either way, the lived experience of consuming journalistic content can be seen as being impacted by the container of that content (be it a phone or a printed product), much as the Krishna and Morrin (2008) study (see Chapter 2: Haptics Literature Review) of students drinking the same liquid from different vessels demonstrated: haptics

impacts upon our perception, as identified in my findings (see Chapter 4: Findings). Whilst cognition can relate to the way in which information is processed, the subdivision of metacognition relates to the way one processes information about the individual way in which information is consumed. Again, I come back to my contention that there is more to journalistic-content consumption than simply the content being consumed. The paper stock, binding and finishing of a magazine could be considered the 'container' used in Krishna and Morrin's (2008) study; the editorial content could be considered the 'water', and from this perspective, the same principle applies: the haptic quality of a container of content impacts upon the experience of consuming that content.

In terms of the lived experience, Jabr (2013) questions whether our attentiveness to the content we're reading is the same across publishing channels, or whether there are variations in the cognitive processes when the same content is read in print or online. As the participant Craig stated in my research:

I don't like reading longform off a screen. Because it hurts your eyes, it's not a nice format. Your attention is more likely to waiver when every third line is linked to something else. That's not to say I don't do that, but given the choice I would always prefer print to read longform stuff.

I suggest that the consumption of longform texts benefits from a haptical quality to the experience, a point that Jabr (2013) aligns to, arguing that there are 'navigational difficulties [that] may subtly inhibit reading comprehension,' (NP); a point also made by Sussex (1996) with regards the disruptiveness of hypertextuality. The content we read on screen may tell us something, but the way in which we retain, remember, and are able to communicate that information is enhanced if other elements, such as haptics and even olfactics if we consider the smell of ink, are involved. The sensory stimuli then enhance the lived experience on both phenomenological and physiological levels.

5.4 Brand perception

The literature review (see Chapter 2: Haptics Literature Review) has already established that haptics has an impact upon the perception of a product's quality, with regards its anticipatory cues and as such, it was with little surprise that most of the participants of my study stated that they would be willing to pay more for the same content printed on comparatively higher quality paper stock. However, the notion of trust was one that was a key finding from my research and that has implications for journalism as well as other fields, such as marketing, packaging and product design. The question of trust was included in the methods (including the semi-structured interviews and the focus groups) to ascertain the impact that haptics had upon the participant's perception of quality of a product, and in terms of journalism, the 'quality' could equate to 'trust' of content. 'Truth' is a word often associated with journalism (Randall, 2000) and it is telling that a key finding relating to the impact of haptics on the consumption of the *Delayed Gratification* content relates to trust. This has ramifications for journalistic content, particularly that of news, where an event or situation is to be represented accurately (Curran and Seaton, 1997; Randall, 2000; Whittaker, 2008).

From an industry point of view, the dilution of trust can be attributed in part to the recession of 2008. Bearing in mind the decades that the internet had been in existence, and the uptake of its related hardware, one can attribute the focus on multi-skilling journalists to the recession. As traditional business models floundered, and staff were made redundant (a point applicable to most sectors in the UK), there was an endeavour to rethink business strategies. One area streamlined in industry was sub-editing and fact checking (Currie-Sivek and Bloyd-Peshkin, 2016): those not responsible for content creation but content quality control. Sub-editors can be considered as gatekeepers and have the role of quality control: ensuring all facts are accurate, that the house style of the publication is adhered to, and that principles of

media law are adhered to (Whittaker, 2008). The cutback of this area of magazine production aligned with the accessibility of content-management systems (such as Wordpress), provided a ripe environment for a climate of unsubstantiated news to flourish: content could be published digitally, unchecked, and lacking the rigour and gatekeeping of quality control.

The pressure to cover news in the era of 'fast journalism' and the prevalence of user-generated content has led to a greater awareness of the increased risk of consuming inaccuracies (Franklin, 2008; Le Masurier, 2015). This could be one of the reasons why, during periods of cultural and political significance, readers prefer to consume printed journalistic content. In 2016, the body responsible for formally measuring circulation of journalistic content - the Audit Bureau of Circulation (ABC) - published figures for the month of June which saw more than 2.7 million newspapers being bought in comparison with the previous month (Newsworks, 2016). When we consider that June 2016 was the month that the United Kingdom European Union membership referendum - Brexit - took place, then there is a clearer rationale as to the uplift in sales. 'A survey of 500 UK adults shows that of those who bought a newspaper more often in June, 63% said they did so because "there was a lot more news out there" and 54% said they "wanted more detailed analysis",' (Newsworks, 2016, NP). The fact that over half of the participants preferred the printed product to gain a 'more detailed analysis' suggests that the distractions of online, as well as the ability to recall information in print, created a more positive and immersive experience.

While 2016 was an exceptional year with regards UK politics, the uplift in printed sales was not solely exclusive to newspapers. Data from the National Readership Survey (NRS, now known as 'Pamco') relating to the October 2015 to September 2016 period, indicated that print remained the most preferred format to consume

content. Certain brands, such as the women's magazine *Cosmopolitan*, did have a significant proportion of the readership preferring the mobile version of content. 'Cosmopolitan benefits greatly from mobile readers, which boost print and PC readership by 115%. The title currently has an audience of 3.5 million, with mobile accounting for a little under 2.3 million of that,' (Hammett, 2016, NP). However, what this does suggest is that the 'one-size-fits-all' traditional approach to magazine and newspaper publishing, where the same content is offered on different platforms, is no longer appropriate. Similarly, a report in *The Guardian* newspaper in the same year echoed the arguments given by *The Washington Post* in 2015 - that there was still a strong appetite for print, particularly with the younger demographic. While *The Washington Post* focused on the US market, *The Guardian* article in 2016 focused on the UK market - and discussed eBooks. As with the US study, *The Guardian* article shows that younger readers preferred the tangibility of the book, and were eager for a respite from the digital world - a point echoed by many of the participants in my study. More recently, industry reports have reiterated the point relating to trust. A report in *The Guardian* newspaper in 2018 stated that for the first time in nearly a decade, print advertising in UK national newspapers increased. *The Guardian* article attributes this to the decreasing levels of trust consumers had in Facebook (now known as Meta) and Google, following a diminishing impact of social-media marketing, the harvesting of data on Facebook, and the advertising of brands alongside inappropriate content (Sweeney, 2018). Similarly, the notion of trust is highlighted in a *Mediatel* article with an interview head of commercial print and production at Canon UK (since 2017), Stuart Rising. Advocating the relevance and significance of print media, Rising argues: 'In an era of rising fake news and privacy concerns, confidence in the validity of online media - and companies - is low. So, organisations that have made their name in digital are utilising well-established and trusted formats such as print to bolster their credibility by association,' (2018, NP). My findings reflect the fact that the trust consumers have for content is influenced

by the haptic quality of the substrate presenting this content - and at this point in technological evolution, the haptic quality relates to print. The participant Elsbeth, for instance, stated that she trusted the opinion of publications more when the haptic quality was comparatively high - a point that was echoed quantitatively in the focus groups, with each focus group stating that it trusted the content printed on the higher-quality paper stock more than the content on the comparatively inferior paper stock (see Chapter 4: Findings).

The haptic quality of journalism is traditionally dependent upon the paper stock, but with technological advances in haptic feedback, I argue that an integration of brand-specific haptic quality (as seen with paper stock) would enhance the lived experience of consuming digital content. For instance, haptic feedback in technical devices provides multi-sensory stimuli, such as the vibration of a phone, steering wheel or computer-gaming chair, but incorporating haptic quality into a computer screen would sensorily amplify the lived experience, as seen from the responses from my participants. 'Haptic-screen technology' is advancing in order that 'ultrahaptics' (wherein haptic feedback is achieved via ultrasonic vibrations) can be incorporated into screens. For instance, Hap2u is a France-based company developing the technology for use in cars, home appliances and touch screens; Tanvas is a US-based company uses 'electroadhesion' which creates a textured feel when using a screen; the UK-based company Ultraleap (formerly Ultrahaptics) uses a screen comprised of a number of speakers that creates vibrations that haptically stimulate the interactive experience with digital content. The implication here is that there is scope to incorporate haptics for multiplatform journalistic content, meaning that haptics - established by my participants as a fundamental component in their behaviour in consumption, in their perception of the brand and their physiological experience - can be integrated in both print and digital publications.

5.5 Brand perception and journalism studies

If we consider the research question, relating to the impact that haptics has on our consumption of journalistic content, it is useful to consider the ways in which the industry itself measures the consumption of its products to ascertain reasons why haptics has been undervalued. There are two ways in which quantitative consumption of printed journalistic material is measured: one is through readership numbers, and the other is through circulation (both, it should be noted, provide quantitative data and little in the way of qualitative data to give an insight into the experiential aspect of consumption). The 'readership' of a publication is the number of people who have picked up the publication and read it; the 'circulation' of a publication is the number of printed copies that have been distributed (Whittaker, 2008). In terms of gauging online quantitative measurements, circulation is monitored in terms of daily unique browsers - a term that in itself suggests shallow engagement with the content. This term relates to analytics terminology. Analytics is how online traffic is measured and is, again, quantitative and offers scant insight into the experience of consuming digital content. An example of analytics data is, how many people visit a website; also, how many times an individual visits a website (Schwartz, 2014). The industry body that is responsible for auditing publications is the Audit Bureau of Circulation (ABC) (Whittaker, 2008). A key reason for the establishment of this body was to reassure advertisers with an independent audit that their purchased page space was being viewed by a specific number of readers - and not just a figure cited by the publisher, whose interests lay in securing revenue. ABC figures are released on a monthly basis and provide a quantitative insight into the behaviours of readers, both print and online.

The quantitative data from circulation and ABC figures can provide some correlation to the findings of this research: namely, consumer behaviour and brand perception (see Chapter 4: Findings). For instance, in 2016 the UK newspaper *The Independent* closed the print version and moved its brand wholly online, the assumption being that print production costs would be saved and print readers would move online, increasing the number of readers of the digital version. However, following the move to online only, the number of daily unique browsers for *The Independent* fell 7%, to just over 3 million (Jackson, 2016). To give this context, the ABCs for this month show that *The Guardian*'s figure for daily unique browsers was nearly 9 million. The most popular audited online newspaper was *The Mail Online*, at nearly 14 million. In terms of brand perception (one of the key findings of this thesis), users posting to a commentary thread below a digital news story covering *The Independent*'s online version argued that it suffered from 'heavy' advertising; 'poor' web presentation, and a lack of 'presence'. In terms of consumer behaviour (another of the key findings of this thesis), one user commenting on the thread makes clear reference to the power of print arguing that they preferred reading the physical product over the online version: "I enjoyed *The Indie* [sic] as a paper, but have no desire to read it online. I like a physical newspaper to flick through. So I went to *The Times* instead," (Jackson, 2016, NP). But the general reluctance of readers to wholly engage with a digital version of a previously multimedia publication was similarly observed in 2009. Hollander et. al (2011) noted that few readers moved to the digital version of the US newspaper, *The Atlanta Journal-Constitution*, when distribution of the printed version ceased in certain areas (Thurman and Fletcher, 2018). Both instances suggest that it wasn't simply the content the reader was keen to consume, but the experience relating to that consumption, of which haptics is an integral part. The findings of this research in terms of consumer behaviour show how my participants were more likely to ritualise their consumption of journalistic content if the haptic element was of a

comparatively superior quality and thus impacted upon the perception of brand quality: haptics also facilitates immersion. 'In the flurry of speed and immediacy, the possibility of considered reflection, of narrative, of contextualised information, disappears, for both producers and consumers of journalism,' (Le Masurier, 2014, p140). There is a time to 'skim' (online) and a time to immerse (print), and haptics plays a significant role in the experience of immersive consumption, particularly when haptics shapes the perception of the brand as one that is of high quality.

5.6 Sensory experience

'Sensory marketing' is a term that is established in industry and refers to the impact of sensory stimuli in the consumer's experience of brand interaction (Lindstrom, 2006; Krishna, 2007; Krishna, 2012; Krishna, 2013). The 'sensory' in terms of journalistic-content consumption is comparatively under-explored but my research posits that this is at the industry's detriment: the value placed on the content as opposed to the experience of consuming that content has led to the demise of the printed versions of certain UK-based publications (such as *The Independent* in 2016 and *Glamour* in 2019). But in academic terms, my research also posits the idea of an extension of IPA methodology, that includes a mixed-methods approach and can be termed QuIPA: this approach integrates the quantitative data offered by physiological measurements to provide a richer portrayal of the qualitatively described lived experience and thus, the physiology of phenomenology (Tröndle and Tschacher, 2012).

5.6.1 Sensory experience and journalism

The impact of haptics has been underestimated from an industry point of view, with lenses of research trained on that of the disruptive technology that was/is the internet. Jones and Salter (2012) explore ways in which the impact of the digital

landscape on traditional methods of journalism can be understood and contribute to my argument as to why haptics has been - and is - undervalued. Journalism facilitates the readers' awareness of current affairs, lifestyle and specialist issues and that information is conveyed via our senses, primarily relating to visual (optical) content that is relayed - be it text or imagery. That information can be processed on a haptic level, via our sense of touch, and ultimately the cognition of processing that information (Wolf, 2008; Carr, 2010; Hayles, 2012; Jabr, 2013). This is relevant to the research, because it enables a deeper understanding as to how our lived experiences of reading newspapers and magazines can differ between online and print platforms. The significance of this research relates to the increase in awareness of factors that play a role in the process of consuming information and the impact of sensory stimuli (Gerlach and Buxmann, 2011; Jansson-Boyd, 2011a; Jansson-Boyd, 2011b).

Sensory stimuli and their effects on experiences have been explored in disciplines such as media studies (Parisi, 2008; 2014; Parisi and Archer, 2017), fine art (Tröndle and Tschacher, 2012; Mosely, 2016) and marketing (Krishna and Morrin, 2007; Sonneveld and Schifferstein, 2008; Krishna, 2012; Krishna, 2013; Spence, 2016; Sundar and Noseworthy, 2016). The new contribution that this thesis makes is to the impact of sensory stimuli, specifically haptics, on the experience of consuming journalistic content. However, the 'consumption' aspect of the lived experience is one that translates to the other disciplines and as such, the physiology of phenomenology - as explored by Tröndle and Tschacher (2012) in research relating to changes in physiology following sensory stimuli whilst visiting art exhibitions, and the Tate Sensorium (2015) exhibition (see Chapter 2: Haptics Literature Review) - has ramifications for other disciplines involving consumption, namely that of products, product packaging and sensory marketing. I have previously identified the experiential nature of other consumer activities (see

Chapter 2: Haptics Literature Review), and Krishna (2012) highlights the conventional consumer behaviour of shopping in a bricks-and-mortar retail environment: the consumer enters the shop, browses, is attracted by a product, and then reaches out to touch the product (Krishna, 2012). This is echoed by Peck and Childers (2003a; 2003b), but that experience of touching a product is dependent on the consumer's need for touch and the consumer's 'autotelicism' (see Chapter 2: Haptics Literature Review). The product is not 'whole' simply by the optic sense alone, much like the journalism article is not the 'whole', and just as the content is 'not king' (Gates, 1997). The sense of touch plays a part in the consumer's perception of the product, and the impact that haptics has on brand perception is on the key findings of my thesis. As Sundar and Noseworthy (2016) argue:

Consumption is often a function of combining multiple perceptions into a single integrated percept. Most products... incorporate visual and haptic information, and do so in temporal order - that is, consumers first see a product and then they subsequently interact with the product through touch (Sundar and Noseworthy, 2016, p46).

This behaviour can be applied to the context of this thesis, if the newsagent's environment is considered: consumer enters the newsagent, consumer looks at the newsstands. At the very first glance, this is where the journalistic content will immediately vie for attention. The impact of haptics in terms of consumer behaviour with regards purchasing tendencies relates to brand perception, and the 'reaching out and touching/picking up a product' was a behavioural trait that was shown by participants in this study (particularly Participant C - Andrew - and focus-group three participants; see Chapter 5: Findings). In short, while the new contribution of this thesis is to the discipline of journalism, it contributes to other disciplines where a lived experience influenced by sensory stimuli is explored. In addition, it adds to methodological frameworks, with respect to quantifying the physiology of phenomenology, with quantitative interpretative phenomenological analysis (QuIPA) (see Chapter 4: Findings).

5.7 Haptics and marketing

The 'groundswell of interest' into haptics that Parisi and Archer (2017) allude to can be observed in marketing campaigns that use the tactual benefits of a product as a selling point. The haptic quality of a product has become the unique selling point (USP). A television advert in 2017 for a new laptop from Microsoft called Surface focused on the tactile qualities of the hardware. The initial interaction that the advert portrays is of the user touching the product - they literally stroke the lid of the laptop before opening it. The advert progresses on to selling points relating to its 'power' but also its 'softness', and the accompanying images are of a boxer to symbolise power and a lamb for softness. The advert omits information relating to the technical specifications but focuses on reinforcing the idea that it offers pleasant stimuli to our sense of touch. Gradually, there is an acknowledgement that our sense of touch plays an important role in our experiences - so much so, that it is used as a selling point in the marketing of certain products. Another strategy of contemporary marketing within publications (both on- and offline), in addition to the more traditional TV advert, involves paid-for, or 'sponsored', content (Whittaker, 2008). This is where a brand will pay for space in a publication, but that space is not explicitly an advert: it is presented in such a way that our initial interpretation of the content is that it is an 'editorial'. In other words, that it is an article written by a journalist, is a piece of journalism, and is not an advert. In 2017, the car manufacturer Audi paid for two pages within the UK newspaper *The Sunday Times* supplementary magazine to promote the technology within its products. The standfirst on the page - the summary of the article that complements the headline, or title of the piece (Whittaker, 2008) - fully highlighted the importance of our sense of touch by stating: 'Audi explores the link between touch and our ability to live life to the full', suggesting that having a diminished sense of touch correlates with a

diminished fullness of life. The article includes a quote from the Audi head of research, David Moser. He's cited as saying: 'Touch is fundamental. It's how you interact with the world.' Linking this back to Herssens and Heylighen (2010), the concept of passive or touch in relation to haptics - where our sense of touch receives stimuli from the environment - is applicable in automobile technology: the importance placed on our sense of touch being stimulated via the material used in, for example, the car interior, the smoothness of the gear changes, the subtle vibration through the steering wheel. The paid-for content (also referred to as an 'advertorial' in an editorial publication (Whittaker, 2008)) includes a box out (a side panel with complementary information) that dwells on the haptic elements of the Audi car design: dual touchscreens featuring 'haptic feedback'; a steering wheel that judders to alert you when you've strayed from your lane. These are elements that stimulate our sense of touch, and that are the focal point of a marketing campaign for an international brand. It's this type of focus on the experiential aspect of a product, rather than just the product itself that suggests brands are reconsidering marketing strategies. Similarly as with the exploration of this research that we're not simply concerned with the journalistic content we consume, but the experience we have in consuming it, so other industries - in this instance, the car industry - is finding that the 'product' itself is not enough for consumers: it's the individual lived experience we have in our consumption of that product that's a key selling point.

5.7.1 Sensory experience and journalism studies

The exploration of the impact of haptics on the consumption of journalistic content has involved qualitative and quantitative analysis, as well as the review of existing literature across different disciplines, such as technology, journalism, media studies and physiology. There is scope to take this research further, as a result of the findings

opening up other areas that could potentially prove fruitful with regards the contribution of new knowledge to the discipline. Similarly, by establishing a more decisive scale of physiological impacts in relation to haptics, we would have a quantitative knowledge base that could be transferred to other industries, such as sensory marketing.

Lindstrom (2019) echoes this point:

The paper industry should devise a term which should measure impact. This could be a global standard that is independently monitored... We are talking about the CEOs of the biggest... companies in the world, but when I talk about the impact on our senses it's like they never heard it before. It stuns me every time, because these are the people who are literally producing millions and millions of packages every day and have no idea about the impact of tactile marketing and the senses. Obviously it's just not on the radar, so yes metrics can be a good idea, but there is so much other work to be done here (Lindstrom, 2019, NP).

The electrodermal (EDA) activity measurement opens up the prospect of quantifying phenomenology via quantitative interpretative phenomenological analysis (QulPA).

The research question of this thesis relates to 'the impact' of stimulus to a particular physiological sense - that of the sense of touch, and specifically in relation to binding, paper stock and finish. The E4 Empatica wristband provided the opportunity to quantify the impact that these stimuli had - particularly as EDA measures activity in the skin in response to brain signals, and thus we have some idea of the cognitive aspect of haptics, and its impact. 'For most people, if you experience emotional activation... your brain sends signals to the skin to increase the level of sweating. You may not feel any sweat..., but the electrical conductance increases in a measurably significant way,' (Empatica, 2019, NP). The data presented by the wristband supplements the findings from previous iterations of the methodology. The graphs relating to the physiological responses offer a quantifiable representation of the qualitative data obtained by other methods of this research, such as the interviews and three focus groups. But a key objective of this research was to highlight the value of haptics in the consumption of journalistic content in order that a conceptual framework could be developed for journalism practice that repositions the importance of haptics in the consumption experience.

The immersive experience afforded by a publication with a comparatively high-quality haptic element relates to the content itself. Online content is often of a 'shortform' structure as opposed to 'longform', where users scan content quickly. This is partly due to the pressure on content creators to attract users - and thus, build circulation that is attractive to advertisers (the main source of revenue to the journalism-publishing business model). Online writers are expected to have an understanding of search-engine optimisation (SEO) - ensuring that the content they produce gains traction by pulling in traffic (Bradshaw, 2017). However, data can be argued to influence the creation of content, so that it is SEO that is prioritised, rather than the experience of the reader (Odell, 2019). If one story has proven popular in terms of clicks and traffic, Odell (2019) argues that there is pressure to produce more stories of the same style. And by prioritising this, innovation and the opportunity to experiment with different styles of online writing diminishes: 'Constantly trying to repeat that which did well easily dissuades editors from pursuing or dreaming up new, creative ways to engage their audiences. And if editors and their writers aren't doing that, it won't be long before they're replaced by machines,' (Odell, 2019). Changing behaviours in the way in which we consume content is not only limited to our physical interaction with a publication, but our memory recall (Jabr, 2013). Haptics has a part to play in the way in which we read, learn and retain the information because it stimulates our sense of touch, our sense of smell (ink and paper) and our hearing (the sound of the movement of paper) which in turn places greater demand on our cognition in terms of processing content. A haptical element within the consumption of content enhances the cognition of reading - an activity that Wolf (2008) argues is not a natural one for us. The whole act of reading is one that involves the identification of certain shapes - across all languages - and when there is haptic feedback associated with these shapes (such as the pages of the book), so the content is better absorbed. Wolf is

cited in the Jabr (2013) article as saying: 'There is physicality in reading... maybe even more than we want to think about as we lurch into digital reading—as we move forward perhaps with too little reflection,' (NP).

Jabr (2013) brings together a series of arguments supporting the idea that we recall information more efficiently when that information has been read in print than online. He cites Mangen (2013) and her research detailing how well students recalled information from a 1500-word text read on screen and in print (those who had read the information in print could recall more information when later tested); Gerlach and Buxman (2011)'s research into haptic dissonance (see Chapter 2: Haptics Literature Review), and Rothkopf (1971) suggesting that we use the memory of where we saw the information to help us recall it. Jabr (2013) gives the example of:

We might recall that we passed the red farmhouse near the start of the trail before we started climbing uphill through the forest; in a similar way, we remember that we read about Mr. Darcy rebuffing Elizabeth Bennett on the bottom of the left-hand page in one of the earlier chapters, (Jabr, 2013, NP).

The sensory stimuli of interaction with a physical artefact, such as a printed publication, and particularly - as my findings show - a printed publication where the haptic element is of a comparatively high quality - assists with the immersive consumption and impacts the lived experiences (Cocozza, 2017). The enduring popularity of physical books echoes the ritualistic and experiential aspect of consuming products (McCracken, 1997; Gerlach and Buxmann, 2011; Bartmanski and Woodward, 2013; Thurman and Fletcher, 2018): a point that my research reinforces and that I contend has been undervalued by the journalism industry.

From an industry perspective, the internet has been a disruptive technological force, but ultimately, disruptive innovations can be seen to impact not just behaviour or mindsets, but can spark actual physiological adjustments, which echoes a key

finding of this research, in terms of the sensory experience (see Chapter 4: Findings). Here, an appreciation of how the reader consumes content will inform the way in which the content is published. Carr (2010) discusses the way in which our reading behaviour has altered subsequent to the dawning of the internet. Instead of immersing ourselves in a book, and reading that book from cover to cover, we have become skimmers - moving from article to article, web page to web page, and finding it a struggle to recall information and retain our focus. This then ties in with the cognitive process of content consumption, but as consumer relationships with digital technologies have developed, Jabr (2013) argues that there is a higher degree of metacognitive learning regulation in the consumption experience. The consumer may skim over online but the printed product better facilitates our immersion in content. By 'immersion', I mean that the consumer is better able to focus on the content; there are fewer distractions; the consumer invests their time in consuming the content. There are even variations in body language and proprioception of readers of printed material compared to that of readers of digital material - something that was observed in the focus groups and was also observed by Fortunati et al (2015). The hardware of digital content - mobile phones, for instance - encourages that hunched posture, falling into ourselves. The 'hardware' (paper stock) of printed content triggers more sensory responses and generally encourages a more 'open' posture in comparison with the use of a smartphone. This proprioception is entwined in the differing physical process of reading journalistic content.

There is value in gaining an understanding as to the process of reading as it involves the stimuli of a sense - the sense of sight - and consumption of journalistic content involves cross-modal sensory perception, including haptics. There's the cognitive process of mentally processing the information that is seen, but also the physiological process as well, depending on the language: while most languages

involve the reader looking at a sequence of letters from the left-hand side of a sentence and working their way to the right-hand side, some (such as Arabic) are a reversal of that, with the sequence working from right to left (Wolf, 2008). If I relate that to research relating to the way in which information is processed (as summarised by Jabr, 2013), it can be appreciated that the learning of a new language would be better facilitated when there is an increased element of haptic feedback - for instance, in print. This has implications for consumers of journalistic content, particularly those of current affairs who are keen to be able to recall facts for later discussion. Highlighting the benefit of consuming content in print - or with a haptic quality, such as 'haptic-screen technology' - in terms of cognition (recall of content) will be of value to consumers, potentially those with a 'need for recall', much like the 'need for touch' scale of Peck and Childers (2003a; 2003b).

When considering the online environment, a screen may be considered to be a fixed frame, but the content that this frame enables access to - while finite - facilitates swift access (Oblak, 2005). It's not just the amount of content that is presented to the reader on the digital platform, but the lack of sensual cues that enhance the reader's interpretations and understanding: sensual and/or anticipatory cues, such as the haptics related to that content that deepen our understanding and recall of the content. The sheer volume of content on a digital platform does impact upon how the content is consumed, with the frequent 'pushes' away from content, via the hyperlinks and clickbait, severely impacting upon focus and immersion (Sussex, 1996; Oblak, 2005; Jones and Salter, 2012; Jabr, 2013; La Masurier, 2015). This point is reinforced by the participant Craig, who stated 'Your attention is more likely to waiver when every third line is linked to something else,' (see page 154). Arguably, the scramble to push traffic to different sites encourages a surface approach to reading, with scanning content being the common way to consume online content. Nielsen's F-shaped pattern (2006) is a prime indicator as

to the way in which the wealth of digital information is taken onboard. This ‘pattern’ was the result of an eye-tracking study, involving 232 participants viewing different types of online pages, to determine users’ fixations on online content. In other words, what does a consumer look at when they read content online? The eye-tracking data revealed that online content is read in a way that resembles the capital letter ‘F’. Users were scanning the top section of the page before rebounding back to the left, scanning vertically, before scanning horizontally, and then tapering off. As Nielsen (2006) argues, ‘Because people read differently, you have to write differently’ (NP). From the Nielsen (2006) study, the insight is gained that written content isn’t just ‘seen’; its context is a determinant factor in how the content is consumed - and that context, or that ‘framing’ of content, can relate to haptics: the paper stock, or device, that is serving up the content dish from which its offerings are consumed.



Figure 29 F-reading-pattern-eyetracking (2006)

The Nielsen argument of the F-reading pattern aligns with the Wastlund (2007) research into human-computer interaction (HCI) when it comes to reading content

on screen compared to reading content on paper. This research argues that there are detrimental effects to reading content online, largely based on two reasons. Firstly, there is the lesser demand made on cognitive processes when reading online (the brain, for instance, does not have to process different haptic qualities when reading content on devices that are consistent in terms of tactility); secondly, there are variations in the reading speed between online and print. This correlates with (Nielsen, 2006), relating to the scanning of material online and the rebounding to the left-hand side of the screen. (It should be noted that further research shows that readers of languages where sentences start from the right-hand side similarly rebound to the right (Pernice, 2017).) What this demonstrates is that consumer behaviours are different depending on the platform from which we're consuming content, and the way in which we consume content - even if it's the same content - differs between print and online. In addition, it highlights the impact of context, which impacts upon the perception of content. For instance, a neuroscientific study demonstrated how the same online advert was perceived differently by users when viewed on different websites, with stronger responses (50% more engagement) when the advert was viewed on a premium website as opposed to during general online surfing behaviour (Newsworks, 2018). What this signifies is that the way in which content is presented impacts upon the consumer's experience, not only with regards the haptic quality of that consumption: the experiential is shaped by cross-modal inputs. Nielsen (2006) shows that content is read differently online, which ties into my contention that the experience of consuming content has been overlooked by the journalism industry in favour of the practice of producing content by journalists: the production has superseded the consumption in terms of the industry's priorities, which my research contends has been detrimental. This leads to discussion of a revised framework with regards the publication of journalistic content.

5.8 Conceptual framework development: journalism

The impact of haptics on the consumption of journalistic content in terms of consumer behaviour (specifically on the likelihood of a consumer to buy, recommend, collect, archive and purchase ritualistically), brand perception (specifically relating to the consumer's perception of trust and luxuriousness of a product - which in this case, is a magazine), and the sensory experience (specifically where haptics impacts upon the physiology of a consumer) has been established. These findings feed into a conceptual framework development for a journalism-publishing business model with a view to rethinking current practice. The industry has been shaken by the disruptive technology that is the internet and my research posits the notion that journalistic-content consumption isn't simply about the words or images created by a journalist, but the experience of: being seen with a journalistic product (tying in with the 'statement of intent' consumers have: see Chapter 4: Findings); 'luxuriating' in a product (investing money and space in their home (archiving) for a publication); heightening trust in a product (and this is achieved by valuing the impact that haptics has on this perception), and the physiological pleasure that is afforded to most people with respects to sensory stimuli (specifically comparatively high-quality paper stock).

5.8.1 Technological disruption

A disruptive technology, or disruptive innovation such as the printing press, world wide web and the internet, refers to new thinking and/or approaches that cause shifts and displacements. When it refers to business models, these disruptions can create new markets, often at the expense of others. We see 'the failure of companies to stay atop their industries when they confront certain types of market and technological change,' (Christensen, 1997, p7). In other words, companies and industries flounder because they remain static in the face of change. From professional experience as a journalist, I was encouraged to simply 'copy and paste' content onto the appropriate website, because it was the content that was

deemed to matter. But my research demonstrates that undervaluing the other aspects relating to the consumption of that content (such as the way in which it is published and made accessible to the reader) is to the publication's peril. The disruptive technology that was the internet and its related hardware that facilitated access (such as mobile phones and tablets) enabled publishers to distribute content to readers in such a way that was significantly cheaper than in print. For instance, substantial costs incurred in the distribution of the tangible product (from printer to newsagent, for example) were minimised. But in doing so, considerations of the reader's lived experience have been de-prioritised. Print continues to endure, despite the advent of the digital realm; much like vinyl endures, as do film photography, and cinema. The tenacity of these mediums is maintained by the preferences of consumers and the collective willingness to invest in an experience as opposed to the product. Graham and Hill (2013) cite the 19th century argument by economist Alfred Marshall, who applied Darwin's theory of evolution to business. The argument related to the survival of the fittest: those organisms, and organisations, that don't adapt to their surroundings will fail and ultimately become extinct. 'The commercial organisations that exist today are mostly capable of necessary change, although some do not take advantage of this, thereby condemning themselves to permanent reactivity and so ceding their future to their rivals,' (p74). In other words, those adaptable companies that react rather than respond to changes in technology and consumer behaviour are more robust in changing commercial landscapes. For newspaper and magazine journalists, the disruptive technology of the internet, and its related hardware, is not simply about being more mindful of the platform upon which the content will be consumed: it's also about upskilling to ensure that the platform is optimised. For instance, traditionally a broadcast journalist would solely work in broadcast; a newspaper journalist would solely work with words; and a radio journalist would solely work with audio. It is understandable that well-established journalists, and journalism

educators drawing on their own traditional experiences, should steer towards their own discipline. However, the advancement of hardware technology - in the shape of cameras, audio-recording equipment and wifi capabilities - merging within the one mobile device (the smartphone), and the multimedia opportunities to tell a story which ultimately optimised the content for the platform, meant that journalists were under pressure to diversify. The changing behaviour here was that journalists had to become multi-disciplined. As a disruptive innovation, the internet has forced media organisations to rethink and restructure in order to survive. However, the adherence to the thinking that 'content is king' has meant that readers have been able to find the same content online as in print, for (largely, with the exception of some paywalls) free, albeit disrupted by advertisements. As circulations dwindled for the printed product as readers began to modify their reading habits, so advertisers - providing the lifeblood of the traditional business model with regards advertising revenue - began to reassess marketing strategies. Digital didn't 'kill print', as is sometimes claimed: it was the lack of evolution from organisations, and that evolution was to embrace the new technology whilst also factoring into considerations the impact of haptics and the experiential aspect of consumption.

Fortunati et al (2015) highlight the disparity between the reading experience of consuming journalistic content online and in print and that there is a physicality to the printed product that shapes the experience. There is, they suggest, a general reluctance to optimise the opportunities afforded by print and digital to enhance the separate experiences. I would argue that progressive publications are adopting an additional approach to widen the experience of engaging with a journalistic brand – as well as opening up another revenue stream - via 'brand extensions'. Brand extensions are where the publication becomes its own brand, and extends beyond the publication (Whittaker, 2008). For instance, *Country Living* is a magazine published by TI Media which has a respectable circulation of just over 39,000.

Country Living fairs are brand extensions of the magazine - a consumer publication about rural lifestyles - with one fair taking place in London, another in Glasgow and the third in Yorkshire. Revenue is generated through partnerships, stall holders, and ticket sales. Similarly, Condé Nast International (publishers of brands such as *GQ* and *Tatler*) opened a *Vogue* Cafe in Dubai, in 2013, as a brand extension into hospitality. With these brand extensions, there is a tangibility to and immersion in the actual 'brand' that is absent from certain experiential connections with the brand - such as reading online content. As such, Sundar and Noseworthy (2016) reiterate the point about consumers' perceptions regarding brands, and with the aforementioned developments with regards publications branching out into the brand-extension sector, the perceptions of magazines and newspapers becomes increasingly important in terms of marketing strategies. A publication becomes much more than simply a container for content - it becomes an experiential brand. As such, the perception of a magazine brand should be reinforced in the overall experience of engagement with that brand, rather than merely the type of content that's held within.

It's this type of adaptation to a disruptive technology that does demonstrate the innovative approaches to making the journalistic business-model more robust. Innovation is a social development that some embrace and from which others recoil, with various degrees of adoption in between. Rogers (1995) argues that 'the diffusion of innovations is a social process, as well as a technical matter,' (p4). He brings in the term 'early adopters', as those who are open to change, and are comfortable with the integration of new perspectives in their habits and routines. The adoption of the digital sphere was made easier with the development of the associated hardware: the morphing of a mobile phone, for instance, into a device enabling access to camera facilities, access to the internet and apps has made adoption far easier. Adoption has been oiled by incremental innovations and

experimental adopters: having got used to mobile phones, digital cameras and the digital content they produce, the smartphone was not a huge jump for adopters (early or otherwise) to have to make. While Leader (2016b) may argue that digital technology has caused the collapse of 'old boundaries of space and time', and the habit of looking at our phones has become so commonplace, the need for 'digital detoxes' are discussed, it could be argued that Leader (2016a; 2016b) is perhaps exaggerating the impact of digital technologies. While it may have increased the fluidity of these boundaries, print still endures, largely because it enables the immersion into content due to the qualities print affords that digital doesn't (the haptic quality of paper, binding and finishing being one).

'Of all the new features introduced by the duplicative powers of print, preservation is possibly the most important,' (Eisenstein, 1979, p113). Though the web is considered a disruptive technology, the ability to preserve printed material is one that is not replicated for web-based materials. Similarly, there is fluidity to the web which means digital content, and access to content, can vary from one experience to the next: for instance, search-engine algorithms change which can affect the discovery of content, and content-management systems may alter, which can impact upon the presentation of content. This has significant implications for practitioners and journalism educators, reflected in the emergence of books, articles and conferences advocating 'skilling up' and 'skill diversification' of journalistic content creators. In 2011, for instance, from one publisher alone, there were three issues of textbooks (one updated edition to reflect online practice; two new titles) responding to the new demands and challenges that faced journalists and publishers. One of these titles (Bradshaw and Rohumaa, 2011) is an accessible insight into some of the key skills an 'online journalist' should have. This textbook highlighted that the industry had evolved from sole-discipline journalists (broadcast journalists, and so on) to multi-disciplined journalists (termed in this resource as

'online journalists' but termed elsewhere as 'multimedia journalists'). Like NNG (resources from which appear in Bradshaw and Rohumaa's bibliography), the book dedicates a whole section to 'writing for the web', and brings in the discussion of how to optimise content for the platform. In particular, the authors discuss the concept of search-engine optimisation (SEO), and how online journalists must be mindful of writing to facilitate SEO - and it's here where a significant change to journalistic writing occurs which journalists had to adapt to: not simply telling a story, but telling a story that could be found by the reader via a search engine such as Google. As Goldsmith (2011) argues, the contemporary writer has skills more aligned to the computer programmer than to those traditionally attributed to the fiction or non-fiction writer. Again, there is a distancing from the consumer and their experience of consuming, to the content creator and the process of publishing content.

There has also been a blinkered view as to the cry of 'print is dead' and that the notion that there is little viable scope for the tangible journalism product focuses on the Western journalism industry and fails to take into account consumer behaviour in other countries and communities (Barthelemy et al, 2011). Villi and Hayashi (2015) explore the journalism industry, and its reactions to disruptive technologies, but their focus is on Japan. While this thesis focuses on the UK market, the global nature of the industry is one to be considered to gain an insight into possible ramifications for the UK industry. The paper focuses on the 'digital transition' of the Japanese journalism industry, and an overall reluctance to change. In terms of qualitative methods, the paper includes interviews with journalists working within the Japanese journalism industry, and makes the conclusion based on the empirical analysis that Japanese newspapers have a conservative and remarkably reluctant attitude toward change and reform,' (Villi and Hayashi, 2015, p2). This reluctance ties into the strong value placed on the merits of tradition, and sense of community. Villi and Hayashi (2015) consider

the newspaper subscription as part of the ‘basic infrastructure’ of daily life in Japan, likening it to utilities such as water and electricity. This sense of tradition is entwined in business models, where print continues to take a pre-eminent place, as the management of the media corporations are generally of an older demographic, and potentially this is an underlying factor to the reluctance to change. With regards potential future business models, Villi and Hayashi (2015) suggest that future business models within the Japanese journalism industry subsidise the printed product with non-media activities. This is an interesting point that has implications for constructing a more robust business model, and one that *Delayed Gratification* has already adopted (revenue is gained through activities such as teaching, delivering classes in infographics as part of *The Guardian’s* ‘Masterclass’ series). But a framework should also consider the findings of this study relating to brand perception: the participants showed that they were more loyal to, more likely to recommend and more likely to archive a publication that had comparatively higher quality sensory stimuli, specifically in terms of haptics. As such, based on the findings of this study, a conceptual framework for a more robust business model in journalistic publishing would include:

- A higher value placed on the impact of haptics in the consumption of journalistic content (for instance, investing in the haptical element of publishing via print stock and binding).
- Greater consideration given to the experiential element of journalistic-content consumption (such as investing in the haptical quality to establish trust).
- Incorporation of a print product that establishes brand loyalty via its haptic quality that leads to revenue opportunities (such as events) based upon brand association.

An example of the traditional journalism-publishing business model is below:

Table 4 Traditional workflow (Whittaker, 2008)

Editorial workflow (print and online)	Editorial revenue
Creating content (commissioning freelancers and staff writers)	Advertising; cover price; paywall (if applicable).
Editing content (sub-editing and proofreading)	
Printing and distributing print content; publishing digital content	

An example of the traditional production cost of multimedia publishing is below. For context, *Delayed Gratification* is 120 pages, its cover paper stock is 250gsm and its interior pages are 120gsm on matte paper. ‘Perfect bound’ means the pages are glued together and the magazine has a spine. With regards to digital production, the content-management system Wordpress has been used as an example, due to its prevalence online, with 39.5% of all websites powered by Wordpress (Southern, 2021).

Table 5 Traditional production cost

Print (monthly production)	Digital (monthly production)
£7,625 for 5,000 copies of A4 magazine, 120 pages, perfect bound, uncoated paper, 120gsm interior pages and 170gsm for the cover, per print run (Mixam.co.uk, 2022). (Price does not include distribution to outlets, only to	£15 a month for ‘small business’ Wordpress site including hosting charges (Wordpress.com, 2022).

publisher.)	
-------------	--

From the above tables, it's evident that production costs are significantly lower for digital versions than for print and as such, it's understandable that publishing houses - such as those printing and distributing *The Independent* and *The Atlanta Journal-Constitution* would cease producing the printed product. However, in terms of revenue streams, which traditionally have been based on advertising income (Whittaker, 2008), the cost to advertise in print exceeds that of online. The media kit of British *Vogue*, for instance, indicates this:

Table 6 *Vogue* (ND) Media kit 2021, Condé Nast

Cost of advert in issue of British <i>Vogue</i> (print)	Cost of advert in issue of British <i>Vogue</i> (online)
£48,560 (permanent outside back cover of one monthly issue).	£26,000 (on homepage for seven days, on which there is occasionally an advert, unless blocked by user using ad-blocking software).

Advertising for the print edition is significantly more lucrative than the online version and is an important revenue stream for the journalistic business model and as such, advertising as a main source of revenue cannot be discounted. But this conceptual framework proposes a more responsive rather than reactionary approach from

journalism-publishers that maximises the experiential aspect of journalistic-content consumption. A comparative overview of contemporary and conceptual frameworks is below:

Table 7 Conceptual framework

Current practice	Conceptual practice	+/-/≡
A consumer interacts with publication (example scenario: sees a magazine at a train station when about to take a journey).	A consumer interacts with publication (example scenario: sees a magazine at a train station when about to take a journey).	≡
Consumer interacts with publications in preferred medium.	Consumer interacts with publications in both/either print or digital version, but the offer of a subscription model is proactively pushed.	+ Currently, subscriptions are marketed in the magazine itself and/or as external marketing, as a gift (or similar). The aggressive marketing of the subscription highlights the individualistic approach of the conceptual model.
Consumer continues interaction on an erratic and/or regular basis.	Consumer is persuaded to invest in a subscription to the publication in a way that suits their autotelicism.	+ The subscription form includes Likert-scale questions determining the

		consumer's behaviour with regards brand perception and sensory experiences and markets the point that the reader will have a personalised experience.
Consumer continues interaction on an erratic and/or regular basis.	Consumer receives a printed publication based on their haptic preferences.	+ Responsiveness from the printers and distribution is required in order to meet the individual requirements of the consumer to maximise the lived experience of consuming a publication. Brand perception is strengthened by responsiveness to individual's need for touch; consumer behaviour is catered for; sensory experience is catered for.

The framework is conceptual, with the acknowledgement that innovations would be required from journalism-publishers, printers and distributors for its realisation.

However, this thesis has shown that consumers are willing to invest in the printed product - a willingness that has been overlooked by the industry in its motivations to cut costs because of its prioritising of content. The participants of this research have demonstrated that haptics impacts upon the lived experience of consuming journalistic content with regards consumer behaviour, brand perception and sensory experience.

5.9 Conceptual framework development: methodology

The methodology I chose for this research was interpretative phenomenology analysis (IPA), as outlined in detail in Chapter 3: Methodology but in summary, IPA provides a framework within which qualitative methods can be used to allow exploration of the lived experience and the meaning(s) this may have for participants (Smith and Osborn, 2015). But while I placed value on the double hermeneutic benefit of IPA, I was keen to incorporate quantitative data, in order that a richer insight could be obtained. By 'richer', I mean that the range of data sets afforded complementary and potentially contradictory results, thus providing results that gave a more holistic overview to the individual's lived experience. I wanted to integrate analysis of physiology, because our sense of touch is a physiological response and so, it made sense to me to explore the subject of haptics and journalistic-content consumption with mixed-methods. IPA conventionally uses qualitative methods, such as semi-structured interviews, to gather data relating to lived experiences but I was keen to underpin that with quantitative data, via surveys and the biometric data afforded by the E4 Empatica wristband. By using mixed methods, I'm able to posit the argument that there is a physiology to the phenomenology of journalism-content consumption that can be quantitatively and qualitatively explored, and this can be seen to be an iteration of IPA that I term quantitative interpretative phenomenological analysis, or QuIPA. Our lived

experiences are often informed by our senses and proprioception, which is rooted in our physiology (Paterson, 2007; Tröndle and Tschacher, 2012; Wood and Kenyon, 2018). My research has shown that QuIPA methodology would facilitate a research design incorporating mixed methods to establish the connection between the two - which in turn, would enable a richer insight into a lived experience.

5.10 Findings overview

This research's findings are two-fold, with application to industry practice and methodology. As opposed to a theoretical framework, where the research is built upon an existing theory, this thesis will adopt a conceptual framework approach to explore its findings with a view to developing a framework that industry might consider in its evolution to shift focus from journalistic-content production to journalistic-content consumption (Franklin, 2008; Bird, 2009). These considerations are: higher quality paper stock to heighten the sense of trust of the content and the brand; higher quality paper to improve brand perception, and haptic enhancement of the digital landscape to enhance the journalistic-content experience. The latter is one that is already being technologically developed in the shape of ultrahaptics, where soundwaves facilitate a non-tangible haptic quality (see Chapter 2: Haptics Literature Review). Were this kind of ultrahaptics to be incorporated into devices, such as mobile phones, the lived experience of consuming online journalistic content would be enhanced, in line with the findings of this study. The decline seen in the circulation of printed publications is indicative of the lack of appreciation that publishers have with regards the experience of consuming journalistic content, rather than disinterest from the reader for the physicality of print.

My research shows that there is an experiential aspect to the consumption of journalistic content that is underpinned by cross-modal stimuli, particularly that of

haptics - and which the traditional quantitative methods used in industry to measure journalistic success (in terms of the circulation and readership figures) fails to take into account. My research also demonstrates the way in which iteration of IPA as a methodology, to incorporate quantitative methods that provide a richer insight into lived experiences, and I posit the abbreviation 'QuIPA' as a way to differentiate the methodology from the conventional qualitative mono-method in a way that includes a mixed-methods approach. The following and final chapter will offer a conclusion to this thesis.

6 Conclusion

6.1 Introduction

The aim of this thesis was to explore the degree to which haptics (the science and stimuli of our sense of touch) has on the consumption of journalistic content (specifically, textual and visual content). My research explored the notion that haptics did have an impact upon the consumption of content but it was unclear as to its extent. The continued existence of printed newspapers and magazines in an era of smartphones and the internet suggests that there remain consumers who prefer a tangible product to a digital one in the consumption experience; the continued existence of the printed book in an era of Kindles and eBooks suggests the same. There endures a preference of haptic physicality in certain lived experiences but why this preference endures was unclear: in an era where myriad content can be accessed via one portable device, what factor motivated a consumer choose to buy a physical product that would take up additional space in a bag, on a coffee table, or on a bookshelf? Evidently, the physicality of a 'thing' brought value to the lived experience of content consumption for some individuals, and I aimed to clarify on what level(s) the haptic element of a physical product influenced that experience. Ultimately, my findings show that there are three levels: that relating to the behaviour of the consumer, the consumer's perception of the brand, and the value of the sensory stimuli that haptics has. This builds upon the existing literature that has researched haptics in various contexts, such as sensory marketing (Krishna and Morrin, 2008) and ritualistic habits in content consumption (Gerlach and Buxmann, 2011). The need-for-touch (NFT) scale demonstrates that consumers as individuals have variable compulsions behind their requirement to interact with tangible materials (Peck and Childers, 2003a; 2003b), which - in the context of this research - has been echoed in participants' responses with regards

the way in which the paper stock, binding and finishing of a publication has on their interpretation of content and the experiential consumption of the publication.

Because of the media grounding of this research, the thesis explored '*what are people* (individuals, groups, professions, institutions) *doing in relation to media* [original italics] across a range of situations and contexts?' (Witschge et.al, 2016, p327). As a reminder, in the context of this research, the 'people' are individuals, the activity in 'relation to media' is the consumption of journalistic content, and the 'situation' is consumption where haptics is shown to make an impact, by the individual consuming the same journalistic content on different paper stock.

Interpretative phenomenological analysis (IPA) was adopted to examine these relationships, due to its relevance to interpretative, perceptual and experiential explorations (Sokolowski, 2000; Smith and Osborn, 2015). The Haptics Literature Review (see Chapter Two) explored the existing literature relating to haptics in a range of contexts, such as product packaging. The Methodology chapter (see Chapter Three) explored the approaches that could be taken with regards the exploration of the subject (that being a study of the impact of haptics on the consumption of journalistic content) and identified the interpretative phenomenological analysis (IPA) approach as being the one most relevant to gain an understanding of the experiential aspect relating to the consumption (reading, archiving, responding to) of a printed product relating to journalism. The Findings chapter (see Chapter Four) presented the quantitative and qualitative data obtained via focus groups, semi-structured interviews and the biometric-tracking wristband, while the Discussions chapter (see Chapter Five) provided an overview as to challenges within journalism practice with respect to content consumption and creation. This chapter (Chapter Six) will summarise the thesis's intentions, findings and limitations, and gives consideration to future directions of research within the area of content consumption, the lived experience and methodology.

6.2 Evaluation

In terms of the extent to which the aim of ascertaining whether haptics does impact upon the consumption of journalistic content, this thesis has been successful in terms of the sample of participants involved. The key themes that have been identified in the primary research are that haptics impacts upon brand perception (such as the level of trust consumers have on journalistic content) and that haptics impacts upon consumer behaviour. There is also the quantitative exploration as to the impact of haptics upon our physiology - specifically, the levels of electro-dermal activity (EDA) in the participants' skin - that offers a potentially rich landscape for further mining. These findings have ramifications for industry practice, in that the value of haptics in the consumption experience is undermined by the comparatively lower cost of publishing content online. This research demonstrates that a number of participants involved would be willing to buy, buy regularly, recommend to friends and trust a publication, if the haptics was comparatively of a higher quality. This is added value to the content itself that has been underappreciated in considerations of brand business models. The preliminary stages of this research were grounded by my intention to explore how haptics impacted upon the reader's experience of consuming journalistic content but evolved into explorations as to what that impact was, how it manifested and if that manifestation could be measured quantitatively. Ultimately, the findings found three key impacts that haptics had on the participants' experiences of consuming the journalistic content: that of trust, brand perception, and consumer behaviour. The discourse analysis found that there were themes relating to the adjectives used to describe the positiveness that comparatively higher quality paper stock had on the consumption experience, and this provided qualitative evidence that haptics influenced the the perception and behaviour of participants to varying degrees. Repositioning haptics as a priority within the publishing business model would demand a new approach to journalism: for

instance, brands seeking to be considered ‘high quality’ and prestigious should utilise the opportunity afforded by the haptical element of a magazine to reinforce that notion of quality and prestige and invest in the paper stock, finishing and binding, and distance themselves from the perception that the paper stock is merely a substrate - a vehicle upon which content is transported.

However, there are limitations to the research that potentially warrant further investigation to strengthen the generalisability and external validity of the findings (Braun and Clarke, 2013). My findings are specific to my sample of participants and while the three themes identified in the results are reliable for that sample, whether or not these findings are applicable to a different sample and/or a wider population requires further investigation. Firstly, I would like to examine whether the genre of magazine impacts upon the themes of consumer behaviour, brand perception and sensory experience. The magazine used in my study - *Delayed Gratification* - focuses on news and current affairs, includes highly detailed infographics and longform articles. It is invariably steeped in statistics and data which may have influenced the participants’ identification of trust being of particular relevance. As such, this study holds particular relevance to publications of a similar ilk, but whether that is the case for publications of different genres - for instance, fashion or general lifestyle - warrants further analysis. By doing so, my conceptual framework as proposed in Chapter 5: Discussions would increase in its value with regards generalisability and nomothetic application, in that it could be applied to various genres of journalistic publications. From the (albeit small) sample of participants in this study, I postulate that the themes of consumer behaviour and sensory experience would remain consistent. However, there is value in the exploration of whether the theme of brand perception - most notably, that of trustworthiness - remains consistent throughout the different magazine markets, including mainstream interests and specialist titles. This is because the content of

specialist-interest titles is often more information driven as opposed to intentions relating to general entertainment (Whittaker, 2008). As an example, the UK-based men's magazine *GQ*, published by Condé Nast, includes an array of content, geared towards the general interests of a male or male-orientated readership: interviews with male film stars; masculine fashion; mainstream holiday destinations and so on. A specialist title focusing on one specific interest, such as health and fitness (for instance, the *Men's Health* magazine, published in the UK by Hearst), has content focused on health and fitness that is more information driven, citing medical journals and industry professionals. There is, therefore, scope to explore whether the findings of my research are transferable to readerships of different publications.

Secondly, and in a similar vein, and building upon the study of Gerlach and Buxmann (2011), there is scope for further investigation into whether the three themes identified in my study (consumer behaviour, brand perception and sensory experience) could be transferred to that of eBooks (Braun and Clarke, 2013). For instance, does the haptical quality of a printed non-fiction or fiction book impact upon the lived experience of the content consumption? Again, I would expect that it does, but the theme of trust might be less relevant for fiction publishing. However, I would surmise that a high-quality haptical element to a physical book would impact upon the lived experience of consuming that book, based on the findings within food studies that denote the impact of packaging (Carvalho and Spence, 2019; Spence and Carvalho, 2019). Gerlach and Buxmann (2011) establish that haptics in book publishing does impact upon the 'attitudes' of the reader and argue that there is an 'irritation', stemming from cognitive dissonance, when it comes to the reading of books. Based on 30 interviews, the study found that participants preferred the printed book, because they missed qualities of the tangible product such as turning physical pages, the feel of paper, and the weight of the book which the digital

device did not afford (Gerlach and Buxmann, 2011). In addition, the participants of this study highlighted the importance of factoring in a respite away from digital devices in their leisure time. I posit that my research with regards the physiology of the lived experience of reading a book, using a biometric device such as the E4 Empatica wristband, would complement and deepen the knowledge as gathered by Gerlach and Buxmann (2011) to inform printing decisions in the book-publishing industry. However, though my research does explore cognitive dissonance with regards the perception of the *Delayed Gratification* reprints, this could have been clarified further in the analysis of the findings.

Thirdly, my research fails to make clear the connection between the participants and the need-for-touch (NFT) scale (Peck and Childers, 2003a; 2003b). The participants in my study gave responses that, upon thematic analysis, showed the three themes in their lived experiences. However, a richer insight into the data could have been obtained had I initially rated each participant on the NFT scale, or alternatively created my own version specifically relating to journalism. For instance, one of the participants - Elsbeth - clearly valued the haptic contribution made to her lived experience of consuming content. She was particularly expressive in terms of the value she placed on the paper stock of one of her favourite magazines - a specialist title about craftmaking - and was keen to also discuss the importance of the maternal touch, when her children were born. It would have been advantageous to ascertain where on the NFT scale Elsbeth did, or did not sit (if the NFT scale lacked transferability to research relating to journalistic products and paper stock), to gain a deeper insight into this participant's responses. Similarly, there is value in knowing where the participants who wore the E4 Empatica wristband fell on the NFT scale. By doing this, I would have a clearer idea as to whether there was a connection between the participant's 'verbalised' need to touch a product, and their physiological fluctuations when they did so.

Finally, while my research involving the *Delayed Gratification* versions does show that haptics impacts upon the journalistic-content consumption of my participants, it fails to clarify if there are variables in terms of those elements that comprise the haptic quality. The printed versions of the magazine (and this applies to both the original and reprinted version) had haptical qualities consisting of variations of paper stock. The paper stock contributed to the lived experience in two ways: the texture of the stock (the original was printed on matte while the reprint was printed on silk paper), and the weight (the original was printed on heavier paper stock than the reprint). Both were bound the same way, with a 'spine' (Whittaker, 2008) and both were of the same custom format (19.5cm x 24cm). However, my research fails to clarify if the variables between the two versions of *Delayed Gratification* - the weight and the texture of the paper stock - had differing impacts upon the consumption experience. For instance, would there have been a variation - either on physiological or verbal responses - from the participants, if two additional versions of *Delayed Gratification* had been printed? Wherein one additional version was a heavy paper stock but of the silk texture, and other of a lighter paper stock but of a matte texture? In this way, I would have been able to clarify if there were variations in the elements that constitute the haptical quality of a tangible product.

These limitations to the research are ones that have come to my attention iteratively, and only as I've deepened my primary and secondary knowledge with regards haptics, consumption and phenomenology. My heightened awareness of additional aspects relating to haptics and journalistic-content consumption has opened up not only the limitations of the studies I have conducted, but ways in which I can move forward and progress with related research.

6.3 Methodology review

IPA provided a paradigm within which I could position my primary research. However, other approaches were considered, particularly those that held relevance to media-studies theory. These included the actor-network theory (Lister et al, 2009) and grounded theory (Strauss and Corbin, 1990, 1998; Charmaz, 2006). Grounded theory was given particular attention, because it allowed a refinement of ideas throughout the process, rather than a summative reasoning based on data gathered (Charmaz, 2014; Creswell 2014). While the iterative nature of grounded theory was appealing and I appreciated its facilitation of a refocusing of my research lens on the subject (Charmaz, 2006), it was the perceptive and interpretative qualities of phenomenology, specifically IPA, that ultimately were the most appropriate. As a methodology, Silverman (2013) highlights some of the criticisms of grounded theory, particularly in regards to the hollowness of early-stage research. Phenomenology aligned more robustly with the notion of sensual consumption and the experiential nature of journalistic-content consumption. Haptics involves sensory stimuli to our sense of touch and it was a realisation in the early stages of this research that our senses are highly individualised, as is the stimuli thereof, that our perception of an experience where sensory stimuli is a factor is unique. This realisation occurred relating to the realm of one of the other five physiological senses, that of sight: I am long-sighted, and I realised that my experience of reading material or viewing a piece of art is different depending upon the distance I position myself away from said material, or if I'm wearing my glasses. The content is the same, but my perception is different. These shifts in interpretation and perception of the same content heightened my awareness to the fact that what I interpret from a lived experience is different from another's, and can even be different on a personal level - depending on my situation at the time (the wearing of glasses, for instance, to enhance my sense of sight, or the wearing of gloves, for instance, to diminish my sense of touch). Taking all of these personal and reflexive considerations into

account, it became clear that phenomenology, and specifically its derivative IPA, was the most appropriate methodology to use in this research.

A challenge, however, was posed when I opted for a mixed-methods design. IPA is embedded in qualitative perspectives, where the individual interprets a lived experience and, generally, verbalises this experience to the researcher who then proceeds to make their own interpretation (Sokolowski, 2000; Braun and Clarke, 2013). I was aware that IPA was conventionally very much an approach aligned with qualitative research methods (Wagstaff et al, 2014; Alase, 2017). However, the study of Tröndle and Tschacher (2012) coupled with the Tate Sensorium 2015 exhibition - both of which involved visitors to art exhibitions wearing biometric-tracking devices to monitor physiological changes in the individuals' visiting experiences - were fascinating to me, as the studies highlighted a way in which a lived experience could be quantified. This is a significant point for this research, as my goal was to propose a conceptual framework wherein the value of haptics was heightened for the journalism industry, and mixing qualitative data with quantitative was an approach that would produce a more robust, business-orientated argument. Tröndle and Tschacher (2012) and the 2015 Tate Sensorium exhibition - though both positioned within the art world - demonstrated that lived experiences could be quantified if physiological aspects were involved and senses stimulated. This provided grounding upon which I could produce a conceptual framework that had potential in terms of transferability to other areas of content consumption (such as the reading of books, explored previously) as well as robustness if a proposal for the journalism industry, and one that which taps into the 'haptic moment' argued by Parisi et al (2017).

But IPA did not come without challenges: a key challenge was for me to 'bracket off' my presuppositions (Alase, 2017; Brinkmann and Kvale, 2019). From a professional

point of view, I am frustrated at seeing the journalistic industry struggling to find its feet in a digital world and clinging onto the notion that the significance of the content overshadows the significance of the experience of content consumption. From a personal point of view, I acknowledge that I am autotelic and high up on the NFT scale (Peck and Childers 2003a; 2003b) and acknowledging the potential impact of this bias is one that I've had to be conscious of (Creswell, 2014). I was conscious of the double hermeneutic aspect of IPA - where I recount my interpretation of an individual's interpretation of a lived experience - may be coloured by my own preferences. Admittedly, there may have been moments in early interviews where a participant would acknowledge that they were nonplussed about haptics (my participant Joe, for instance, was happy to get news and current-affairs information from his wife and didn't read books as a rule) which elicited a response from me that indicated surprise and this, in continuing the research further, is something I am conscious of. The acknowledgement of the existence of researcher bias, the impact of this bias and efforts to temper it ensure the risk is minimised of the researcher's bias swaying a participant's reaction. However, the integration of quantitative methods into my research helped to mitigate the impact of my own interpretation of the participant's interpretation, because the quantitative data coupled with qualitative response facilitated a richer insight. For instance, Andrew showed in his qualitative responses in the interview that he didn't frequently read printed publications but he did have an enthusiasm for listening to music on CD and vinyl: the tangibility of these formats was integral to the music-listening experience. His EDA increase when interacting with the original version of *Delayed Gratification* and the decrease in EDA when interacting with the reprint gave a physiological correlation to his emotional preferences and 'need to touch' the tangible when it came to reading content and listening to music. Other methods that related the collection of emotional-response data were considered, to ascertain their appropriateness in the context of this research, such as the self-assessment

manikin (SAM) and the Geneva Emotional Wheel (GEW). These were considered because there are perception variances when it comes to phenomenology. For instance, the experiential consumption of a printed publication of a high autotelic reader will be different to someone of a low autotelic nature. But there is the issue of recording the data of emotional responses in such a way that allows analysis and the identification of patterns that minimise the risk of misinterpretation underpinned by researcher bias. Methods of recording emotional-response data were considered but were discounted for reasons outlined below.

6.3.1 Self-assessment manikin (SAM)

The self-assessment manikin (SAM) is a pictorial method of ascertaining the emotional responses of participants (Bradley and Lang, 1994). It has evolved from an earlier model of emotional responses - the semantic differential scale (Mehrabian and Russell, 1974) that itself was constructed upon the argument stated by Wundt (1896) that there are three 'basic dimensions' of emotional response which are pleasure, tension and inhibition. SAM evolves the semantic differential scale by interpreting emotional reactions and communicating them to participants via pictures.

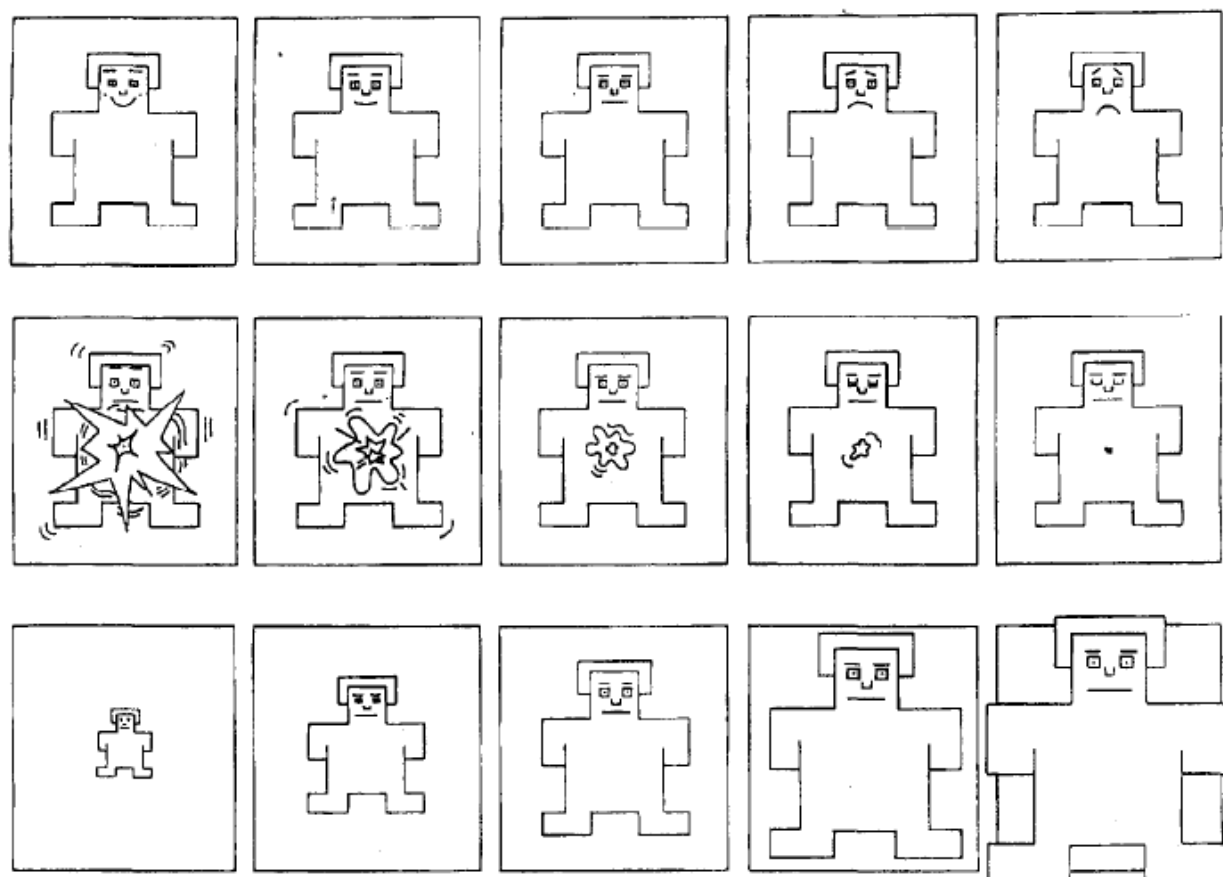


Figure 30 The self-assessment manikin (SAM) (Bradley and Lang, 1994)

The top row of the SAM relates to the pleasure emotional response and has been interpreted here as a scale from pleasure to displeasure. The middle row relates to the arousal/tension emotional response, ranging from excitement to sleepiness (Bradley and Lang, 1994). Finally, the bottom row refers to the emotion of dominance/control, with the picture depicting a large figure representing the emotion of feeling in control of a situation. Participants are able to put a cross over an image or between images, to give a visual representation of their emotional response with regards pleasure, arousal and dominance. SAM attempts to simplify the response-giving process of participants that was previously afforded by the semantic differential scale, as well as attempting to minimise misinterpretation. Whilst the pictorial-based device of SAM does simplify the process of gathering data (it has proved useful when the participants are children), it is not representative of

how emotions are communicated (the expression of the 'dominance' row is static, for instance) the results can be oversimplified and provide a limited opportunity to gain a more detailed understanding of the variations of emotional responses (Sacharin et al, 2012). Intending to resolve these issues, Sacharin et al (2012) developed the Geneva emotional wheel (GEW).

6.3.2 Geneva emotional wheel (GEW)

The GEW iterates the SAM by acknowledging that an emotional response contains a variety of notes, some of which are more dominant than others. The GEW allows the participant to identify those more subtle emotions that also form the response (Sacharin et al, 2020). As with the visual model of SAM, the GEW provides diagrammatic reasoning. As with SAM, there is the inclusion of valence, in order that the participant can denote levels of pleasure but there is variation on the arousal and dominance emotions. This allows the participant to reflect and acknowledge the spectrum of the respective emotional response.

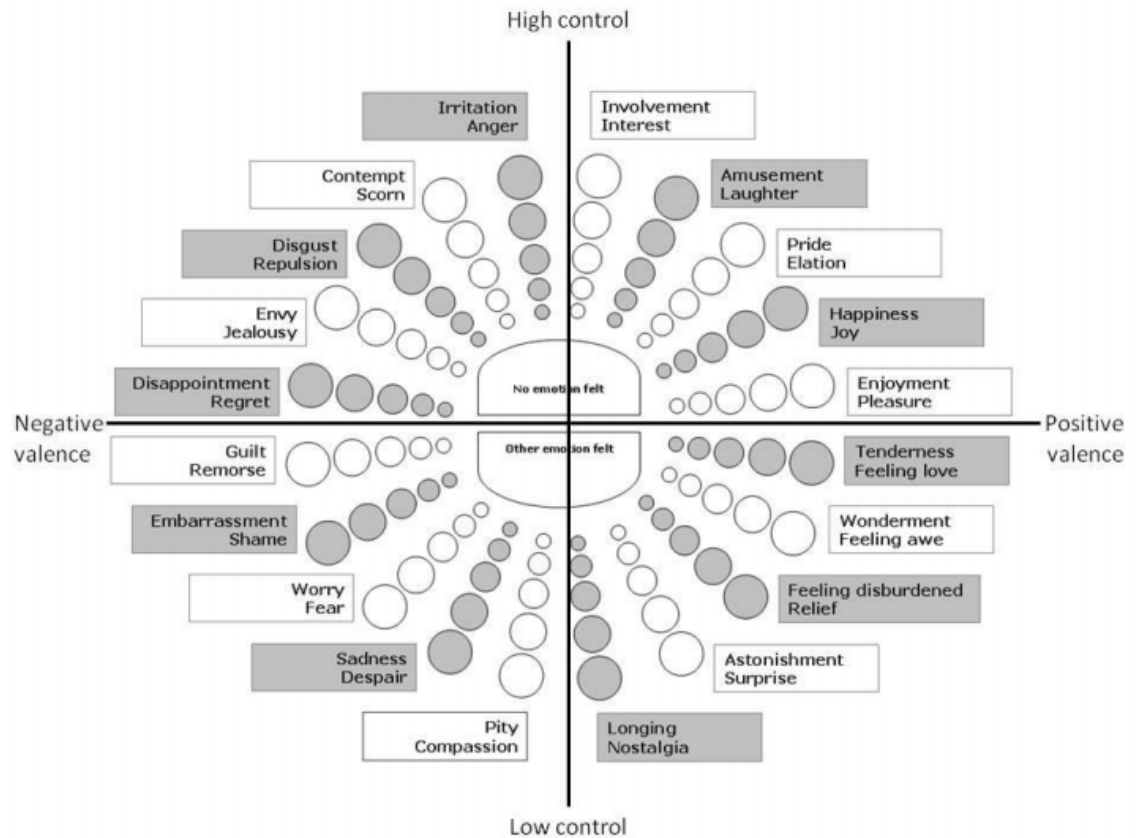


Figure 31 Geneva emotional wheel (GEW) (Sacharin, Schlegel and Scherer, 2012)

The GEW does variate the tiered model of SAM and does enable the participant to give a clearer indication as to the range of emotions that may be at play in a response. However, it is as dependent as SAM is on the participants' interpretations being similar to each emotional reference and its application to the variables in the scale. 'Happiness', for instance, can mean different things for different people (Lyubomirsky and Tucker, 1998). The mixed-methods approach (Creswell, 2014) of this research was considered most appropriate due to the advantage of complementing qualitative findings with that of quantitative data, particularly when the difficulty in establishing consistency in participants' interpretations of emotional responses. As such, while the SAM and GEW were considered as ways to gather emotional-response data, a physiological emotional response was more appropriate to this research, as it minimised the inconsistency in interpretation and articulation.

On reflection, IPA was the most appropriate methodology for this research but adopting a mixed-methods approach meant that there was conflict in my research design because it demanded consideration outside of the research design structured by IPA. IPA facilitates the verbalisation of a lived experience from the participant who has lived that experience (Smith et al, 2009; Wagstaff et al 2014; Alase, 2017; McCormack and Joseph, 2018). However, this research provides an indication as to the physiological aspects of the lived experience that could then provide quantitative data which could potentially impact upon IPA's double hermeneutic aspect. This has led me to the conclusion that this research offers two contributions to existing knowledge: that of the impact haptics has on the consumption of journalistic content, and the value of including quantitative data collection and consideration with regards the lived experience, and therefore proposing a new methodology derivative of IPA and termed 'QuIPA' (see Chapter 4: Findings).

6.4 Haptics in a changing landscape

While the industry's practices alter, I return to the concept of haptics and its place throughout recent fluctuations in journalistic practice. While the term 'haptics' is not commonplace in industry, the notion of the impact of paper stock and binding is considered. For instance, a daily newspaper would never be published on high quality paper stock and perfect bound: such a decision would be highly costly in terms of production and distribution (the heavier paper stock would impact upon transportation), and a daily newspaper is not meant to be archived: it's meant to be distributed quickly, consumed quickly, and discarded, to be replaced with the next round of news. Similarly, a high-end independent publication such as *Delayed*

Gratification - a quarterly magazine that is intended to be archived - is published on high-quality paper stock and as this research has found, haptics forms a crucial aspect to the experience of consuming journalistic content. With the upsurge in popularity of higher priced independent magazines (Le Masurier, 2012), there is a realisation on a number of levels that the findings of this thesis reiterate: some readers are willing to pay for a product; some readers are willing to invest time in shopping for (or organising a subscription for) a publication; some readers are willing to archive a high-quality product, some readers have a sense of loyalty to a particular brand, due to the perceived investment in the printing and finishing that reinforces the quality of the product. The way in which a content is 'framed' (and in this sense, we consider the paper stock and binding) reflects upon the content itself (Mosely, 2016). In terms of print, this framing relates to the paper stock, binding and pagination; for digital this relates to the device, screen and available connectivity. But, unlike the framing of the print product, which is exclusive to that printed edition, and which is tangible and can be physically archived within a physical space, the digital framing is non-exclusive. The digital framing is one that is non-brand specific, that reflects nothing about the brand's values, that is dependent upon the connectivity and device capabilities for you to access the content. In this respect, the 'digital frame' of journalistic content is limited in its role of enhancing the experiential element of consumption.

6.4.1 Sensory engagement

This thesis introduced the subject of the impact of haptics on the consumption of journalistic content with an extract from Sartre's existential novel, *Nausea* (1938). The quote paints a sensory picture, where the protagonist interacts with stray pieces of paper that are of different qualities, and the reader gains an insight into how this interaction colours the experience of interaction. It is this sensory aspect that has underpinned this thesis, notably focusing on the sense of touch and the

physiological and emotional impacts this sense has upon our consumption of journalistic content. In addition, the thesis affirmed Parisi et al's (2017) position that haptics had been overlooked by visual precedents within media studies. The publishing industry - like many others - has a penchant for quantifying its customer engagement. Traditionally, this quantification related to the printed product in terms of circulation (how many copies of a magazine were purchased) and readership (how many readers read each issue). The quantification of the reader's experience of consuming the digital publication is determined by the algorithms of search engines - new terminology and technology that the industry has been slow to adapt to. The methods adopted by the industry to attempt to quantify reader engagement (such as 'bounce rates' - where a reader quickly moves away from the page they find themselves on) are built on the misinterpretation that content is king. And as such, investment into the printed-product experience has dwindled. It's easier and cheaper to publish content online rather than in print, but the variables in experience have been wholly underestimated.

The digital landscape has been the most disruptive technological force in publishing since the invention of the Gutenberg printing press in the 15th century and thus, it is understandable that there is some lethargy and confusion in the industry's reaction to the internet and an undervaluing of the experiential aspect of content consumption, as there has been in other areas of disruptive technology, such as with the invention of television (McLuhan, 1964). However, the endurance of the printed product demonstrates that there is a place in a revised business model in the publishing of journalism content for print - and its endurance is wholly underpinned by the readers' responses to haptics (a key element of experiential consumption). A business model that, while grounded on the conventional revenue stream of advertising, incorporates the framing of content with brand-specific haptic qualities that currently relates to print.

6.5 Future work

The significance of haptics in the contemporary journalism industry is illustrated in the tactile qualities of the printed product. This has been repeatedly observed but a recent example can be seen in the popularity of the June 2021 edition of British *Vogue*. The cover model was the musician Billie Eilish showcasing a new 'image' for her performances. The singer's social media account on Instagram had initially shown this in a digital context but it was the printed version that readers wanted to immerse themselves in. The chief business officer, Vanessa Kingori, stated: 'We sold out on the newsstand so many times, we had to pull office copies, gifted copies, to keep trying to feed the newsstand. And it just kept selling out. For me, there is no digital marketing that you can do that will be more effective,' (O'Connor, 2021, NP). Perspectives such as this could be interpreted as a repositioning of the industry with regards the value it places upon haptics.

With regards progressing with the research, there is scope to focus more intently on the variables within the haptics - and more specifically - the paper stock - and the extent of its physiological impact. For instance, what kind of quantitative variable is there - if any - between a thinner paper stock (such as 90GSM, which is the standard 'office' paper used for photocopying) and a thicker paper stock (such as 250GSM, often used for the covers of higher end publications, and/or those intended to be archived). By ascertaining this, there are further avenues for developing a more robust business model for printed publications - and not just of journalistic content. For instance, there is scope for research into the specific implications on a physiological level of the paper stock and finishing (such as spot UV, embossing, and foil printing) that could be integrated into packaging. This is an aspect of the research that has been explored in collaboration with an international company, to whom I have

presented my research. On this level, the research extends beyond journalistic content and demonstrates the transferable knowledge of journalistic-content consumption and the significance of packaging in brand perception and product consumption.

This thesis began with a quote that acknowledged the deep and rich interaction that we have with objects from an existential novel that has grounding in phenomenological analysis (Sartre, 1938). The ensuing research backs up the notion that our sense of touch facilitates an interaction with objects, but the experiential aspect of that exists on a varying level dependent on the individual. Our experiences are affected by what we touch, but on differing levels. Our sense of touch dictates on varying levels the way in which information is interpreted: until the digital hardware facilitates greater haptic interaction, then print that echoes the brand values of quality and trust of a magazine or newspaper must factor in the related publishing business models to ensure robustness in its business strategies by prioritising the consumers' lived experiences of journalistic-content consumption.

Appendices

1. Appendix 1: Information and consent sheet

RESEARCH ETHICS: Consent form

Full title of project:

The impact of haptics on the consumption of journalistic content

Name, position and contact address of researcher

Sarah Cooper, senior lecturer, BPA114, Broadcasting Place, Leeds Beckett University

1/ I confirm that I understand the purpose of the study, have read the information sheet, and have had the opportunity to ask questions (please initial)

2/ I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason (please initial)

3/ I agree to take part in the above study (please initial)

4/ I agree to my participation being recorded (please initial if appropriate, N/A if not)

5/ I agree to the use of anonymous quotes in publications (please initial)

6/ I agree to the use of named quotes in publications (please initial)

6/ I agree to being photographed, and that the use of the photographs will be used to the researcher's discretion (please initial)

7/ I agree to the being filmed, and that the use of the film will be used for the purposes of research (please initial)

Name of participant:

Date:

Signature:

Name of researcher: Sarah Cooper

Date:

Signature: *Sarah Cooper*

INFORMATION SHEET

Full title of project:

The impact of haptics on the consumption of journalistic content

Haptics is the science of touch, and explores the effect that this sense can have on our interactions and interpretations. This PhD proposes to explore how haptics can affect our reading, interpretation and archiving of newspapers and magazines.

A key focus of this research will be on the consumers themselves – the readers who interact with this journalistic content. The primary research will give a personal insight into how haptics affects individual readers, if at all.

The findings from this research will be used in a variety of ways, including academic journals and the PhD itself. There may be the possibility of the work being used in an exhibition.

Ideally, your contribution to the PhD will include photographs/moving image and quoted contributions. You do have the option to be anonymous in the PhD and/or not be photographed/filmed. Please initial your preference on the consent form.

2. Appendix 2: Example of quantitative questions for participants

How much do you trust the content in this magazine?

	1	2	3	4	5	6	7	8	9	10	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Trust

...

How likely are you to keep this magazine?

	1	2	3	4	5	6	7	8	9	10	
Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Highly likely

How likely are you to recommend this magazine to friends?

	1	2	3	4	5	6	7	8	9	10	
Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Highly likely

How likely are you to reread this magazine?

	1	2	3	4	5	6	7	8	9	10	
Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Highly likely

...

How likely are you to search for this magazine online?

	1	2	3	4	5	6	7	8	9	10	
Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Highly likely

3. Appendix 3: Indicative discourse of focus-group three

discussion

Publication 'A': 100GSM, silk, saddle stitched	Publication 'B': 170GSM cover; 120 GSM interior; matt; perfect bound	Publication 'C': 250GSM cover; 130GSM interior; silk; perfect bound.
<p>A: Instantly, ming. Are you recording this? I shouldn't swear, should I?</p> <p>Moderator: You can swear.</p> <p>A: Fucking hell, it's disgusting. Moderator: What would you expect to see on that?</p> <p>A: I would expect to see an incredibly cheap catalogue of a very very cheap brand.</p> <p>C: I think with something like, what's that, 'A'? That feels like it's mass produced and turned out quickly. So maybe that would be, every week, there's going to be News week and it's going to come out like that, because they don't expect anybody to keep it, and, you know, the news next week is going to change so we're just going to throw that out.</p>	<p>Participant C: Ah what's this one, this is B: I'd pick B. Because, for a couple of reasons. The quality, there's no glare. So if I'm sitting in a room or I'm sitting by a pool or whatever, there's not going to be glare on it -</p> <p>Participant A: - that's huge.</p> <p>Why don't producers take that more into consideration?</p> <p>Participant C: You have to hold it in this weird way and it all gets contorted and stuff. And if I wanted to make notes or something - I'm not sure I'd write on the margins - but if I wanted to make notes I would want to do it on this.</p> <p>Participant A: That's great.</p> <p>Participant C: I feel like this 'B' is something I'd want to do more on.</p> <p>Participant B: Get some underlines in there.</p> <p>Participant C: yeah.</p> <p>Participant B: Passing it around and saying 'oh, you'll see that I underlined something so when [participant C] reads it she'll see something and go, 'oh that's what she was thinking when she read that'. I might ask her about it .</p> <p>Moderator: So there is potential that if this [Delayed Gratification] was printed on that 'A' paper stock, you would have overlooked it, maybe.</p> <p>Both B and c: yeah.</p>	<p>Participant A: That's what's happened with, like, the digital revolution, where they said print would die. But anything that really happened was that anything that was cheap ended up online and then print survived and flourished because it meant in print, it was actually something worth printing. So actually the quality of print massively increased. People paid a lot more for it because it became more of a niche type thing.</p> <p>Participant B: That's probably what I feel about that. But B and C..... I think..... I think when it's just blank, I don't have a big preference but knowing what it looks like and what the print looks like on this to how it looks on the glossy, it feels a bit different, but I like the feel of this, but if I saw them both up would I make a big distinction?</p> <p>Participant C: I would</p>

4. Appendix 4: Quantitative overview of participants' survey responses wearing an E4 Empatica wristband

	Original	Reprint	Difference
Trust	8.5	7	21.42857143
Keep	6.125	5.71785	7.120683474
Recommend	7	5.429	28.93718917
Reread	3.375	3.25	3.846153846
Search	6.25	4	56.25

5. Appendix 5: Qualitative and quantitative data from focus-group two (four parents)

	Original	Reprint	Difference	Discourse (original)	Discourse (reprint)
Trust	8.75	7.75	12.9	I already have decided I like the content, now it's on thicker pages, I'd be happier to hand over the money.	It's overpriced for a magazine.
Keep	9.5	7.5	26.7		
Recommend	8.25	6.5	26.9		
Reread	9.5	8	18.75		
Search	4.5	3.25	38.5		

6. Appendix 6: Indicative discourse of consumer behaviour - archiving

Theme	Example 1	Example 2	Example 3
Archive (Consumer behaviour)	'I go back to [the print magazines] all the time, particularly with the craft magazines. I like to look at the patterns - even if I don't make anything, I enjoy just looking at them.'	'I'm very pressed for time. My leisure time is scant. I don't have the gaps to luxuriate, but it's in certain spaces that I happen to be - I do buy them on holiday. I flick through, I forget about them, I go back to them.'	[On reviewing a magazine on poor quality paper stock]: 'If people wanted to keep the magazine it would be difficult to keep it in good condition.'

7. Appendix 7: Indicative discourse of consumer behaviour - ritualism

Theme	Example 1	Example 2	Example 3
Rituals and experience (Consumer behaviour)	'It's a luxury item. I like to sit down, with a cup of tea, and that's "my time".'	'I've gone back to books from reading a Kindle. I don't like the experience of reading it on a Kindle, the technology is not right for me at the moment.'	'Information read on screen does not digest, like a printed product.'

8. Appendix 8: Indicative discourse of brand perception - trust

Theme	Example 1	Example 2	Example 3
Trust (Brand perception)	'When we feel something of weight, it has the suggestion of strength. You trust their opinion...because it's on a higher quality paper.'	'The pages in this magazine are much thicker and better quality, due to the quality increase I think the magazine seems more trustworthy.'	'Because it feels more like a book, you trust in their opinions a little bit more.'

9. Appendix 9: Indicative discourse of brand perception - premiumisation

Theme	Example 1	Example 2	Example 3
Premiumisation (Brand perception)	<p>'I associate quality with the paper.'</p> <p>'It's a luxury item. I like to sit down, with a cup of tea, and that's "my time".'</p>	<p>'The print quality is worth the amount asked for [£10], it is a unique publication.'</p>	<p>'Pleased that the stock and finish chosen accentuated the premium layout and content of the magazine.'</p>

10. Appendix 10: Indicative overview of qualitative responses

	Sensory	Behaviour	Perception
	<p>'I look forward to getting away from my screen, I value that. I do far too much reading on the screen.'</p> <p>'I enjoy the 'physicalness' of both magazines in print.</p>	<p>'I like to sit down, with a cup of tea, and that's 'my time'.'</p>	<p>'I'd be less inclined to buy [the magazine I buy regularly now], if they made it cheaper but printed it on glossy paper. I associate quality with the paper.'</p>
Delayed Gratification experiment	<p>Original: 'Feels more like a book, like you're getting your money's worth.'</p> <p>Reprint: 'Too expensive.'</p>		
Correlation to indicative theory	<p>Sonnenveld (2008); Krishna and Morrin (2008); Gerlach and Buxmann (2011); Jabr (2013).</p>	<p>McCracken (1997); Peck and Childers (2003a; 2003b); Bartmanski and Woodward (2013); Ytre-Arne (2013); Fortunati et al (2015).</p>	<p>Krishna (2012); Sundar and Noseworthy (2016); Spence and Carvalho (2019).</p>

11. Appendix 11: Example of responses from preliminary questionnaire

Below is an example of some of the responses that were obtained from the preliminary questionnaire that was distributed as part of the pilot studies to obtain early indications of potential themes. 'Q' refers to the question being posed; 'A' is the answer, with the number referring to the participant.

Q: What do you like the best about the printed publication, and what do you like the least?

To me it's far more portable, I can take it round the house with me or stick it in my bag if I'm going out. It doesn't rely on having Wifi connection or enough battery on my iPhone or Kindle etc. It's a far more comfortable reading experience, I don't particularly like reading articles online.

A1: Obviously the cost of printed publications is more as I don't pay to read any online publications. There's also waste created but I always recycle any print publications.

A2: I like being able to hold it in my hands and add sticky notes to articles or pages I like for later.

A3: I love print and buying magazines. The editorials look so nice on glossy paper. I don't like low quality paper stock that ruins the magazine a little.

A4: The attention demanded from the reader by the print. A lover of reading in general, the opportunity to fully submerge yourself and invest your time into a publication can be incredibly enjoyable and rewarding. My only problem with printed publications is the cost. Most people (myself included), cannot afford a wide array of beautiful and informative publications every week and subsequently deters me away from print, forcing myself to obtain news online.

A5: Concentrate on the information, remember the content more, feel/haptics. Expensive, additional weight carrying around, not always available locally.

A6: Enjoy the feel and satisfaction and to collect but don't like the size inconvenience.

A7: Best - The fact that it feels permanent. That even if I might forget why I'm keeping or retaining, I know it's there physically, I can retrieve it and it is part of my 'library'.

Worst - General wear and tear/space it might occupy - lack of easy access.

A8: I find it relaxing to flick through the pages. What to do with them after...

A9: Much prefer printed as I'm old fashioned & it's what I'm used to, however [I] don't like the cost.

12. Appendix 12: Example of transcribed interview

The below is an example of transcribed text from one of the participants of the semi-structured interview. 'A' is the researcher; 'B' is the participant, in this case Elsbeth.

9th September 2016

Elsbeth

A: What magazines do you read?

B: I read *Molly Makes* and *Craft Seller*.

A: And that's in print?

B: Yes. I enjoy the 'physicalness' of both magazines in print, so both magazines are made on quite nice paper, they're not the shiny, glossy paper. It's a higher quality, matte finish, and I enjoy it. It's a luxury item. I like to sit down, with a cup of tea, and that's 'my time'. I look on Pinterest quite a lot, but I associate that with a flicking, quick 10, 5 mins, just scanning, not really reading, just getting ideas.

A: If the two magazines were only online, would you go to them online, or would you go to another magazine?

B: I'd probably go to another.

A: Do you keep them?

B: Yes.

A: How long do you take when you read the magazines?

B: When I initially get them, I'll probably look at them for about half an hour, but then I'll keep picking them up, and going through them, and then if there's something I really want to read properly, you know, when the kids aren't there, then I'll leave that

for later. But I go back to them all the time, particularly with the craft magazines. I like to look at the patterns - even if I don't make anything, I enjoy just looking at them.

[We look online at *Molly Makes*]

A: The website is not what you would expect.

B: I used to get *Ideal Homes*, I used to get that for Christmas as well, and I did that for about three years, but then I found that it was just repeating things. I was feeling like it was all done before. They would always do an article about someone's amazing house, and it was always the same kind of person - like an architect, or a self-employed person. It was always that kind of demographic, but I would liked to have seen it mixed up a bit, with people on a stricter budget. But I suppose who they are aiming at. Maybe I wasn't the right fit for the magazine. But like every month, it was like a £600,000 plus house.

A: If *Molly Makes* were to change something, what would it be if it was still in print?

B: I'd be less inclined to buy it, if they made it cheaper but printed it on glossy paper. I associate quality with the paper. You trust their opinion in design and craft, because it's on a higher quality paper. And because it feels more like a book, you trust in their opinions a little bit more. With the thin, cheap paper, I associate it with TV magazines, because that's what we got when we were little. So I have that association, that it's something that's thrown around, and no one can find it, and it's not loved very much.

The touch is very important. When my son was born, he had fluid in his lungs, and he had to go in an incubator. And whenever he heard my voice, his statistics would improve. It didn't happen when his dad spoke, just me. And then as soon as he could have milk, and he could have skin on skin, it was amazing - that really helped his health, it really improved.

A: What is the thinking of skin on skin?

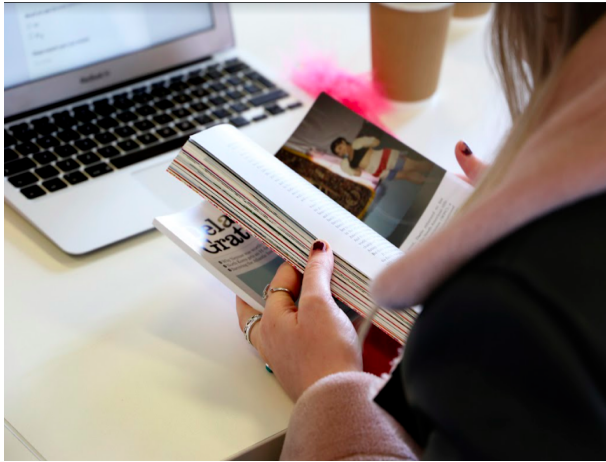
B: The smell, the heat - they're so used to being inside you. The vibrations from your voice. People feel comforted from the touch of things. And with the shiny paper, it feels cold. Don't you think? Shiny magazines are cold, and I don't like cold things.

13. Appendix 13: Sample images of focus groups showing interaction with the ‘cues’ (the issues of *Delayed Gratification*).

Photographing the focus groups provided an insight into the tangibility of the individual's lived experience, with participants observed stroking pages, ‘weighing’ the publication and physically interacting with the publication during their interactions with the issues.

Focus-group one:

As a reminder, this group involved female, undergraduate students.

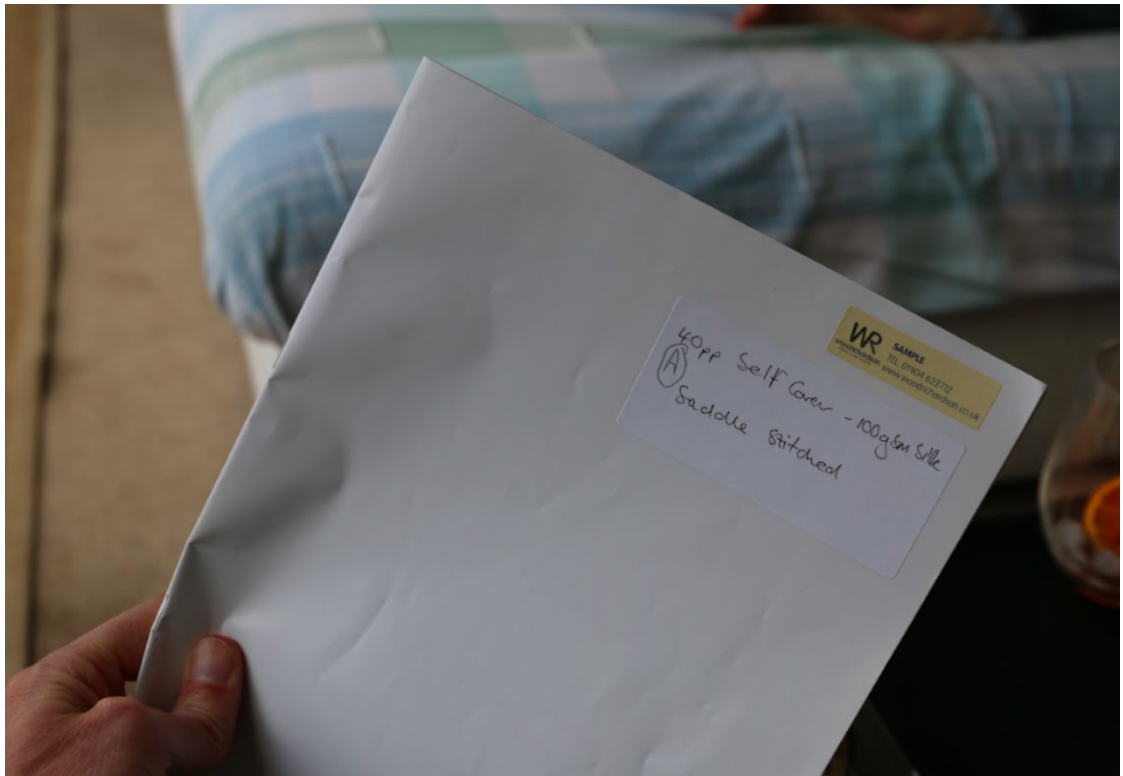




Focus-group three:

As a reminder, this group involved two females and a male, sampled via snowball sampling.





14. Appendix 14: *Delayed Gratification* contents pages.

The contents pages of *Delayed Gratification* provide an indication of the content of this publication.

Contents

Saturday 1st July to Saturday 30th September 2017



Jul Aug Sep

Almanacs

The stats and facts of the quarter



19th Sep

A 7.1 magnitude earthquake hits central Mexico
Mexico City's search for survivors



25th Aug

The conviction of Gurneet Ram Rahim Singh
A verdict that sparked riots in India



16th Jul

The Polish judicial reform protests
The view from a supreme court judge



2nd Aug

AI is used to fake an Obama speech
A new boost for fake news?

SERIOUS



11th Sep

The exodus
Documenting the Rohingya flight from Myanmar



12th Aug

Breaking point
The rise of the US far right



25th Aug

When the wind blows
Tracking Atlantic hurricane season



8th Jul

The freedom of the sea
Building an Olympic swimming team in Gaza



3rd Sep

The nuclear options
The view from inside North Korea when the H-bomb went off

Jul

Aug

Sep

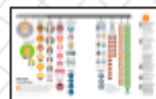
2017

SHORT



17th Jul

How to make a killing from human rights
 Evil Stick Man turns public relations to personal gain



19th Jul

Pennies from Evans
 The BBC's pay figures visualised



24th Jul

Mixed e-motions
 Government petitions that didn't make the cut



22nd Sep

Celebrity tree count
 The arboreal cost of gossip



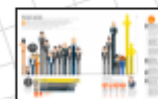
15th Sep

A space odyssey
 Charting Cassini's mission to Saturn



21st Aug

The butterfly effect
 How a fight before Hastings led to tears at Big Ben



26th Jul

Screen savers
 The biggest Brit-flicks of the last 15 years

FRIVOLOUS



On the cover
 Cristiana Conceiro interviewed



30th Sep

Return of the Golden Indian
 A locksmith's bid to become boxing world champion



24th Jul

Tapping the genome
 How companies are cashing in on our DNA



3rd Aug

Political football
 Neymar and the beautiful game's proxy war

LONG

15. Appendix 15: Extract of *Delayed Gratification* magazine

The content below provides an indication of the tone of voice, style and article structure that can be found within *Delayed Gratification*.



Aug



Mon 21st

The story behind the shot

Children in Nashville, Tennessee use solar-filter glasses to view the first coast-to-coast solar eclipse in the US for almost 100 years. An estimated 215 million Americans watched the eclipse either in person, on television or online, more than double the number who watched the 2017 Super Bowl. However, not everybody heeded advice to protect their retinas.

President Trump was photographed staring straight at the sun, and Google reported that searches for 'eye pain' doubled on the day after the event.

USA TODAY Network/SIPA USA/PA Images

Wed 2nd

AI is used to fake an Obama speech
A new boost for fake news?

Thu 3rd

Political football
The Gulf's proxy war through the beautiful game

Sat 10th

Breaking point
The rise of the US far right

Mon 21st

The butterfly effect
How a fight before Hastings led to wars at Big Ben

Fri 29th

The conviction of Gurmeet Ram Rahim Singh
A verdict that sparked riots in India

Fri 29th

When the wind blows
Surviving the Atlantic hurricane season

Almanac

August digested – the month's miscellanea

Victory ☺ ☹ Defeat

Mon 14th Pop star **Taylor Swift** wins a sexual assault case against former radio DJ David Mueller, who she claimed had groped her in 2013. Swift is awarded the symbolic sum of \$1 in damages that she had sought.

Mon 21st **Ken Cheng** wins Dave's Funniest Joke of the Fringe contest at the Edinburgh fringe with the one-liner: "I'm not a fan of the new pound coin, but then again, I hate all change."

Sat 26th **Floyd Mayweather** wins in a tenth-round technical knockout against Irish mixed martial arts world champion Conor McGregor in a boxing contest dubbed "the biggest fight in combat sports history". The fighters shared a reported purse of \$400m.

Sun 6th Singer **Abdallah al Shahani** is arrested for 'dabbing' in Taif, Saudi Arabia. The dance craze is banned in the country due to its supposed connections to narcotics.

Mon 7th Married police officers **Dinesh and Tarakeshwari Rathod**, who claimed they were the first Indian couple to conquer Mount Everest, are fired from their jobs after it is revealed that they faked photographs showing them at the summit.

Tue 22nd Former lottery computer programmer **Eddie Tipton** is sentenced to 25 years in prison after pleading guilty in Polk County, Iowa, to installing software that let him rig lottery numbers in his favour, winning \$2.2 million over six years.

Famous for five minutes



Wed 2nd Little Bing and Baby Q, Chinese bots

Chinese authorities are used to crushing dissident voices, but not when they come from rogue robots. A pair of AI chatbots on two of the country's social media platforms began replying to users with dangerously off-message messages, including: "We must democratise", and describing the ruling Communist Party as a "corrupt regime", leading users to share their insurrectionary postings widely. They were unceremoniously taken offline for re-education on 2nd August, after which Baby Q and Little Bing returned as more patriotic characters.

Record breakers



460
Largest parade of alpacas
Mon 21st
Municipalidad Provincial de Cuzco, Peru



186.24 km
Greatest distance driven by a remote controlled model car in 24 hours
Thu 24th
Team Dunsell, Budapest, Hungary



115.6 m
Furthest limbo-skip backwards under cars
Thu 31st
G. Davari Prasad, Amravathi, India

Born

Natrix helvetica
New breed of barred grass snake, which takes the total number of native snakes in the UK to four. Classified **Mon 7th**

Love Symbol #2
A new purplish Pantone shade based on the colour of the late pop star Prince's piano, announced **Mon 14th**

Fuxing
World's fastest train, capable of reaching speeds of 217mph. Launched in China **Mon 21st**

Died

Robert Hardy
British actor whose 70-year career included roles in *All Creatures Great and Small* and the *Harry Potter* films, 91, **Thu 3rd**

Yisrael Kristal
Polish-Israeli oldest man in the world, who lived through both world wars and survived internment in Auschwitz, 113, **Fri 11th**

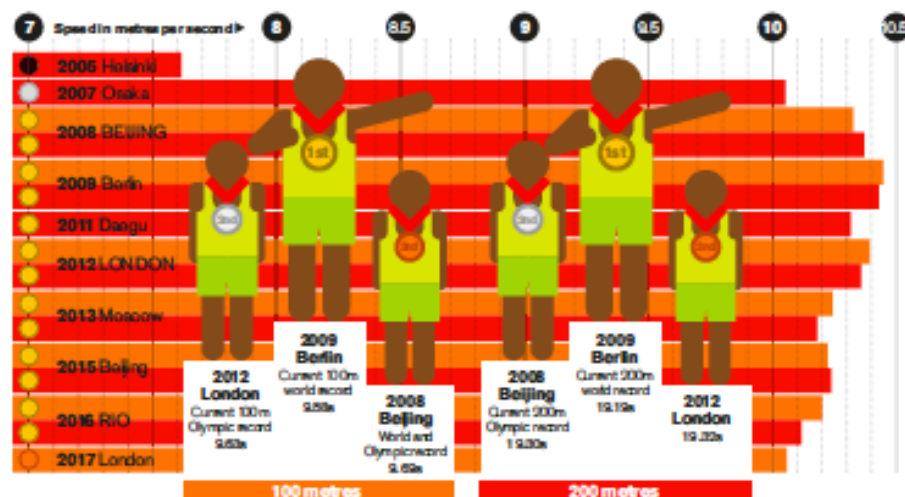
Sir Bruce Forsyth
British presenter, dancer, comedian and screenwriter, 89, **Fri 18th**

Terry Pratchett's unfinished novels
A hard drive containing the late fantasy writer's unpublished novels and notes is destroyed by a steamroller at the Great Dorset Steam Fair, in accordance with his wishes, **Fri 26th**

Bolt v Bolt

In August eight-time Olympic gold medalist Usain Bolt ran his last competitive races at the World Athletics Championships in London. We pit the fastest man on the planet against himself

How it works: Listed below are Bolt's average speeds in the last 100 metres and 200 metres races he ran at each of the World Championships or Olympic Games (in caps)



In the bag

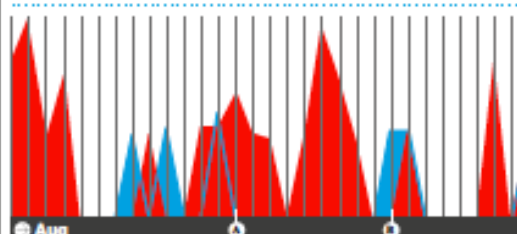
On 25th August Kenya became the latest country to ban single-use plastic bags. The move is designed to reduce littering, but the broader environmental benefits are less obvious.

Number of times a bag needs to be reused for it to have a smaller carbon footprint than a single use plastic bag:



Source: UK Environment Agency

Moggmentum v Jacindamania



Mon 14th Conservative backbencher and mooted Tory party leadership candidate Jacob Rees-Mogg lays out his "vision for the UK" in an interview with *The Telegraph* Wed 23rd In New Zealand, opinion poll support for the Labour party leaps from 24 percent to 37 percent in three weeks after the appointment of 37-year-old Jacinda Ardern as leader on 1st August

Source: Google Trends, based on Google searches in August. Filled areas represent the popularity of each search term relative to the other shown on each day of the month.

Aug

Support staff at the Bank of England begin a three-day strike following a dispute over a "derisory" below-inflation one percent pay rise. It is the first time employees at the central bank have gone on strike in over 40 years.

Jordan's parliament abolishes a law that allows rapists to escape justice by marrying their victims. Similar laws were revoked by Tunisia in the past week and by Morocco in 2014, but are still in place in several Middle Eastern countries including Lebanon, Bahrain and Iraq.

Researchers from the Oregon Health and Science University reveal the successful removal of deadly gene mutations from modified human embryos. The scientists believe the procedure could eventually eliminate the transmission of genetic diseases such as cystic fibrosis.

US researchers present a faked Barack Obama speech at an LA tech event. The new technology presented can turn audio into realistic lip-synched video.

The lower house of Brazil's congress overwhelmingly votes against approving corruption charges against President Michel Temer despite a recent poll showing 81 percent of the population wanting the trial to go ahead. Temer was formally accused in June of taking bribes from a meatpacking company.

Wed 2nd

Moment that mattered

Artificial intelligence is used to fake a Barack Obama speech

MARTIN ROBBINS, tech writer and product manager at Factmata

Interview: MATTHEW LEE



When three University of Washington researchers presented their paper *Synthesizing Obama: Learning Lip Sync from Audio* at a Los Angeles conference hall on 2nd

August, the assembled delegates had been primed to expect fireworks. A video created by the trio to demonstrate the potential of their innovation had already caused a stir. *The Atlantic* speculated that the researchers' work will "make it impossible for you to believe what you see", while tech website *Boingboing* said the experiment might herald "the beginning of the end for video evidence."

The video presented by Supasorn Suwajanakorn, Steven M Seitz and Ira Kemelmacher-Shlizerman showed two clips of Barack Obama speaking simultaneously, side by side. But only one was real – the speech in the video on the right had never taken place. The researchers had used a neural network to study footage of Obama speaking and learn how his lips move when he makes particular sounds. The system then learned to animate mouth shapes on the fake Obama corresponding to old audio recordings of him – and of an impersonator who sounds like him.

"Seeing words coming out of the mouth of the fake Obama was a shock to the system," says Martin Robbins, a product manager at Factmata, which is working to develop new technology to help tackle the problem of misinformation and 'fake news' online. "I thought 'Oh god, this changes everything,'" he says.

Alamy USA/REDA/SHUTTERSTOCK

16. Appendix 16: eMotion entrance and exit surveys

Tröndle and Tschacher (2012) studied the phenomenology of visiting artworks in an exhibition, tracing the physiology of visitors via a biometric-tracking device (in this instance, a glove). Visitors were asked to take a survey prior and subsequent to their visit. The surveys are below.

eMotion entrance survey:

***eMotion* entrance survey**

Online questionnaire with interviewer. This survey is done before entering the exhibition.

Date and **time** will be automatically logged.

Visitor-number is given automatically.

Interviewer to please fill in (no reading aloud):

Name Interviewer

Language

1 ☐ German

2 ☐ English

=====

Interviewer: read questions aloud

E1. How often have you been in the Kunstmuseum St. Gallen?

1 ☐ this is my first visit (*go on with question E3*)

2 ☐ I have already been here before (*go on with question E1b*)

E1b. Number of previous visits: _____ times (approximately) (*go on with question E2*)

E2. For visitors who have visited the museum before: Have you already seen the exhibition 11:1?

1 ☐ yes, I have already seen it

2 ☐ no, this is my first visit

E3. Have you heard or read from the multi-media art project *eMotion* before coming here?

1 ☐ no, this is totally new to me

2 ☐ yes, I've heard/read something about it

3 ☐ yes, I already know about the project

E4. Did you come alone or with somebody else?

1 ☐ alone

2 ☐ with somebody else, but not with children under 14 years

3 ☐ with somebody else, amongst them children under 14 years

E5. What was the main reason for your visit here today? (*only one answer please*)

1 ☐ general interest in the Kunstmuseum St. Gallen

2 ☐ because of the person(s) accompanying me

3 ☐ interest for one specific artist, whose work(s) I can see today

4 ☐ interest for a specific work of art I would like to see today

5 ☐ the art research project *eMotion*

6 ☐ general interest in art

7 ☐ the prestige of the museum's collection

8 ☐ the exhibition *Born to be wild*

9 ☐ the topic of the exhibition *11:1*

10 ☐ as a tourist activity

11 ☐ other

E6. Was there a second reason for your visit? (only one answer please)

- ☐ 1 general interest in the Kunstmuseum St. Gallen
☐ 2 because of the person(s) accompanying me
☐ 3 interest for one specific artist, whose work(s) I can see today
☐ 4 interest for a specific work of art I would like to see today
☐ 5 the art research project *eMotion*
☐ 6 general interest in art
☐ 7 the prestige of the museum's collection
☐ 8 the exhibition *Born to be wild*
☐ 9 the topic of the exhibition *11:1*
☐ 10 as a tourist activity
☐ 11 other
☐ 12 no second reason

E7. Are you a professional in the fine arts?

- ☐ 1 no (go on with question E9)
☐ 2 yes (go on with question E8)

E8. What is your profession? (several answers possible)

- ☐ 1 I am an artist (professional)
☐ 2 I am an artist, not for a living but as a hobby
☐ 3 I teach fine arts (teacher, professor, etc.)
☐ 4 I report about the fine arts (journalist, art critique, etc.)
☐ 5 I sell works of art or make business with art (art manager, gallerist, etc.)
☐ 6 I work in an art museum (director, curator, etc.)
☐ 7 I am a student of the fine arts
☐ 8 I am working in another area connected to the fine arts (like restaurator or else)

Interviewer: for those visitors who are art professionals please don't read question E9 but fill in "working with art" and then go on with question E10.

E9. How deep is your interest in fine arts? (only one answer please)

- ☐ 1 I don't care much about fine arts
☐ 2 I am rather interested but not an expert
☐ 3 I am very much interested in art
☐ 4 I am working with art (*Interviewer: if interviewee is professional in art, please click here without asking the question*)

E10. What are you expecting from an art exhibition? (show card)

Please rate the following statements according to the scale 1=very important to me, 2=rather important, 3=neutral, 4=rather unimportant, 5=absolutely unimportant to me

I would like the exhibition to be thought-provoking.	1	2	3	4	5	01
I would like the exhibition design to be convincing.	1	2	3	4	5	02
I would like to enjoy the silence of the museum space.	1	2	3	4	5	03
I would like to improve my understanding of fine arts with the exhibition.	1	2	3	4	5	04
I would like to have a nice time with my family and/or friends.	1	2	3	4	5	05
I would like to be part of the exhibition with all my senses.	1	2	3	4	5	06
I would like to experience a deep connection to the art that is shown.	1	2	3	4	5	07
I would like to see something familiar, something I already know.	1	2	3	4	5	08
I would like to experience the beauty of the artworks.	1	2	3	4	5	09
I would like to be entertained.	1	2	3	4	5	10
I would like to be surprised by new impressions.	1	2	3	4	5	11
I would like to see well known artworks.	1	2	3	4	5	12

E11. Art employs many features that attempt to draw attention from the viewer. Which of the following is the most important for you? (show card)

Please rate the following statements according to the scale 1=very important aspect, 2=important aspect, 3=neutral, 4=rather unimportant aspect, 5=unimportant aspect, 6=don't know

composition of the artwork	1	2	3	4	5	6	01
its importance within the context of art history	1	2	3	4	5	6	02
beauty of the artwork	1	2	3	4	5	6	03
artistic technique of the artwork	1	2	3	4	5	6	04
content of the artwork	1	2	3	4	5	6	05
presentation of the artwork inside the exhibition space	1	2	3	4	5	6	06
the artist	1	2	3	4	5	6	07
connection to other artworks in the exhibition	1	2	3	4	5	6	08
liking the artwork in general	1	2	3	4	5	6	09

E12. Which of the following art forms do you like?

Please rate the following art forms according to the scale 1=like it very much, 2=like it, 3=neutral, 4=don't really like it, 5=don't like it at all, 6=don't know

paintings	1	2	3	4	5	6	01
drawings	1	2	3	4	5	6	02
photography	1	2	3	4	5	6	03
video	1	2	3	4	5	6	04
performance	1	2	3	4	5	6	05
sculpture	1	2	3	4	5	6	06
installation	1	2	3	4	5	6	07
sound	1	2	3	4	5	6	08

E13. How well do you know the following artists, artworks and styles?

Please rate your knowledge according to the scale 1=I know them well, 2=I've heard about them and 3=I don't know them.

Taeuber-Arp	1	2	3	01
Futurisms	1	2	3	02
Pitlinsky	1	2	3	03
Campbell's Condensed Tomato Soup (A. Warhol)	1	2	3	04
Minimal Art	1	2	3	05
Eléments mécaniques (F. Léger)	1	2	3	06

E14. We will now submit you a list of seven pairs of adjectives. They will give us a hint of how you are feeling here and now. Please rank yourself within the two extremes.

(show card)

	1	2	3	4	5		
interested						uninterested	01
tired						fresh	02
concentrated						unconcentrated	03
weak						strong	04
relaxed						tense	05
eager to learn						idle	06
angry						friendly	07

E15. How would you characterize the importance of the Kunstmuseum St. Gallen?
From local to international

- 1 ☐ international
- 2 ☐ national
- 3 ☐ interstate
- 4 ☐ regional
- 5 ☐ local

E16. How often have you been in an art exhibition or art museum within the last 12 months?

_____ times

E17. What is your level of education?
(current or in progress) *(only one answer please)*

- 1 ☐ elementary/secondary school, O-Level (UK)
- 2 ☐ apprenticeship
- 3 ☐ A-Level (UK), high school (US)
- 4 ☐ graduate studies: sciences/engineering
- 5 ☐ graduate studies: humanities/social sciences
- 6 ☐ graduate studies: arts, cultural sciences

E18. Your occupation?

Only one answer please. When several occupations are named, please ask for the main one.

- 1 ☐ worker/employee
- 2 ☐ middle management/junior executive
- 3 ☐ senior manager, senior executive
- 4 ☐ freelance, self employed
- 5 ☐ artist
- 6 ☐ schoolboy/schoolgirl, trainee, apprentice
- 7 ☐ college/university student
- 8 ☐ teacher
- 9 ☐ housewife, homemaker
- 10 ☐ retiree, pensioner
- 11 ☐ unemployed
- 12 ☐ other

E19. Your age:

_____ years

E20. Your country of origin:

- 1 ☐ Switzerland, canton : _____
- 2 ☐ Germany, Austria, Liechtenstein
- 3 ☐ Italy, France
- 4 ☐ another country: _____

=====

Interviewer: please fill in without asking

E21. Gender:

- 1 ☐ female
- 2 ☐ male

Did the interviewee drink Coffee, Tea, Coke or something similar within the last half hour?

- 1 ☐ yes
- 2 ☐ no

Did the interviewee smoke within the last half hour?

- 1 ☐ yes
- 2 ☐ no

Room temperature (entrance): _____ °C

eMotion exit survey:

***eMotion* exit survey**

Online survey without Interviewer. The visitor fills in the questionnaire at the end of his/her visit and after giving back the data-glove.

Information given in italic characters does not appear on the survey screen. It serves for a better understanding of this written/printed version of the questionnaire.

The adequate language is set automatically.

Assistant please fill in:

Visitor-number _____

Situation/week

- ☐ Pretest (5th - 7th June)
- ☐ Situation 0 (9th - 28th June)
- ☐ Situation 1 (30th June - 12th July)
- ☐ Situation 2 (14th - 26th July)
- ☐ Situation 3 (11th - 16th August)
- ☐ Control group (3rd - 9th August)

Visitor with glove

- ☐ yes
- ☐ no

=====

For the visitor to fill in

Now you have completed your visit of the exhibition, we would like to ask you some questions about it.

We would like you to answer the questions as spontaneously as possible, without thinking too long about the answers. This is all about your own perception. There are no right or wrong answers as we are interested in your own subjective opinion. To answer the questions, please click on the circle next to the adequate answer or fill in the table line-by-line by clicking on the circle of the chosen row.

A1. Walking through the exhibition, did you discuss the artworks with anyone?

- ☐ very often
- ☐ often
- ☐ sometimes
- ☐ seldom
- ☐ not really
- ☐ no, I didn't

A2. In this exhibition „11:1 Eleven collections for one museum“, which of the following statements fits best your own experience?

scale 1=absolutely agree, 2=agree, 3=partly agree, 4= don't really agree, 5=strongly disagree, 6=don't know

This exhibition was very thought-provoking.	1	2	3	4	5	6	01
The exhibition design was convincing for me.	1	2	3	4	5	6	02
I enjoyed the silence of the museum space.	1	2	3	4	5	6	03
The exhibition improved my understanding of the fine arts.	1	2	3	4	5	6	04
I had a nice time with my family and/or friends.	1	2	3	4	5	6	05
All of my senses were open and alert as I entered the exhibition.	1	2	3	4	5	6	06
I experienced a deep connection to the art I saw in the exhibition.	1	2	3	4	5	6	07
I saw something familiar, something I already knew.	1	2	3	4	5	6	08
I experienced the beauty of the artworks.	1	2	3	4	5	6	09
The exhibition was entertaining.	1	2	3	4	5	6	10
I was surprised by new impressions.	1	2	3	4	5	6	11
I saw famous artworks.	1	2	3	4	5	6	12

A3. How well do you know the following artists, artworks and styles?

Please rate your knowledge according to the scale

1=I know them well, 2=I've heard about them, 3=I don't know them.

Taeuber-Arp	1	2	3	01
Futurism	1	2	3	02
Pitlinsky	1	2	3	03
Campbell's Condensed Tomato Soup (A. Warhol)	1	2	3	04
Minimal Art	1	2	3	05
Eléments mécaniques (F. Léger)	1	2	3	06

A4. You have just seen the exhibition „11:1 Eleven collections for one museum“. How do you rate the following aspects of it?

scale 1=excellent, 2=good, 3=satisfactory, 4=fair, 5=poor, 6=don't know

the exhibition on the whole	1	2	3	4	5	6	1
the choice of artworks	1	2	3	4	5	6	2
the arrangement of the artworks	1	2	3	4	5	6	3
the labelling of the artworks	1	2	3	4	5	6	4
the information given about the artworks	1	2	3	4	5	6	5
the premises	1	2	3	4	5	6	6
the opportunities to sit down	1	2	3	4	5	6	7

You have been carrying several electronic devices with which we could do some measurements during your presence in the exhibition. We now have a few questions relating to the recorded data.

A5. What were you doing in the position of the exhibition, where you spent the longest time?

(check any that apply)

- ☐ 1 I had a close look at one of the artworks
- ☐ 2 I was discussing one of the artworks with somebody else
- ☐ 3 I was talking to somebody, but not about the artworks
- ☐ 4 I had a rest
- ☐ 5 I was reading the labels or some texts
- ☐ 6 I was taking in the atmosphere of the room
- ☐ 7 other

The following questions are recurrent for each work of art shown on the screen. Up to seven artworks are relevant for one questionnaire. In most of the exhibition situations there would be six artworks. Three of them are specific to each visitor according to his/her measured data. Those are the works where he/she stayed longest (duration) and had the highest peaks of arousal, both cognitive (measured heart-rate) and emotionally (measured GSR). The three or four other works are chosen by the team according to its own research criteria. These chosen works remain the same for every visitor during one exhibition situation. Should one of the measured work overlap with one of the chosen ones, it will only be asked once. Numbering information: in the following four questions dedicated to the works of art, the letter "X" is used as a generic labelling instead of the actual number of the artworks.

(picture of work X appears on the screen)

AX-1 Do you remember this artwork in the exhibition?

- ☐ 1 yes, I do remember it well
- ☐ 2 I remember it vaguely
- ☐ 3 no, I can't remember it (go on with next work of art)

AX-2 What do you personally think of the following aspects of this artwork?

Please rate according to the scale 1=excellent, 2=good, 3=satisfactory, 4=fair, 5=poor, 6=don't know

content/topic	1	2	3	4	5	6
artistic technique	1	2	3	4	5	6
composition	1	2	3	4	5	6
beauty	1	2	3	4	5	6
the artist	1	2	3	4	5	6
its importance in art history	1	2	3	4	5	6
presentation of the artwork (hanging, scenography)	1	2	3	4	5	6
connection to the other artworks of the exhibition	1	2	3	4	5	6

AX-3 This artwork...

scale 1=absolutely agree, 2=agree, 3=partly agree, 4= don't really agree, 5=strongly disagree, 6=don't know

... pleased me, I liked it.	1	2	3	4	5	6
... made me laugh.	1	2	3	4	5	6
... surprised me.	1	2	3	4	5	6
... made me think.	1	2	3	4	5	6
... moved me emotionally.	1	2	3	4	5	6
... frightened me.	1	2	3	4	5	6
... made me angry.	1	2	3	4	5	6
... made me happy.	1	2	3	4	5	6
... made me sad.	1	2	3	4	5	6

AX-4 These two pairs of characteristics will help us to understand what effect this artwork had on you. Please rate the impression the artwork made on you between the two alternatives. Information: „dominant“ means in this case an artwork that would be considered important or left a strong impression. Artworks which were unnoticed, simple or plain for example are considered to be „not dominant“.

	1	2	3	4	5		
activating, stimulating						soothing, relaxing	1
dominant, strong						not dominant, weak	2

Next work of art, the same questions AX-1 till AX-4 are asked again.

Caution: For Work 7 (A label Level by Nedko Solakov), Question AW7-1 is different from the usual formulation. All other questions remain the same for this work)

AW7-1 There are comments and little scribbled drawings on the walls throughout the exhibition. Is this art in your opinion?

- ☐ yes, I considered them to be artworks.
☐ no, I did not consider them to be art.
☐ I didn't look closely at them (go on to Question A6)

A6 One last question: Would you agree to the following statements about the art research project eMotion? Scale 1=yes, 1=partly, 3=no

I am interested in analysing my own museum experience.	1	2	3	1
I felt I was being overly observed.	1	2	3	2
The electronic devices on my wrist and hand were annoying.	1	2	3	3
This survey was tiresome.	1	2	3	6
Taking part in the project eMotion influenced my perception of the artworks.	1	2	3	4

Thank you very much for helping us and participating in the eMotion research project. We now hope that you will enjoy the interesting and stimulating media art work that makes use of the collected, realtime data from the exhibition.

17. Appendix 17: List of participants

Below is the list of participants with false names, the element of the study they participated in, and demographic information.

Participant	Method	Demographic information
‘Joe’	Interview (with E4 Empatica device)	35-year-old married father, white British, full-time professional
‘Eva’	Interview (with E4 Empatica device)	80-year-old widowed mother, white British, retired
‘Andrew’	Interview (with E4 Empatica device)	61-year-old married father, white British, unemployed
‘Martha’	Interview (with E4 Empatica device)	58-year-old married mother, white British, full-time professional
‘Samuel’	Interview (with E4 Empatica device)	53-year-old married father, white British, full-time professional
‘Lucy’	Interview (with E4 Empatica device)	29-year-old married mother, white British, full-time professional
‘Ben’	Interview (without E4 Empatica device or magazine interaction)	30s, single male white British full-time professional
‘Charlie’	Interview (without E4 Empatica device or magazine interaction)	40s, white British female, full-time professional (marital status unknown)
‘Dan’	Interview (without E4 Empatica device or magazine interaction)	50s, white British, full-time professional (marital status unknown)
‘Craig’	Interview (without E4 Empatica device or magazine interaction)	40s, white British married male, full-time professional
‘Freddie’	Interview (without E4 Empatica device or magazine interaction)	40s, white British married father-of-two, full-time professional
‘Jess’	Interview (without E4 Empatica device or magazine interaction)	50s, white British divorced female, full-time professional
‘Wes’	Interview (without E4 Empatica device or magazine interaction)	38, white British single male (expat living in Japan), self-employed professional
‘Leanne’	Interview (without E4 Empatica device or	48, white British female, self-employed professional (marital status unknown)

	magazine interaction)	
‘Megan’	Interview (without E4 Empatica device or magazine interaction)	30s, white British married, mother of four, unemployed
‘Jon’	Interview (without E4 Empatica device or magazine interaction)	40s, white British married father of one, full-time professional
‘Annabel’	Interview (without E4 Empatica device)	52-year-old single mother, white British, full-time professional
‘Elsbeth’	Interview (without E4 Empatica device)	36-year-old married mother, white British, full-time office administrator
‘Frida’	Interview (without E4 Empatica device) and focus group 3	39-year-old married mother, white Canadian, full-time professional
‘Spencer’	Interview (without E4 Empatica device)	60- ‘something’ widowed father, white British, retired
‘Beverly’	Focus group 1	20-year-old female undergraduate student, mixed-race British
‘Jennifer’	Focus group 1	20-year-old female undergraduate student, white British
‘Joanna’	Focus group 1	19-year-old female undergraduate student, black British
‘Wing Chi’	Focus group 1	19-year-old female undergraduate student, black British
‘Vicky’	Focus group 1	19-year-old female undergraduate student, white British
‘Sally’	Focus group 1	20-year-old female undergraduate student, black British
‘Margaret’	Focus group 1	20-year-old female undergraduate student, white British
‘Louise’	Focus group 1	19-year-old female undergraduate student, white British
‘Linda Ann’	Focus group 1	20-year-old female undergraduate student, white British
‘Liza’	Focus group 2	41-year-old married mother, white British, full-time professional
‘Annalise’	Focus group 2	38-year-old married mother, white British, part-time skilled

‘Frank’	Focus group 2 and 3	38-year-old married father, white British, self-employed professional
‘Morgan’	Focus group 2 and 3	42-year-old married mother, white Canadian, public services

References

ABC (ND) ABC [Online]. Available at: <ABC.org> [Accessed 20 May 2022].

ABC (2022) Radio Times [Online]. Available at:
<<https://www.abc.org.uk/product/2112>> [Accessed 4 July 2022].

Achar, C., So, J., Agrawal, N. and Duhachek, A. (2016) What we feel and why we buy: the influence of emotions on consumer decision-making. *Current Opinion in Psychology*, 10: p166-170.

Acharya, A.S., Prakash, A., Saxena, P. and Nigam, A. (2013) Sampling: Why and how of it. *Indian Journal of Medical Specialties*, 4(2): p330-333.

Ahmed, S. (2006) *Queer Phenomenology: Orientations, Objects, Others*. New York, USA: Duke University Press.

Alase, A. (2017) The Interpretative Phenomenological Analysis (IPA): A Guide to a Good Qualitative Research Approach. *International Journal of Education & Literacy Studies*, 5(2): p9-19.

Ambrose, G. and Harris, P. (2006) *Print & Finish*. West Sussex, UK: AVA Publishing.

Ashworth, P. (2015) Conceptual Foundations of Qualitative Psychology. In: Smith, J.A. (ed) *Qualitative Psychology: A Practical Guide to Research Methods* (3rd ed). London: Sage Publications p4-24.

Atwood, M. (2000) *The Blind Assassin*. London: Bloomsbury.

Audit Bureau of Circulation (ND) *Audit Bureau of Circulation* [Online]. Available from: <<http://www.abc.org.uk>> [Accessed 27 June 2016].

Baldrige, M. (2018) *Instead of abandoning print, the 119-year-old MIT Technology Review is doubling down on it* [Online]. Available from:
<<http://www.niemanlab.org/2018/06/instead-of-abandoning-print-the-119-year-old-mit-technology-review-is-doubling-down-on-it/>> [Accessed 27 June 2018].

Barbour, R.S. and Kitzinger, J. eds (1999) *Developing Focus Group Research*. London: Sage Publications.

Barthelemy, S., Bethell, M., Christiansen, T., Jarsvall, A. and Koinis, K., 2011. *The future of print media*. Chicago: World Newsmedia Research Group.

Bartmanski, D. and Woodward, I. (2013) The Vinyl: The analogue medium in the age of digital reproduction. *Journal of Consumer Culture*, 15(1): p3-27.

Bengtsson, S. and Johansson, S. (2021). A phenomenology of news: understanding news in digital culture. *Journalism*, 22(11): p2873-2889.

Bird, S. E. (2009) The future of journalism in the digital environment. *Journalism*, 10(3): p293–295.

- Blackham, H.J. (1952) *Six Existentialist Thinkers*. London: Routledge.
- Bradley, M.M. and Lang, P.J. (1994) Measuring emotion: The self-assessment manikin and the semantic differential. *Journal of Behavior Therapy and Experimental Psychiatry* 25(1): p49-59.
- Bradshaw, P. (2017) *The Online Journalism Handbook* (2nd ed). London: Routledge.
- Bradshaw, P. and Rohumaa, L. (2011) *The Online Journalism Handbook: Skills to Survive and Thrive in the Digital Age*. London: Routledge.
- Braithwaite, J.J., Watson, D.G., Jones, R. and Rowe, M. (2015) *A Guide for Analysing Electrodermal Activity (EDA) & Skin Conductance Responses (SCRs) for Psychological Experiments, Technical Report, 2nd version*. Selective Attention & Awareness Laboratory (SAAL) Behavioural Brain Sciences Centre. Birmingham: University of Birmingham.
- Bramley, B. and Eatough, V. (2005) The experience of living with Parkinson's disease: An interpretative phenomenological analysis case study. *Psychology & Health*, 20(2): p223-23.
- Braun, V. and Clarke, V. (2013) *Successful Qualitative Research: A practical guide for beginners*. London: Sage Publications.
- Briggs, A. and Burke, P. (2020) *A Social History of the Media* (4th ed). Cambridge, UK: Polity Press.
- Brinkmann, S. and Kvale, S. (2018). *Doing Interviews* (2nd ed). London: Sage Publications.
- Buck-Morss, S. (1992) Aesthetics and Anaesthetics: Walter Benjamin's Artwork Essay Reconsidered. *The MIT Press*, 62: p3-41.
- Bury, L. (2013) *Young adult readers prefer printed eBooks* [Online]. Available from: <<https://www.theguardian.com/books/2013/nov/25/young-adult-readers-prefer-print-ed-ebooks>> [Accessed November 2021].
- Butler, J. L. (2016) Rediscovering Husserl: Perspectives on the Epoché and the Reductions. *The Qualitative Report*, 21(11): p2033-2043. <https://doi.org/10.46743/2160-3715/2016.2327>.
- Cain, S. (2017) *eBook sales continue to fall as younger generations drive appetite for print* [Online]. Available from: <<https://www.theguardian.com/books/2017/mar/14/ebook-sales-continue-to-fall-nielsen-survey-uk-book-sales>> [Accessed 30 Jun 2019].
- Carman, T. (2008) *Merleau-Ponty*. London: Routledge.
- Carr, N. (2010) *The Shallows: How the internet is changing the way we read, think and remember*. London: Atlantic Books.

Carter, T., Seah, S.A., Long, B., Drinkwater, B. and Subramanian, S. (2013) UltraHaptics: multi-point mid-air haptic feedback for touch surfaces. In *Proceedings of the 26th annual ACM symposium on User interface software and technology*, p505-514.

Carvalho, F.M. and Spence, C. (2019) Cup colour influences consumers' expectations and experience on tasting specialty coffee. *Food Quality and Preference*, 75: p157-169.

Carvalho, F.M., Moksunova, V. and Spence, C. (2020) Cup texture influences taste and tactile judgments in the evaluation of specialty coffee. *Food Quality and Preference*, 81: p103841.

Charmaz, K. (2006) *Constructing Grounded Theory*. London: Sage Publications.

Charmaz, K. (2014) *Constructing Grounded Theory*, (2nd ed). London: Sage Publications.

Check my postcode (ND) YO10 5AQ [Online]. Available from: <<https://checkmypostcode.uk/yo105aq#.YQlgMFNKhN0>> [Accessed 3 August 2021].

Chen, C. (2022) *How to deal with retail's returns frenzy* [Online] Available from: <https://www.businessoffashion.com/articles/retail/how-to-deal-with-retails-returns-frenzy/> [Accessed 14 Feb 2022].

Cheskin, L. (1957) *How To Predict What People Will Buy*. New York: Liveright.

Cheskin, L. (1972) *Marketing Success: How to Achieve It*. Massachusetts: Cahnern Books.

Christensen, C.M. (1997) *The innovator's dilemma: when new technologies cause great firms to fail*. Brighton, MA: Harvard Business School Press.

Cocozza, P. (2017) *How eBooks lost their shine: 'Kindles now look clunky and unhip'* [Online]. Available from: <<https://www.theguardian.com/books/2017/apr/27/how-ebooks-lost-their-shine-kindles-look-clunky-unhip->> [Accessed 30 June 2017].

Cohen, L., Manion, L. and Morrison, K. (2007) *Research Methods in Education* (6th ed). London: Routledge.

Connell, I. (1998) Mistaken Identities: Tabloid and Broadsheet News Discourse. *Javnost - The Public*, 5(3): p11-31.

Couldry, N. (2003) *Media Rituals: A Critical Approach*. London: Routledge.

Cox, H. and Mowatt, S. (2012) Vogue in Britain: Authenticity and the creation of competitive advantage in the UK magazine industry. *Business History*, 54(1): p67-87.

Creswell, J.W. (2014) *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*, (4th ed). London: Sage Publications.

Creswell, J.W. and Creswell, J.D. (2018) *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*, (5th ed). London: Sage Publications.

Crouquet, A. (2015) *A unique experience at the Tate Sensorium Art Exhibition* [Online]. Available from:
<<http://blog.luxuryhotelsgroup.com/unique-experience-tate-sensorium-art-exhibition/>> [Accessed 16 March 2019].

Crucianelli, L, Wheatley, L, Filippetti, M.L., Jenkinson, P.M., Kirk, E. and Fotopoulou, A. (2018) The mindedness of maternal touch: An investigation of maternal mind-mindedness and mother-infant touch interactions. *Developmental Cognitive Neuroscience*, 35: p47-56.

Curran, J. (2010) The Future of Journalism. *Journalism Studies*, 11(4): p464-476.

Curran, J. and Seaton, J. (1997) *Power Without Responsibility: Press, Broadcasting and the Internet in Britain: Press and Broadcasting in Britain*, (5th ed). London: Routledge.

Currie-Sivek, S. and Bloyd-Peshkin, S. (2016) Where do facts matter? The Digital Paradox in Magazines' Fact-Checking Practices. In: *Mapping the Magazine conference, 2016, University of Sydney*.

Deleuze, G. (2003) (translated by Smith, D.W.) *Francis Bacon: The logic of sensation*. London: Continuum.

Demir, S. B., and Pismek, N. (2018) A convergent parallel mixed-methods study of controversial issues in social studies classes: A clash of ideologies. *Educational Sciences: Theory & Practice*, 18: 119–149.
<http://dx.doi.org/10.12738/estp.2018.1.0298>.

Duranti, A. (2010) *Husserl, intersubjectivity and anthropology*. *Anthropological Theory*, 10(1): p1–20.

Eatough, V. and Smith, J. (2008) Interpretative Phenomenological Analysis. In: *The Sage Publications Handbook of Qualitative Research in Psychology*. London: Sage Publications.

Eisenstein, E.L. (1979) *The Printing Press as an Agent of Change*. Cambridge, UK: Cambridge University Press.

Elliott, J., Knight, A. and Cowley, C. (eds) (2001) *Oxford Dictionary and Thesaurus III*. Oxford: Oxford University Press.

eMotion (ND) *Mapping Museum Experience* [Online]. Available from:
<<https://mapping-museum-experience.com/?lang=en>> [Accessed 30 July 2021].

Empatica (2019) *What should I know to use EDA data in my experiment* [Online]. Available from:

<<https://support.empatica.com/hc/en-us/articles/203621955-What-should-I-know-to-use-EDA-data-in-my-experiment->> [Accessed 1 July 2019].

Empatica (ND) *E4 Wristband* [Online]. Available from: <<https://www.empatica.com/research/e4/>> [Accessed 13 July 2018].

Empatica (ND) *Monitoring the Autonomic Nervous System* [Online]. Available from: <<https://www.empatica.com/research/science/>> [Accessed 16 March 2019].

Erlich, M. (1996) Using ritual to study journalism. *Journal of Communication Inquiry*, 20(2): p3-17.

Etherington, K. (2004) *Becoming a Reflexive Researcher - Using Our Selves in Research: Using Our Selves in Research* [Online]. London: Jessica Kingsley Publishers, London. Available from: <<https://ebookcentral-proquest-com.yorksj.idm.oclc.org/lib/yorksj/reader.action?docID=290568>>. [Accessed 31 March 2021].

F-reading-pattern eyetracking (2008) [Online image]. Available from: <<https://www.nngroup.com/articles/f-shaped-pattern-reading-web-content-discovered/>> [Accessed 6th February 2019].

Festinger, L. (1957) *A Theory of Cognitive Dissonance*. Redwood City: Stanford University Press.

Fleming, C., Hemmingway, E., Moore, G. and Welford, D. (2006) *An Introduction to Journalism*. London: Sage Publications.

Flood, A. (2014) *Readers absorb less on Kindles than on paper* [Online]. Available from: <<https://www.theguardian.com/books/2014/aug/19/readers-absorb-less-kindles-paper-study-plot-ereader-digitisation>> [Accessed 10 February 2017].

Flying Object (ND) *Case Study - Tate: Innovation inspires global press coverage* [Online]. Available from: <<https://www.weareflyingobject.com/sensorium>> [Accessed 26 August 2018].

Forsdick, S. (2018) *'People thought we were crazy' to introduce paywall,' says Times head of digital as he points to 'smart' subscriptions for future of paid content* [Online]. <<https://www.pressgazette.co.uk/people-thought-we-were-crazy-to-introduce-paywall-says-times-head-of-digital-as-he-points-to-smart-subscriptions-for-future-of-paid-content/>> [Accessed 20 April 2019].

Fortunati, L., Taipale, S. and Farinosi, M. (2015) Print and online newspapers as material artefacts. *Journalism: Theory, Practice and Criticism*, 6(6): p830-846.

Franklin, B. (2008) The Future of Newspapers. *Journalism Practice*, 2(3): p306-317.

Furuichi, K. and Worsley, M. (2018) Using physiological responses to capture unique idea creation in team collaborations. In: *Companion of the 2018 ACM Conference on Computer Supported Cooperative Work and Social Computing*

(CSCW '18). New York: Association for Computing Machinery, p369–372.
DOI:<https://doi.org/10.1145/3272973.3274099>.

Gates, B. (1996) *Content is King* [Online].
<<http://web.archive.org/web/20010126005200/http://www.microsoft.com/billgates/columns/1996essay/essay960103.asp>> [Accessed 6 September 2017].

Gerlach, J. and Buxmann, P. (2011) *Investigating the acceptance of electronic books - the impact of haptics dissonance on innovation adoption* [Online]. In: *ECIS 2011, Helsinki, Finland: Jun 2011*. Available at:
<<https://aisel.aisnet.org/ecis2011/141/>> [Accessed 16 June 2014].

Goldsmith, K. (2011) *Uncreative Writing*. New York: Columbia University Press.

Goulding, C. (2005) Grounded theory, ethnography and phenomenology: A comparative analysis of three qualitative strategies for marketing research. *European Journal of Marketing*, 39(3): p294-308.

Graham, G., Greenhill, A., Shaw, D. and Vargo, C.J. (2015) *Content is King: News Media and Management in the Digital Age*. London: Bloomsbury.

Grazia (2022) *Grazia announces Victoria Beckham as global cover star across 14 international editions* [Online]. Available at:
<<https://www.bauermedia.co.uk/news/grazia-announces-victoria-beckham-as-global-cover-star-across-14-international-editions>> [Accessed 7 July 2022].

Green, J. and Hart, L. (1999) The impact of context in data. In: Barbour, R.S. and Kitzinger, J. (eds) *Developing Focus Group Research*. London: Sage Publications.

Groot Kormelink, T. and Costera Meijer, I. (2019) Material and sensory dimensions of everyday news use. *Media, Culture & Society*, 41(5): p637-653.

Haeberle, H. and Lumpkin, E. A. (2008). Merkel Cells in Somatosensation. *Chemosensory Perception*, 1(2): p110-118.

Hakner, J. (2018) *Sussex scientists bring the art of touch to the Tate* [Online]. Available from: <<http://www.sussex.ac.uk/broadcast/read/31617>> [Accessed 13 July 2018].

Hammersley, M. (2010) *Methodology: Who Needs It?* London: Sage Publications.

Hammersley, M. and Traianou, A. (2012) *Ethics in Qualitative Research: Controversies and Contexts*. London: Sage Publications.

Hammett, E. (2016) *NRS PADD: Magazine readers still prefer print* [Online]. Available from:
<<http://mediatel.co.uk/newsline/2016/11/30/nrs-padd-magazine-readers-still-prefer-print/>> [Accessed 14 November 2016].

Harding, S. (ed) (1987) *Feminism and Methodology: Social Science Issues*. Bloomington: Indiana University Press.

Hardy, M. and Bryman, A. (eds) (2004) *Handbook of Data Analysis*, London: Sage

Publications.

Hayles, N. K. (2008) *Electronic Literature: New Horizons for the Literary*. Indiana: University of Notre Dame Press.

Hayles, N. K. (2012) *How We Think : Digital Media and Contemporary Technogenesis*. Chicago: University of Chicago Press. Available from: ProQuest Ebook Central. [3 March 2023].

Henry, G. T. (1990) *Practical sampling*. London: Sage Publications.

Herssens, J. and Heylighen, A. (2010) Haptic design research: a blind sense of place. *ARCC/EAAE 2010 International Conference on Architectural Research, 23-26 Jun 2010, Washington*.

Hoad, T. (ed) (2003) *The Concise Oxford Dictionary of English Etymology*. Oxford: Oxford University Press.

Hollander, B.A., Krugman, D.M., Reichert, T. and Adam Avant, J. (2011) The E-Reader as Replacement for the Print Newspaper. *Publishing Research Quarterly*, 27(2): p126-134.

Holliday, A. (2007) *Doing and Writing Qualitative Research*, (2nd ed). London: Sage Publications.

Husband, G. (2020) *Ethical Data Collection and Recognizing the Impact of Semi-Structured Interviews on Research Respondents*. *Education Sciences*, 10(8): p206.

Jabr, F. (2013) *The Reading Brain in the Digital Age: The Science of Paper versus Screens* [Online]. Available from: <<https://www.scientificamerican.com/article/reading-paper-screens/>> [Accessed 13 July 2016].

Jackson, J. (2016) *Independent's digital audience drops to below level it was before paper closed* [Online]. Available from: <<https://www.theguardian.com/media/2016/jun/16/independents-digital-audience-drops-to-below-level-it-was-before-paper-closed>> [Accessed 27 June 2016].

Jansson-Boyd, C.V. (2011a) The Role of Touch in Marketing: An Introduction to the Special Issue. *Psychology & Marketing*, 28(3): p219–221.

Jansson-Boyd, C.V. (2011b) Touch matters: exploring the relationship between consumption and tactile interaction. *Social Semiotics*, 21(4): p531-546.

Jedwab, R., Christiaensen, L. and Gindelsky, M. (2017) Demography, urbanization and development: Rural push, urban pull and...urban push? *Journal of Urban Economic*, 98: p6-16.

Jones L. (2018) *Haptics*. Cambridge, MA: MIT Press.

Jones, J. and Salter, L. (2012) *Digital Journalism*. London: Sage Publications.

- Kampfer, K., Leischnig, A., Ivens, B.S. and Spence, C. (2017) Touch-flavor transference: Assessing the effect of packaging weight on gustatory evaluations, desire for food and beverages, and willingness to pay. *PloS one*, 12(10): p186121.
- Khan, A.M., Lawo, M. (2016). Recognizing Emotion from Blood Volume Pulse and Skin Conductance Sensor Using Machine Learning Algorithms. In: Kyriacou, E., Christofides, S., Pattichis, C. (eds) *XIV Mediterranean Conference on Medical and Biological Engineering and Computing 2016*. IFMBE Proceedings.
- Kologeski T.K., Strapasson, N.R., Schneider, V. and Renosto, J.M. (2017) Skin-to-skin contact of the newborn with its mother in the perspective of the multiprofessional team. *Journal of Nursing*, 11(1): p94-101.
- Krishna, A. (2012) An integrative review of sensory marketing: Engaging the senses to affect perception, judgement and behaviour. *Journal of Consumer Psychology*, 22(3): p332-351.
- Krishna, A. (2013) *Customer Sense*. London: Palgrave Macmillan.
- Krishna, A. and Morrin, M. (2008) Does Touch Affect Taste? The Perceptual Transfer of Product Container Haptic Cues. *Journal of Consumer Research*, 34(6): p807-818.
- Krotoski, A. (2013) *Untangling the web: What the internet is doing to you*. London: Faber and Faber.
- Lanier, J. (2020) *You are not a gadget*. London: Penguin.
- Le Masurier, M. (2012) Independent magazines and the rejuvenation of print. *International Journal of Cultural Studies*, 15(4): p383-398.
- Le Masurier, M. (2015) What is slow journalism? *Journalism Practice*, 9(2): p138-152.
- Leader, D. (2016a) *How technology is changing our hands* [Online]. Available from: <<https://www.theguardian.com/books/2016/may/21/darian-leader-how-technology-changing-our-hands>> [Accessed 13 August 2018].
- Leader, D. (2016b) *Hands: What we do with them - and why*. London: Penguin Random House.
- Lederman, SJ and Jones, LA (2011) Tactile and Haptic Illusions. *IEEE Transactions on Haptics* 4, p273-294
- Lee, S.H., Workman, J.E., and Jung, K. (2017) The influence of need for touch and gender on Internet shopping attitudes among Korean consumers, *International Journal of Fashion Design, Technology and Education*, 10(2): p230-239, DOI: 10.1080/17543266.2016.1250287
- Legreco, M. (2015) Discourse Analysis. In: Mills, J. and Birks, M. (eds). *Qualitative Methodology: A Practical Guide*. London: Sage Publications.

- Lewis, P.J. and Adeney, R. (2014) Narrative Research. In: Mills, J. and Birks, M. (eds). *Qualitative Methodology: A Practical Guide*. London: Sage Publications.
- Linden, D.J. (2015) *Touch: The Science of Hand, Heart and Mind*. New York: Viking.
- Lindstrom, M. (2006) *Brand Sense: how to build powerful brands through touch, taste, smell, sight and sound*. London: Kogan Page.
- Lister, M. Dovey, J., Giddings, S., Grant, I. and Kelly, K. (eds) (2009) *New Media: A Critical Introduction*, (2nd ed). London: Routledge.
- Lyubomirsky, S. and Tucker, K.L. (1998) Implications of Individual Differences in Subjective Happiness for Perceiving, Interpreting, and Thinking About Life Events. *Journal of Motivation and Emotion*, 22(2): p155-186.
- McCormack, L. and Joseph, S. (2018) *A 9-Step Guide to Avoiding Pitfalls When Doing Interpretative Phenomenological Analysis (IPA)—IPA and the “Lived” Experience of Complex Trauma* [Online]. Available from: <https://methods.sagepub.com/case/interpretative-phenomenological-analysis-lived-experience-of-complex-trauma> [Accessed 24th April 2021].
- McCracken, E. (1993) *Decoding Women’s Magazines: From Mademoiselle to Ms.* New York: Macmillan.
- McLuhan, M. (1964) *Understanding Media*. London: Routledge.
- Majumdar, D., Banerji, P.K. and Chakrabarti, S. (2018) Disruptive technology and disruptive innovation: ignore at your peril! *Strategic Management*, 30(11): p1247-1255.
- March, A. (1994) *Usability: The New Dimension of Product Design* [Online]. Available from: <https://hbr.org/1994/09/usability-the-new-dimension-of-product-design> [Accessed 13 July 2018].
- Markham, A. (2017) Reflexivity: Some techniques for interpretative researchers [Online]. Available from: <https://annetmarkham.com/2017/02/reflexivity-for-interpretive-researchers/> [Accessed 31 March 21].
- Marks, L.U. (1999) *The Skin of the Film*. Durham: Duke University Press.
- Mathews, N. (2021) Print imprint: the connection between the physical newspaper and the self. *Journal of Communication Inquiry*, p1-15.
- Matthews, E. (2006) *Merleau-Ponty: A guide for the perplexed*. London: Continuum.
- May, T. and Perry, B. (2011). *Social research and reflexivity: Content, consequences and context*. London: Sage Publications.
- Maxwell, J.A. (1996) *Qualitative Research Design: An Interactive Approach*. London: Sage Publications.

- Mediatel (2018) *For the love of print* [Online]. Available from: <<https://mediatel.co.uk/newsline/2018/10/22/for-the-love-of-print/>> [Accessed 7 August 2019].
- Mertens, D. (1998) *Research Methods in Education and Psychology: Integrating Diversity with Quantitative and Qualitative Approaches*. London: Sage Publications.
- Michel, L. (1999) Combining Focus Groups and Interviews: Telling How It Is; Telling How It Feels. In: Barbour, R.S. and Kitzinger, J. (eds) (1999) *Developing Focus Group Research*. London: Sage Publications.
- Milhalj, M. and Podobnik, J. (2012) *Haptics for Virtual Reality and Teleoperation*. New York: Springer.
- Miller, V. (2008) New Media, Networking and Phatic Culture. *Convergence*, 14(4): p387–400. doi: [10.1177/1354856508094659](https://doi.org/10.1177/1354856508094659)
- Miller, V (2020) *Understanding Digital Culture*, (2nd ed). London: Sage Publications.
- Mills, J. (2014) Methodology and Methods. In: Mills, J and Birks, M (eds) (2014) *Qualitative Methodology: A Practical Guide*. London: Sage Publications.
- Mixam (ND) *Magazine quote* [Online]. Available from: <<https://mixam.co.uk/magazines>> [Accessed 14 July 2021].
- Moore, S. (2014) Digital orientations: “Ways of the hand” and practical knowing in media uses and other manual activities. *Mobile Media & Communication*, 2(2): p196–208.
- Moran, D. (2002) Editor’s introduction. In: Moran, D. and Mooney, T. (eds) (2002) *The Phenomenology Reader*. London: Routledge.
- Moran, K. (2020) *How people read online* [Online]. Available from: <<https://www.nngroup.com/articles/how-people-read-online/>> [Accessed 11 November 2021].
- Morrow, R., Rodriguez, A. and King, N. (2015) Colaizzi’s descriptive phenomenological method. *The Psychologist*, 28(8): p643-644.
- Mosely, T. (2016) *The Haptic and the Emerging Critical Discourse on Artists Books*. *Journal of Artists Books*, 39: p36-39.
- Moustakas, C. (1994) *Phenomenological research methods*. London: Sage Publications.
- Müller, J. and Christandl, F. (2019) Content is king – But who is the king of kings? The effect of content marketing, sponsored content & user-generated content on brand responses. *Computers in Human Behavior*, 96, p46-55.
- Murray, S.J. and Holmes, D. (2014) Interpretive Phenomenological Analysis (IPA) and the Ethics of Body and Place: Critical Methodological Reflections. *Journal of Human Studies*, 37: p15–30.

Newsworks (2016) *National newspapers enjoy 2.7 million uplift in June* [Online]. Available from: <http://www.newsworks.org.uk/Media-Centre/abc-national-newspapers-enjoy-over-2-million-uplift-in-june?utm_source=News%20Works&utm_medium=email&utm_campaign=7354179_NFN%2022%2F07%2F2016&utm_content=ABCintro&dm_i=1RGQ,4DMIR,L2XSN3,G2ZU1,1> [Accessed 18 July 2016].

Newsworks (2018) *Context matters* [Online]. Available at: <<https://www.newsworks.org.uk/research/context-matters/?>> [Accessed 22 April 2022].

Nielsen, J. (2006) *F-Shaped Pattern For Reading Web Content (original study)* [Online]. Available at: <<https://www.nngroup.com/articles/f-shaped-pattern-reading-web-content-discovered/>> [Accessed 1 July 2017].

Norman, D. and Nielsen, J. (ND) *The Definition of User Experience (UX)* [Online]. Available from: <<https://www.nngroup.com/articles/definition-user-experience/>> [Accessed 11 July 2019].

O'Connor, T. (2021) *Vanessa Kingori's Commercial Reboot of British Vogue* [Online]. Available from: <https://www.businessoffashion.com/articles/media/vanessa-kingoris-commercial-reboot-of-british-vogue?utm_campaign=Daily_Digest_250621&utm_content=intro&utm_medium=email&utm_source=newsletter_dailydigest> [Accessed 25 June 2021].

Oblak, T. (2005) The Lack of Interactivity and Hypertextuality in Online Media. *Gazette*, 67(1): p87–106.

Odell, A. (2019) *Fashion media is addicted to data* [Online]. Available from: <<https://www.businessoffashion.com/articles/professional/fashion-media-is-addicted-to-data>> [Accessed 18 May 2019].

Odile-Bernez, M. (2014). Comfort, the Acceptable Face of Luxury: An Eighteenth-Century Cultural Etymology. *Journal for Early Modern Cultural Studies*, 14(2): p3-21.

Odlyzko, A. (2001) Content is not king. *First Monday*, 6(2).

Office for National Statistics (2011) *2011 Census* [Online]. Available from: <<https://www.ons.gov.uk/census/2011census>> [Accessed 20 August 2021].

Oliver, P. (2012) *Succeeding with your literature review*. New York: McGraw-Hill.

Olivier, P. (2015) *Writing your Thesis* (3rd edition). London: Sage Publications.

Ollander, S., Godin, C., Campagne, A. and Charbonnier, S. (2016), A comparison of wearable and stationary sensors for stress detection. *IEEE International Conference on Systems, Man, and Cybernetics (SMC)*, p004362-004366.

Open University (2003) *Signals and Perceptions: The Science of the Senses*. Maidenhead: Open University Press.

Paley, J. (2016) *Phenomenology as qualitative research: a critical analysis of meaning attribution*. London: Routledge.

PAMCo (ND) PAMCo [Online]. Available from: <<https://pamco.co.uk/about-us/>> [Accessed 8 November 2018].

Pape, S. and Featherstone, S. (2006) *Feature Writing: A Practical Introduction*. London: Sage Publications.

Parisi, D (2008) Fingerbombing, or 'Touching is Good': The cultural construction of technologised touch, *Senses and Society*, Vol 3(3) 397-327.

Parisi, D. (2014) *Reach In and Feel Something: On the Strategic Reconstruction of Touch in Virtual Space*. *Animation: an interdisciplinary journal*, 9(2): p228–244.

Parisi, D. and Archer, J.E. (2017) *Making touch analog: The prospects and perils of a haptic media studies*. *New Media and Society*, 19(10): p1523–1540.

Parisi, D., Paterson, M. and Archer, J.E. (2017) Haptics media studies. *New Media and Society*, (SI): p1-10.

Paterson, M. (2007) *The Senses of Touch: Haptics, Affects and Technologies*. Oxford: Berg.

Paterson, M. (2017) On haptic media and the possibilities of a more inclusive interactivity. *New media and society*, 19(10): p1541–1562.

Peck, J. and Childers, T.L. (2003a) To Have and To Hold: The Influence of Haptic Information on Product Judgments. *Journal of Marketing*, 67: p35-48.

Peck, J. and Childers, T.L. (2003b) Individual differences in haptic information processing: the 'Need for Touch' scale. *Journal of Consumer Research*, 30: p430-442.

Peoples, K. (2021) *How to write a phenomenological dissertation: A step-by-step guide*. London: Sage Publications.

Pernice, K. (2017) *F-Shaped Pattern of Reading on the Web: Misunderstood, But Still Relevant (Even on Mobile)* [Online]. Available from: ,<https://www.nngroup.com/articles/f-shaped-pattern-reading-web-content/>. [Accessed 19 July 2018].

Pink, S. (2009) *Doing Sensory Ethnography*. London: Sage Publications.

Plotnik, R. (2017) Force, flatness and touch without feeling: Thinking historically about haptics and buttons. *New media & society*, 19(10): p1632–1652.

Polkinghorne, D.E. (2005) Language and meaning: data collection in qualitative research. *Journal of Counselling Psychology*, 52(2): p137-145.

Press Gazette (2007) *Newsagents stops delivering Sunday papers due to weight* [Online]. Available from: <<http://www.pressgazette.co.uk/newSage>

Publicationsnt-stops-delivering-sunday-papers-due-to-weight/> [Accessed 27 June 2016].

Probst, B. (2015) The Eye Regards Itself: Benefits and Challenges of Reflexivity in Qualitative Social Work Research. *Social Work Research*, 39(1): p37–48.

Pursey, T. and Lomas, D. (2018) Tate Sensorium: An experiment in multisensory immersive design. *The Senses and Society*, 13(3): p354-366.

Quarrell, O., Nance, M.A., Nopoulos, P., Paulsen, J.S., Smith, J.A. and Squitieri, F. (2013) Managing juvenile Huntington's disease. *Neurodegenerative Disease Management*, 3(3): p267-276.

Radio Times (ND) *About Radio Times* [Online]. Available at: <<https://www.radiotimes.com/about/>> [Accessed 6 Jul 2022].

Ragot, M., Martin, N., Em, S., Pallamin, N. and Diverrez, J.M. (2018) Emotion Recognition Using Physiological Signals: Laboratory vs. Wearable Sensors BT - Advances in Human Factors in Wearable Technologies and Game Design. *Applied Human Factors and Ergonomics*, p813 - 22.

Rajan, T. (2002) *Deconstruction and the Remainders of Phenomenology*. Redwood City: Stanford University Press.

Ramsey, C. (2006) *Introducing Reflective Learning*. Maidenhead: Open University Press.

Randall, D. (2000) *The Universal Journalist* (2nd ed). London: Pluto.

Randall, K. (2017) *Glamour magazine goes digital-first and cuts back print editions* [Online]. Available at: <<https://www.theguardian.com/uk-news/2017/oct/06/conde-nast-unveils-digital-first-future-for-glamour-magazine>> [Accessed 4 Jul 2022].

Reiter, S., Stewart, G. and Bruce, C. (2011) A strategy for delayed research method selection: deciding between grounded theory and phenomenology. *The Electric Journal of Business Research Methods*, 9(1): p135-146.

Reuters (2022) *Barry Diller-owned Dotdash ends print edition of six magazines* [Online]. Available at: <[https://www.reuters.com/business/media-telecom/barry-diller-owned-dotdash-ends-print-editions-six-magazines-2022-02-09/#:~:text=Feb%209%20\(Reuters\)%20%2D%20Dotdash.part%20of%20a%20digital%20push](https://www.reuters.com/business/media-telecom/barry-diller-owned-dotdash-ends-print-editions-six-magazines-2022-02-09/#:~:text=Feb%209%20(Reuters)%20%2D%20Dotdash.part%20of%20a%20digital%20push)> [Accessed 4 July 2022].

Rogers, E.M. (1995) *Diffusion of Innovations* (4th ed). New York: The Free Press.

Romdenh-Romluc, K. (2011) *Routledge Philosophy Guidebook to Merleau-Ponty and Phenomenology of Perception*. London: Routledge.

Rothkopf, E.Z. (1971) Incidental memory for location of information in text. *Journal*

of *Verbal Learning and Verbal Behaviour*, 10: p608-613.

Ruddick, G. (2017) *News magazines enjoy circulation boost while celebrity titles suffer* [Online]. Available from: <<https://www.theguardian.com/media/2017/aug/10/news-magazines-circulation-celebrity-private-eye-economist>> [Accessed 5 May 2019].

Sacharin, V., Schlegel, K. and Scherer, K. R. (2012) *Geneva Emotion Wheel rating study*. University of Geneva: Swiss Center for Affective Sciences.

Sartre, J.P. (1938) *Nausea*. London: Penguin.

Schaeffer, G.O. and Wertheimer, A. (2011) *The Right to Withdraw from Research*. Kennedy Institute of Ethics, 20(4): p329–352.

Scharrer, E. (2008) Media Exposure and Sensitivity to Violence in News Reports: Evidence of Desensitization. *Journalism and Mass Communication*, 85(2): p291-310.

Schubert, T.W., Zickfield, J.H., Seibt, B. and Fiske, A.P. (2016) Moment-to-moment changes in feeling moved match changes in closeness, tears, goosebumps and warmth: time-series analyses. *Cognition and Emotion*, 32: p174-184.

Schwartz, B. (2014) *Google Analytics: Visits Now Sessions & Unique Visitors Now Users* [Online]. Available from: <<https://www.seroundtable.com/google-analytics-sessions-users-18424.html>> [Accessed 27 June 2016].

Shirky, C. (2010) *Cognitive Surplus: Creativity and generosity in a connected age*. London: Penguin.

Silverman, D. (2013) *Doing Qualitative Research* (4th ed). London: Sage Publications.

Silverman, D. (2019) *Doing Qualitative Research* (6th ed). London: Sage Publications.

Simmons, J.A. and Benson, B.E. (2013) *The New Phenomenology: A philosophical introduction*. London: Bloomsbury.

Slow Journalism Company (ND) *Delayed Gratification* [Online]. Available from: <<https://www.slow-journalism.com/delayed-gratification-magazine>> [Accessed 16 May 2018].

Smith, J.A., Flowers, P. and Larkin, M. (2009) *Interpretative Phenomenological Analysis*. London: Sage Publications.

Smith, J.A. and Osborn, M. (2015) Interpretative Phenomenological Analysis. In: Smith, J.A. (ed) *Qualitative Psychology: A Practical Guide to Research Methods* (3rd ed). London: Sage Publications, pp24-52.

Sokolowski, R. (2000) *Introduction to Phenomenology*. Cambridge, UK: Cambridge

University Press.

Somerset Maugham, W. (1944) *The Razor's Edge*. London: Pan.

Sonneveld, M. H. and Schifferstein, H. N. J. (2008) The tactual experience of objects. In: Schifferstein, H. N. J. and Hekkert, P. (eds.). *Product Experience*. Amsterdam: Elsevier, p41–67.

Southern, M. (2021) *Wordpress powers 39.5% of all websites* [Online]. Available at: <<https://www.searchenginejournal.com/wordpress-powers-39-5-of-all-websites/391647/#close>> [Accessed 20 Apr 2022].

Spence, C. and Carvalho, F.M. (2019) Assessing the influence of the coffee cup on the multisensory tasting experience. *Food Quality and Preference*, 75: p239-248.

Stevenson, W. (2014) *Ceausescus' Children* [Online]. Available from: <<https://www.theguardian.com/news/2014/dec/10/-sp-ceausescus-children>> [Accessed 14 October 2021].

Stewart, D. and Mickunas, A. (1974) *Exploring Phenomenology*. Chicago: American Library Association.

Sundar, A. and Noseworthy, T.J. (2016) Too Exciting to Fail, Too Sincere to Succeed: The Effects of Brand Personality on Sensory Disconfirmation. *Journal of Consumer Research*, 43(1): p44-67.

Sundler, A.J., Lindberg, E., Nilsson, C. and Palmér, L. (2019) Qualitative thematic analysis based on descriptive phenomenology. *Nursing Open*, 6: p733– 739.

Suomi, S.J., van der Horst, F.C.P. and van der Veer, R. (2008) Rigorous Experiments on Monkey Love: An Account of Harry F. Harlow's Role in the History of Attachment Theory. *Integrative Psychological and Behavioural Science*, 42: p354–369.

Sussex, R. (1996) The Production and Consumption of Text. *Annual Review of Applied Linguistics*, 16, p46-67.

Sweney, M. (2018) *NME to close print edition after 66 years* [Online]. Available at: <<https://www.theguardian.com/media/2018/mar/07/nme-ceases-print-edition-weekly-music-magazine>> [Accessed 4 Jul 2022].

Sweney, M. (2018) *Print advertising in UK national newspapers rises for first time since 2010, study finds* [Online]. Available from <<https://www.theguardian.com/media/2018/jul/31/national-newspapers-in-uk-enjoy-first-print-advertising-rise-since-2010-research-finds>> [Accessed 8 November 2018].

Sweney, M. (2020) *Pandemic drives ebook and audiobook sales by UK publishers to all time high* [Online]. Available from: <<https://www.theguardian.com/books/2020/nov/14/pandemic-drives-ebook-and-audiobook-sales-by-uk-publishers-to-all-time-high-covid>> [Accessed 11 Nov 2021].

Taipale, S. (2015) Bodily dimensions of reading and writing practices on paper and digitally. *Telematics and Informatics*, 32: p766–775.

Taherdoost, H. (2016), Sampling Methods in Research Methodology; How to Choose a Sampling Technique for Research. *International Journal of Academic Research in Management (IJARM)*, 5(2): p18-27.

Tanvas (ND) *Tanvas* [Online]. Available from: <https://tanvas.co/technology> [Accessed 16 Sept 2021].

Tate (2015) *Tate Sensorium* [Online]. Available from: <https://www.tate.org.uk/whats-on/tate-britain/display/ik-prize-2015-tate-sensorium>. [Accessed 13 July 2018].

The Guardian (2016) *The ethnic population of England and Wales broken down by local authority* [Online]. Available from: <https://www.theguardian.com/news/datablog/2011/may/18/ethnic-population-england-wales#data> [Accessed 13 July 2018].

Thurman, N. and Fletcher, R. (2018) Are newspapers heading toward post-print obscurity? A case study of The Independent's transition to online-only. *Digital Journalism*, 6(8): p1003-1017.

Tomkins, L. and Eatough, V. (2010) Reflecting on the Use of IPA with Focus Groups: Pitfalls and Potentials. *Qualitative Research in Psychology*, 7(3): p244-262

Tröndle, M. and Tschacher, W. (2012) The physiology of phenomenology: the effect of artworks. *Empirical Studies of the Arts*, 30(1): p75-113.

Uehlein F.A. (1992) Eidos and Eidetic Variation in Husserl's Phenomenology. In: Spitzer M., Uehlein F., Schwartz M.A. and Mundt C. (eds) *Phenomenology, Language & Schizophrenia*, New York: Springer.

Ultrahaptics (ND) *Ultrahaptics* [Online]. Available from: www.ultrahaptics.com [Accessed 24 August 2015].

Ultraleap (ND) *Ultraleap* [Online]. Available from: <https://www.ultraleap.com/haptics/> [Accessed 16 Sept 2021].

University of Sussex (2015) *Love is in the air: technology can transfer human emotions to your palm through air* [Online]. Available from: <http://www.sussex.ac.uk/broadcast/read/30113> [Accessed 28 August 2018].

University of Sussex (ND) *Broadcast* [Online]. Available from: <http://www.sussex.ac.uk/broadcast/read/30095> [Accessed 24 August 2015].

UserExperienceWorks (2011) Available at: <https://www.youtube.com/watch?v=aXV-yaFmQNk> [Accessed 13 July 2018].

Usher, K. and Jackson, D. (2014) Phenomenology. In: Mills, J. and Birks, M. (eds). *Qualitative Methodology: A Practical Guide*. London: Sage Publications.

- Van Parys, H., Smith, J.A. and Rober, P. (2014) Growing up with a mother with depression: an interpretative phenomenological analysis. *The Qualitative Report*, 19(29): p1-18.
- Villi, M. and Hayashi, K. (2014) The Mission is to Keep This Industry Intact: Digital Transition in the Japanese Newspaper Industry. In: *64th Annual International Communication Association (ICA) Conference, Seattle, WA, 22-26 May 2014*.
- Vice Media Kit (2019) *Vice Media Kit 2019* [Online]. Available from: <<https://upload-assets.vice.com/files/2016/01/15/1452894236compressed.pdf>> [Accessed 12 June 2019].
- Vitae (ND) The Vitae Research Development Framework [Online]. Available from: <<https://www.vitae.ac.uk/researchers-professional-development/about-the-vitae-researcher-development-framework/developing-the-vitae-researcher-development-framework>> [Accessed 6 May 2022].
- Vogue Media Kit (2019) *Vogue Media Kit 2019* [Online]. Available from: <https://cnda.Condenast.co.uk/static/mediapack/vg_media_pack_latest.pdf> [Accessed 21 March 2019].
- Vogue Media Kit (2021) *Vogue Media Kit 2021* [Online]. Available from: <https://cnda.Condenast.co.uk/static/mediapack/vg_media_pack_latest.pdf> [Accessed 14 July 2021].
- Wagstaff, C., Jeong, H., Nolan, M., Wilson, T., Tweedlie, J., Phillips, E., Senu, H. and Holland, F. (2014) The accordion and the deep bowl of spaghetti: Eight researchers' experiences of using IPA as a methodology. *The Qualitative Report* 2014, 19(47): p1-15.
- Warnock, M. (1970). *Existentialism*. New York: Oxford University Press.
- West, D. (1996). *An Introduction to Continental Philosophy*. Cambridge, UK: Polity.
- Wilkinson, S. (2015) Focus Groups. In: Smith, J.A. (ed) *Qualitative Psychology: A Practical Guide to Research Methods* (3rd ed). London: Sage Publications, p24-52.
- Witschge, T., Anderson, C.W., Domingo, D. and Hermida, A. (eds) (2016) *The Sage Publications Handbook of Digital Journalism*. London: Sage Publications.
- Whittaker, J. (2008) *Magazine Production*. London: Routledge.
- Wolf, M. (2008) *Proust and the Squid*. New York: Harper Collins.
- Wood, E.H. and Kenyon, A.J. (2018) Remembering together: The importance of shared emotional memory in event experiences. *Event Management*, 22: p163–181.
- Wood, J. (ed) (1998) *The Virtual Embodied: Presence, Practice, Technology*. London: Routledge.
- Wordpress (ND) *Choose your hosting plan* [Online]. Available at: <<https://wordpress.com/pricing/>> [Accessed 20 Apr 2022].

Yardley, L. and Bishop, F. (2017). Mixing Qualitative and Quantitative Methods: A Pragmatic Approach. In: *The Sage Publications Handbook of Qualitative Research in Psychology*, London: Sage Publications, p352-369.

Yoshitaka, O.T.A. (2013) What is 'the haptic'? Consideration of *Logique de la Sensation* and Delueze's theory of sensation. *The Japanese Society for Aesthetics*, 17: p13-24.

Zahavi, D. (ed) (2013) *The Oxford Handbook of Contemporary Phenomenology*. Oxford: Oxford University Press.

Zhou, S., Kiesow, D. and Guo, L (2021) The values of print: affordances and sensemaking for newspaper consumers. *Journalism Practice*, p1-18.

Bibliography

ABC (ND) ABC, [Online]. Available at: <ABC.org> [Accessed 20 May 2022].

ABC (2017) *National Geographic ABC certificate July-December 2017*, [Online]. Available at: <ABC.org> [Accessed 20 April 2022].

ABC (2022) Radio Times [Online]. Available at:
<<https://www.abc.org.uk/product/2112>> [Accessed 4 July 2022].

Achar, C., So, J., Agrawal, N. and Duhachek, A. (2016) What we feel and why we buy: the influence of emotions on consumer decision-making. *Current Opinion in Psychology*, 10: p166-170.

Abrahamson, D. (2007) Magazine Exceptionalism: The Concept, The Criteria, The Challenge. *Journalism Studies*, 8(4): p667-670.

Acharya, A.S., Prakash, A., Saxena, P. and Nigam, A. (2013) Sampling: Why and how of it. *Indian Journal of Medical Specialties*, 4(2): p330-333.

Adom, D., Hussein, E.K. and Agyem, J.A. (2018) Theoretical and conceptual frameworks: mandatory ingredients of a quality research. *International Journal of Scientific Research*, 7(1): p438-441.

Advertising Association (ND) *About Us* [Online]. Available from:
<<https://www.adassoc.org.uk/about-us/>> [Accessed 8 November 2018].

Ahmad, N., Billoo, M. and Lakhan, A.A. (2012) Effect of Product Packaging in Consumer Buying Decision. *Journal of Business Strategies*, 6(2): p1-10.

Ahmed, S. (2006) *Queer Phenomenology: Orientations, Objects, Others*. New York, USA: Duke University Press.

Alase, A. (2017) The Interpretative Phenomenological Analysis (IPA): A Guide to a Good Qualitative Research Approach. *International Journal of Education & Literacy Studies*, 5(2): p9-19.

Albeanu, C. (2018) *Prioritising the reading experience at The Times: Why the paywall prompts radical thinking inside the newsroom* [Online]. Available from:
<<https://www.journalism.co.uk/news/the-times-radical-paywall/s2/a721037/>> [23 April 2019].

Alexander, E. (2012) *Vogue cafe to open in Dubai* [Online]. Available from:
<<https://www.vogue.co.uk/article/vogue-cafe-to-open-in-dubai>> [Accessed 14 July 2021].

Ambrose, G. and Harris, P. (2008) *The Production Manual*. West Sussex, UK: AVA Publishing

Ambrose, G. and Harris, P. (2006) *Print & Finish*. West Sussex, UK: AVA Publishing.

Aristotle (ND) *On the soul* [Online].

<<http://psychclassics.yorku.ca/Aristotle/De-anima/de-anima2.htm>> [Accessed 10 August 2017].

Arthur, C. (2012) *The history of smartphones: timeline* [Online]. Available from: <<https://www.theguardian.com/technology/2012/jan/24/smartphones-timeline>> [Accessed 28 March 2016].

Ashworth, P. (2015) Conceptual Foundations of Qualitative Psychology. In: Smith, J.A. (ed) *Qualitative Psychology: A Practical Guide to Research Methods* (3rd ed). London: Sage Publications p4-24.

Atton, C. and Hamilton, J.F. (2008) *Alternative Journalism*. London: Sage Publications.

Atwood, M. (2000) *The Blind Assassin*. London: Bloomsbury.

Audit Bureau of Circulation (ND) *Audit Bureau of Circulation* [Online]. Available from: <<http://www.abc.org.uk>> [Accessed 27 June 2016].

BBC (2008) *Ultrasound to give feel to games* [Online]. Available from: <<http://news.bbc.co.uk/1/hi/technology/7593444.stm>> [Accessed 3 August 2016].

Baldrige, M. (2018) *Instead of abandoning print, the 119-year-old MIT Technology Review is doubling down on it* [Online]. Available from: <<http://www.niemanlab.org/2018/06/instead-of-abandoning-print-the-119-year-old-mit-technology-review-is-doubling-down-on-it/>> [Accessed 27 June 2018].

Barbour, R.S. and Kitzinger, J. eds (1999) *Developing Focus Group Research*. London: Sage Publications.

Barthelemy, S., Bethell, M., Christiansen, T., Jarsvall, A. and Koinis, K., 2011. *The future of print media*. Chicago: World Newsmedia Research Group.

Bartmanski, D. and Woodward, I. (2013) The Vinyl: The analogue medium in the age of digital reproduction. *Journal of Consumer Culture*, 15(1): p3-27.

Belam, M. (2010) *Journalism in the digital age: trends, tools and technologies* [Online]. Available from: <<https://www.theguardian.com/help/insideguardian/2010/apr/14/journalism-trends-to-ols-technologies>> [Accessed 31 July 2019].

Bengtsson, S. and Johansson, S. (2021). A phenomenology of news: understanding news in digital culture. *Journalism*, 22(11): p2873-2889.

Benton, J. (2018) *What will happen when newspapers kill print and go online-only? Most of that print audience will just...disappear* [Online]. Available from: <<https://www.niemanlab.org/2018/09/what-will-happen-when-newspapers-kill-print-and-go-online-only-most-of-that-print-audience-will-just-disappear/>> [Accessed 1 May 2019].

Biopac (ND) *EDA introductory guide*. CA: Biopac.

Bird, S. E. (2009) The future of journalism in the digital environment. *Journalism*, 10(3): p293-295.

Birnbaum, D. (2014) *The design value of haptics: usability, industrial design and branding* [Online]. Available from: <https://e2e.ti.com/blogs_/b/analogwire/archive/2014/10/22/the-design-value-of-haptics-usability-industrial-design-and-branding>. [Accessed 3 August 2016].

Blackham, H.J. (1952) *Six Existentialist Thinkers*. London: Routledge.

Boddice, R. and Smith, M. (2020) *Emotion, Sense, Experience*. Cambridge, UK: Cambridge University Press.

Bodle, A. (2012) *Trolls: Where do they come from?* [Online]. <<https://www.theguardian.com/media/mind-your-language/2012/apr/19/trolls-where-come-from>> [Accessed 4 August 2017].

Bowers, L. and Hayle, R. (2021) Creative haptics: an evaluation of a haptic tool for non-sighted and visually impaired design students, studying at a distance. *British Journal of Visual Impairment*, 39(3): p214-230.

Bradley, M.M. and Lang, P.J. (1994) Measuring emotion: The self-assessment manikin and the semantic differential. *Journal of Behavior Therapy and Experimental Psychiatry* 25(1): p49-59.

Bradshaw, P. (2017) *The Online Journalism Handbook* (2nd ed). London: Routledge.

Bradshaw, P. and Rohumaa, L. (2011) *The Online Journalism Handbook: Skills to Survive and Thrive in the Digital Age*. London: Routledge.

Braithwaite, J.J., Watson, D.G., Jones, R. and Rowe, M. (2015) *A Guide for Analysing Electrodermal Activity (EDA) & Skin Conductance Responses (SCRs) for Psychological Experiments, Technical Report, 2nd version*. Selective Attention & Awareness Laboratory (SAAL) Behavioural Brain Sciences Centre. Birmingham: University of Birmingham.

Bramley, B. and Eatough, V. (2005) The experience of living with Parkinson's disease: An interpretative phenomenological analysis case study. *Psychology & Health*, 20(2): p223-23.

Brannelly, T. and Barlett, R. (2020) Using Walking Interviews to Enhance Research Relations with People with Dementia: Methodological Insights From an Empirical Study Conducted in England. *Ethics and Social Welfare*, 14(4): p432–442.

Braun, V. and Clarke, V. (2013) *Successful Qualitative Research: A practical guide for beginners*. London: Sage Publications.

Briggs, A. and Burke, P. (2020) *A Social History of the Media* (4th ed). Cambridge, UK: Polity Press.

Brinkmann, S. and Kvale, S. (2018). *Doing Interviews* (2nd ed). London: Sage

Publications.

Brook, S. (2005) *Readers crushed by paper weight* [Online]. Available from: <<http://www.theguardian.com/media/2005/jul/14/pressandpublishing.advertising>> [Accessed 27 June 2016]

Brook, S. (2007) *Newspaper reading habits revealed* [Online]. Available from: <<http://www.theguardian.com/media/2007/oct/26/sundaytimes.pressandpublishing>> [Accessed 27 June 2016].

Brook, S. (2009) *Men's monthly magazine Arena to cease printing after 22 years* [Online]. Available from: <<https://www.theguardian.com/media/2009/mar/03/mens-magazine-arena-to-close>> [Accessed 17 April 2019].

Brooks, D. (2016) *The Beauty of Big Books* [Online]. Available from: <<http://www.nytimes.com/2016/10/14/opinion/the-beauty-of-big-books.html?ribbon-ad-idx=5&rref=opinion&module=Ribbon&version=context@ion=Header&action=click&contentCollection=Opinion&pgtype=article>> [Accessed 14 November 2016].

Brown, J. (2000) *Not absolutely fabulous* [Online]. Available from: <<http://www.theguardian.com/media/2000/jan/31/broadcasting.mondaymediasection1>> [Accessed 27 June 2016].

Buck-Morss, S. (1992) Aesthetics and Anaesthetics: Walter Benjamin's Artwork Essay Reconsidered. *The MIT Press*, 62: p3-41.

Budki, S. (2017) *Nokia 3310 facing supply crunch in India* [Online]. <<https://www.themobileindian.com/news/nokia-3310-facing-supply-issues-18285>> [Accessed 30 June 2017].

Bury, L. (2013) *Young adult readers prefer printed eBooks* [Online]. Available from: <<https://www.theguardian.com/books/2013/nov/25/young-adult-readers-prefer-printed-ebooks>> [Accessed November 2021].

Butler, J. L. (2016) Rediscovering Husserl: Perspectives on the Epoché and the Reductions. *The Qualitative Report*, 21(11): p2033-2043. <https://doi.org/10.46743/2160-3715/2016.2327>.

Byrne, D. (2017) *Sage Publications Research Methods Project Planner* [Online]. <<http://methods.sagepublicationspub.com/project-planner/data-collection>> [Accessed 21 September 2020].

Cacioppo, J.T. and Petty, R. (1982) The Need for Cognition. *Journal of Personality and Social Psychology*, 42(1): p116-131.

Cain, S. (2017) *eBook sales continue to fall as younger generations drive appetite for print* [Online]. Available from: <<https://www.theguardian.com/books/2017/mar/14/ebook-sales-continue-to-fall-nielsen-survey-uk-book-sales>> [Accessed 30 Jun 2019].

Calvert, G.A., Spence, C. and Stein, B.E. (eds) (2004) *The Handbook of Multisensory Processes* Cambridge, MA: MIT Press.

Canada Post Corporation (2015) *A bias for action* [Online]. Available from:

<https://www.canadapost.ca/assets/pdf/blogs/CPC_Neuroscience_EN_150717.pdf
> [Accessed 31 July 2019].

Carman, T. (2008) *Merleau-Ponty*. London: Routledge.

Carr, N. (2010) *The Shallows: How the internet is changing the way we read, think and remember*. London: Atlantic Books.

Carter, T., Seah, S.A., Long, B., Drinkwater, B. and Subramanian, S. (2013) UltraHaptics: multi-point mid-air haptic feedback for touch surfaces. In *Proceedings of the 26th annual ACM symposium on User interface software and technology*, p505-514.

Carvalho, F.M. and Spence, C. (2019) Cup colour influences consumers' expectations and experience on tasting specialty coffee. *Food Quality and Preference*, 75: p157-169.

Carvalho, F.M., Moksunova, V. and Spence, C. (2020) Cup texture influences taste and tactile judgments in the evaluation of specialty coffee. *Food Quality and Preference*, 81: p103841.

Chahal, M. (2014) *Programmatic buying essential guide* [Online] Available from: <<http://www.marketingweek.com/2014/07/16/programmatic-buying-essential-guide/>> [Accessed 15 May 2018].

Charmaz, K. (2006) *Constructing Grounded Theory*. London: Sage Publications.

Charmaz, K. (2014) *Constructing Grounded Theory*, (2nd ed). London: Sage Publications.

Check my postcode (ND) YO10 5AQ [Online]. Available from: <<https://checkmypostcode.uk/yo105aq#.YQlgMFNKhN0>> [Accessed 3 August 2021].

Chen, C. (2022) *How to deal with retail's returns frenzy* [Online] Available from: <https://www.businessoffashion.com/articles/retail/how-to-deal-with-retails-returns-frenzy/> [Accessed 14 Feb 2022].

Cheskin, L. (1957) *How To Predict What People Will Buy*. New York: Liveright.

Cheskin, L. (1972) *Marketing Success: How to Achieve It*. Massachusetts: Cahnern Books.

Christensen, C.M. (1997) *The innovator's dilemma: when new technologies cause great firms to fail*. Brighton, MA: Harvard Business School Press.

Cision PR Newswire (2015) *Haptics 2016-2026: Technologies, Markets and Players* [Online]. Available from: <<https://www.prnewswire.com/news-releases/haptics-2016-2026-technologies-markets-and-players-300147358.html>> [Accessed 25 Apr 2016].

Classen, C. (2012) *The Deepest Sense: A Cultural History of Touch*. Champaign: University of Illinois Press.

Clow, K.E. and James, K.E. (2014) *Essentials of Marketing Research: Putting Research into Practice* [Online]. Thousand Oaks, CA: Sage Publications

Publications. Available at: <<http://www.doi.org/10.4135/9781483384726>> [Accessed 13 April 2021].

Cocozza, P. (2017) *How eBooks lost their shine: 'Kindles now look clunky and unhip'* [Online]. Available from: <<https://www.theguardian.com/books/2017/apr/27/how-ebooks-lost-their-shine-kindles-look-clunky-unhip>> [Accessed 30 June 2017].

Cohen, L., Manion, L. and Morrison, K. (2007) *Research Methods in Education* (6th ed). London: Routledge.

Coleman, R. (ed) (2013) *Deleuze and Research Methodologies*. Edinburgh: Edinburgh University Press

Connell, I. (1998) Mistaken Identities: Tabloid and Broadsheet News Discourse. *Javnost - The Public*, 5(3): p11-31.

Couldry, N. (2003) *Media Rituals: A Critical Approach*. London: Routledge.

Country Life (2017) *Country Life media pack* [Online]. London: TI Media. Available from: <<http://www.clmediakit.com/r5/home.asp>> [Accessed 21 April 2022].

Cox, H. and Mowatt, S. (2012) Vogue in Britain: Authenticity and the creation of competitive advantage in the UK magazine industry. *Business History*, 54(1): p67-87.

Creswell, J.W. (2014) *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*, (4th ed). London: Sage Publications.

Creswell, J.W. and Creswell, J.D. (2018) *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*, (5th ed). London: Sage Publications.

Crouquet, A. (2015) *A unique experience at the Tate Sensorium Art Exhibition* [Online]. Available from: <<http://blog.luxuryhotelsgroup.com/unique-experience-tate-sensorium-art-exhibition/>> [Accessed 16 March 2019].

Crowley, D. (2010) *Paper choices* [Online]. Available from: <http://www.inpublishing.co.uk/kb/articles/paper_choices.aspx> [Accessed 24 November 2014].

Crowley, D. (2013) *Innovation in print* [Online]. Available from: <http://www.inpublishing.co.uk/kb/articles/paper_choices.aspx> [Accessed 24 November 2014].

Crucianelli, L., Wheatley, L., Filippetti, M.L., Jenkinson, P.M., Kirk, E. and Fotopoulou, A. (2018) The mindedness of maternal touch: An investigation of maternal mind-mindedness and mother-infant touch interactions. *Developmental Cognitive Neuroscience*, 35: p47-56.

Curran, J. (2010) The Future of Journalism. *Journalism Studies*, 11(4): p464-476.

Curran, J. and Seaton, J. (1997) *Power Without Responsibility: Press, Broadcasting and the Internet in Britain: Press and Broadcasting in Britain*, (5th ed). London:

Routledge.

Currie-Sivek, S. and Bloyd-Peshkin, S. (2016) Where do facts matter? The Digital Paradox in Magazines' Fact-Checking Practices. In: *Mapping the Magazine conference, 2016, University of Sydney*.

Daniel, J. (2012) *Sampling Essentials: Practical Guidelines for Making Sampling Choices*. Thousand Oaks, CA: Sage Publications. Available at: <<http://www.doi.org.yorksj.idm.oclc.org/10.4135/9781452272047>> [Accessed 21 August 2021].

Dawson, C. (2006) *A Practical Guide to Research Methods: A user-friendly manual for mastering research techniques and projects*, (2nd ed). Oxford: How To Books.

Deimos, P. (2016) Comment on: Jackson, J. (2016) *Independent's digital audience drops to below level it was before paper closed* [Online]. Comment posted on: 16 June 2016. Available from: <<https://www.theguardian.com/media/2016/jun/16/independents-digital-audience-drops-to-below-level-it-was-before-paper-closed>> [Accessed 27 June 2016].

Delayed Gratification (ND) *Delayed Gratification* [Online]. Available from: <<https://www.slow-journalism.com/>> [Accessed 12 June 2019].

Deleuze, G. (2003) (translated by Smith, D.W.) *Francis Bacon: The logic of sensation*. London: Continuum.

Deloitte (2013) *The Media Consumer 2013: Love in a cold climate* [Online]. London: Deloitte. Available from: <<https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/technology-media-telecommunications/deloitte-uk-media-consumer-survey-2013-tmt.pdf>> [Accessed 21 April 2022].

Deloitte (2014) *The Media Consumer 2014: The digital divide* [Online]. London: Deloitte. Available from: <<https://www2.deloitte.com/uk/en/pages/technology-media-and-telecommunications/articles/media-consumer-survey-2014.html>> [Accessed 21 April 2022].

Deloitte (2015) *The Media Consumer 2015: The signal and the noise* [Online]. London: Deloitte. Available from: <https://www.deloitte.co.uk/mediaconsumer/assets/pdf/Deloitte_Media_Consumer_2015.pdf> [Accessed 20 April 2015].

Deloitte (2018) *Mobile Consumer Survey 2018* [Online]. London: Deloitte. Available from: <<https://www2.deloitte.com/content/dam/Deloitte/us/Documents/technology-media-telecommunications/us-tmt-global-mobile-consumer-survey-exec-summary-2018.pdf>> [Accessed 20 March 2022].

Deloitte (2018) *Tablets feeling the pinch* [Online]. Available from: <<https://www2.deloitte.com/us/en/pages/technology-media-and-telecommunications/articles/future-of-tablets-is-there-hope-for-recovery.html>> [Accessed 7 August 2019].

Demir, S. B., and Pismek, N. (2018) A convergent parallel mixed-methods study of controversial issues in social studies classes: A clash of ideologies. *Educational*

Sciences: Theory & Practice, 18: 119–149.
<http://dx.doi.org/10.12738/estp.2018.1.0298>.

Deuze, M. and Witschge, T. (2018). Beyond journalism: Theorizing the transformation of journalism. *Journalism*, 19(2), pp.165-181.

Dickens, A. (2018) *Why are our memories getting worse?* [Online]. Available from: <<https://www.shortlist.com/news/opinion/men-women-memories-decline/368500>> [Accessed 9 August 2018].

Diederich, C. (2015) *Sensory Adjectives in the Discourse of Food: A frame-semantic approach to language and perception* [Online]. Amsterdam: John Benjamins Publishing Company, Amsterdam. Available from: <<https://ebookcentral-proquest-com.yorksj.idm.oclc.org/lib/yorksj/reader.action?docID=1996996>>. [Accessed 17 June 2021].

Do Lico, J. (2018) *Why the closure of Soho's Wardour News is more complicated than it first seems* [Online]. Available from: <www.standard.co.uk/lifestyle/esmagazine/when-the-iconic-magazine-store-wardour-news-announced-plans-to-close-it-provoked-an-outpouring-of-a3833641.html> [Accessed 15 May 2018]

Duranti, A. (2010) *Husserl, intersubjectivity and anthropology*. *Anthropological Theory*, 10(1): p1–20.

Eatough, V. and Smith, J. (2008) Interpretative Phenomenological Analysis. In: *The Sage Publications Handbook of Qualitative Research in Psychology*. London: Sage Publications.

Eatough, V., Smith, J.A. and Shaw, R. (2008) Women, anger, and aggression: an interpretative phenomenological analysis. *Journal of Interpersonal Violence*, 23(12): p1767-1799.

Eberle, T. (2014) Phenomenology as a Research Method. In: *The Sage Publications Handbook of Qualitative Data Analysis*, London: Sage Publications.

Ebiquity (ND) *Re-evaluation media* [Online]. Available from: <<https://www.radiocentre.org/re-evaluating-media/wp-content/uploads/2018/03/Ebiquity-Radiocentre-report-A4-web-singles-1.pdf>> [Accessed 21 March 2019]

Eccleston, C. (2015). *Embodied: The psychology of physical sensation* [Online]. Oxford: Oxford University Press. Available at: <<https://oxford-universitypressscholarship-com.yorksj.idm.oclc.org/view/10.1093/acprof:oso/9780198727903.001.0001/acprof-9780198727903>> [Accessed 18 June 2021].

Eisenstein, E.L. (1979) *The Printing Press as an Agent of Change*. Cambridge, UK: Cambridge University Press.

Elle (2014) *Elle Media Information 2014* [Online]. Available from: <http://hearstcouk.wp.cdn.net/tmp/wpro1405942645908842/2014/05/ELLE14_MEDIA_INFO.pdf> [Accessed 11 August 2015].

Elliott, J., Knight, A. and Cowley, C. (eds) (2001) *Oxford Dictionary and Thesaurus III*. Oxford: Oxford University Press.

eMotion (ND) *Mapping Museum Experience* [Online]. Available from: <<https://mapping-museum-experience.com/?lang=en>> [Accessed 30 July 2021].

Empatica (2019) *What should I know to use EDA data in my experiment* [Online]. Available from: <<https://support.empatica.com/hc/en-us/articles/203621955-What-should-I-know-to-use-EDA-data-in-my-experiment->> [Accessed 1 July 2019].

Empatica (ND) *E4 Wristband* [Online]. Available from: <<https://www.empatica.com/research/e4/>> [Accessed 13 July 2018].

Empatica (ND) *Monitoring the Autonomic Nervous System* [Online]. Available from: <<https://www.empatica.com/research/science/>> [Accessed 16 March 2019].

Erdal, I.J. (2009) Repurposing of content in multi-platform news production. *Journalism Practice*, 3(2): p178-195.

Erhlich, M. (1996) Using ritual to study journalism. *Journal of Communication Inquiry*, 20(2): p3-17.

Etherington, K. (2004) *Becoming a Reflexive Researcher - Using Our Selves in Research: Using Our Selves in Research* [Online]. London: Jessica Kingsley Publishers, London. Available from: <<https://ebookcentral-proquest-com.yorksj.idm.oclc.org/lib/yorksj/reader.action?docID=290568>>. [Accessed 31 March 2021].

F-reading-pattern eyetracking (2008) [Online image]. Available from: <<https://www.nngroup.com/articles/f-shaped-pattern-reading-web-content-discovered/>> [Accessed 6th February 2019].

Festinger, L. (1957) *A Theory of Cognitive Dissonance*. Redwood City: Stanford University Press.

Finlay, L. and Gough, B. (eds) (2003) *Reflexivity: A Practical Guide for Researchers in Health and Social Sciences*. Chichester: John Wiley & Sons. Available from: <<https://ebookcentral-proquest-com.yorksj.idm.oclc.org/lib/yorksj/detail.action?docID=351401&query=Reflexivity%3A+A+Practical+Guide+for+Researchers>>. [Accessed 29 March 2021].

Fleming, C., Hemmingway, E., Moore, G. and Welford, D. (2006) *An Introduction to Journalism*. London: Sage Publications.

Flew, T. (2014) *New Media* (4th ed). Oxford: Oxford University Press.

Flick, U. (ed) (2014) *The Sage Publications Handbook of Qualitative Data Analysis*. London: Sage Publications Publications.

Flood, A. (2014) *Readers absorb less on Kindles than on paper* [Online]. Available from: <<https://www.theguardian.com/books/2014/aug/19/readers-absorb-less-kindles-paper-study-plot-ereader-digitisation>> [Accessed 10 February 2017].

Flying Object (ND) *Case Study - Tate: Innovation inspires global press coverage* [Online]. Available from: <<https://www.weareflyingobject.com/sensorium>> [Accessed

26 August 2018].

Focillon, H. (1943) *The Life of Forms* [Online]. Available from
<<http://www.noteaccess.com/APPROACHES/Henri.htm>> [Accessed 20 July 2014].

Forbes, A. (2006) *Haptic Visuality* [Online]. Available from:
<<http://transliteracies.english.ucsb.edu/post/research-project/research-clearinghouse-individual/research-reports/haptic-visibility-2>> [Accessed 16 Feb 2016].

Forsdick, S. (2018) 'People thought we were crazy' to introduce paywall,' says Times head of digital as he points to 'smart' subscriptions for future of paid content [Online].
<<https://www.pressgazette.co.uk/people-thought-we-were-crazy-to-introduce-paywall-says-times-head-of-digital-as-he-points-to-smart-subscriptions-for-future-of-paid-content/>> [Accessed 20 April 2019].

Fortunati, L., Taipale, S. and Farinosi, M. (2015) Print and online newspapers as material artefacts. *Journalism: Theory, Practice and Criticism*, 6(6): p830-846.

Fox, N. A., Kirwan, M. and Reeb-Sutherland, B. (2012) Measuring the physiology of emotion and emotion regulation — timing is everything. *Monographs of the Society for Research in Child Development*, 77: p98–108.

Franklin, B. (2008) The Future of Newspapers. *Journalism Practice*, 2(3): p306-317.

Friedlander, J.P. (2018) *News and Notes on 2017 RIAA Revenue Statistics* [Online]. Available from:
<<http://www.riaa.com/wp-content/uploads/2018/03/RIAA-Year-End-2017-News-and-Notes.pdf>> [Accessed 12 Jul 2019].

Furuichi, K. and Worsley, M. (2018) Using physiological responses to capture unique idea creation in team collaborations. In: *Companion of the 2018 ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '18)*. New York: Association for Computing Machinery, p369–372.
DOI:<https://doi.org/10.1145/3272973.3274099>.

Gallace, A. and Spence, C. (2014) *In Touch with the Future: The sense of touch from cognitive neuroscience to virtual reality*. Oxford: Oxford University Press

Gambarato, R.R. and Tarcia, L.P.T. (2016) Transmedia Strategies in Journalism. *Journalism studies*, 18(11): p1381-1399.

Gates, B. (1996) *Content is King* [Online].
<<http://web.archive.org/web/20010126005200/http://www.microsoft.com/billgates/columns/1996essay/essay960103.asp>> [Accessed 6 September 2017].

Gatti, E., Calzolari, E., Maggioni, E. and Obrist, M. (2018) Emotional ratings and skin conductance response to visual, auditory and haptic stimuli. *Scientific Data*, 5(1): p1-12.

Gauthier, S. (2002) reviewing Marks, L.U. (2002) Touch: Sensuous Theory and Multisensory Media. *Canadian Journal of Communication*, 31(4): p957-961

Gebber G.L. (2009) Tonic Activity of Sympathetic Nerves. In: Binder M.D., Hirokawa N., Windhorst U. (eds) *Encyclopedia of Neuroscience*. Berlin: Springer.

Gerlach, J. and Buxmann, P. (2011) *Investigating the acceptance of electronic books - the impact of haptics dissonance on innovation adoption* [Online]. In: *ECIS 2011, Helsinki, Finland: Jun 2011*. Available at: <<https://aisel.aisnet.org/ecis2011/141/>> [Accessed 16 June 2014].

Goddard, D. (1973) Max Weber and the Objectivity of Social Science. *History and Theory*, 12(1): p1-22.

Goldsmith, K. (2011) *Uncreative Writing*. New York: Columbia University Press.

Gomm, R. (2009) *Key Concepts in Social Research Methods*. London: Palgrave.

Goulding, C. (2005) Grounded theory, ethnography and phenomenology: A comparative analysis of three qualitative strategies for marketing research. *European Journal of Marketing*, 39(3): p294-308.

Gov.co.uk (2020) *Regional Ethnic Diversity* [Online]. Available at: <<https://www.ethnicity-facts-figures.service.gov.uk/uk-population-by-ethnicity/national-and-regional-populations/regional-ethnic-diversity/latest>> [Accessed 20 August 2020].

Graham, G., Greenhill, A., Shaw, D. and Vargo, C.J. (2015) *Content is King: News Media and Management in the Digital Age*. London: Bloomsbury.

Grazia (2022) *Grazia announces Victoria Beckham as global cover star across 14 international editions* [Online]. Available at: <<https://www.bauermedia.co.uk/news/grazia-announces-victoria-beckham-as-global-cover-star-across-14-international-editions>> [Accessed 7 July 2022].

Green, J. and Hart, L. (1999) The impact of context in data. In: Barbour, R.S. and Kitzinger, J. (eds) *Developing Focus Group Research*. London: Sage Publications.

Greenslade, R. (2012) *Tesco magazine claims biggest UK readership, but it ain't necessarily so* [Online]. <<https://www.theguardian.com/media/greenslade/2012/nov/20/tesco-sun>> [Accessed 4 Apr 2017]

Greenslade, R. (2014) *ABC figures show papers' efforts to stem circulation decline* [Online]. Available from: <www.theguardian.com/media/greenslade/2014/oct/10/abc-figures-show-papers-efforts-to-stem-circulation-decline> [Accessed 29 May 2015].

Grierson, E. and Brearley, L. (2009) *Creative Arts Research Narratives of Methodologies and Practices*. Rotterdam: Sense Publications.

Groot Kormelink, T. and Costera Meijer, I. (2019) Material and sensory dimensions of everyday news use. *Media, Culture & Society*, 41(5): p637-653.

Grunwald, M. (ed) (2008) *Human Haptic Perception: Basics and Perceptions*. Basel: Birkhauser.

Grunwald, M., Ettrich, C., Krause, W., Assmann, B., Dhane, A., Weiss, T. and Gertz, H.J. (2001) Haptic Perception in Anorexia Nervosa Before and After Weight Gain.

Journal of Clinical and Experimental Neuropsychology, 23(4): p520-529.

Guardian, The (2012) *The Guardian and Observer reader profile* [Online]. Available from:

<http://image.guardian.co.uk/sys-files/Guardian/documents/2012/08/22/Printreader_profile.pdf> [Accessed 29 May 2015].

Gubser, M. (2005) *Time and History in Alois Riegl's Theory of Perception*. *Journal of the History of Ideas*, 66(3): p451-474.

Haeberle, H. and Lumpkin, E. A. (2008). Merkel Cells in Somatosensation. *Chemosensory Perception*, 1(2): p110-118.

Hakner, J. (2018) *Sussex scientists bring the art of touch to the Tate* [Online]. Available from: <<http://www.sussex.ac.uk/broadcast/read/31617>> [Accessed 13 July 2018].

Hammersley, M. (2010) *Methodology: Who Needs It?* London: Sage Publications.

Hammersley, M. and Traianou, A. (2012) *Ethics in Qualitative Research: Controversies and Contexts*. London: Sage Publications.

Hammett, E. (2016) *NRS PADD: Magazine readers still prefer print* [Online]. Available from: <<http://mediatel.co.uk/newsline/2016/11/30/nrs-padd-magazine-readers-still-prefer-print/>> [Accessed 14 November 2016].

Harding, S. (ed) (1987) *Feminism and Methodology: Social Science Issues*. Bloomington: Indiana University Press.

Hardy, M. and Bryman, A. (eds) (2004) *Handbook of Data Analysis*, London: Sage Publications.

Harris, K.R., Graham, S., MacArthur, C.A., Reid, R. and Mason, L.H. (2011) Self-regulated learning processes and children's writing. In: Schunk, D.H. and Zimmerman, B. *Handbook of Self-Regulation of Learning and Performance*. London: Routledge.

Harvard Business Review (2015) *The Science of Sensory Marketing* [Online]. Available from: <<https://hbr.org/2015/03/the-science-of-sensory-marketing>> [Accessed 2 July 2019].

Hawkins, D. (2018) *CDs, vinyl are outselling digital downloads for the first time since 2011* [Online]. Available from: <https://www.washingtonpost.com/news/morning-mix/wp/2018/03/23/cds-vinyl-are-outselling-digital-downloads-for-the-first-time-since-2011/?utm_term=.df8db0f4964c> [Accessed 12 July 2019].

Hayles, N. K. (1999) *How We Became Posthuman : Virtual Bodies in Cybernetics, Literature, and Informatics*. Chicago: University of Chicago Press. Available from: ProQuest Ebook Central. [3 March 2023].

Hayles, N. K. (2008) *Electronic Literature: New Horizons for the Literary*. Indiana: University of Notre Dame Press.

- Hayles, N. K. (2012) *How We Think : Digital Media and Contemporary Technogenesis*. Chicago: University of Chicago Press. Available from: ProQuest Ebook Central. [3 March 2023].
- Hayles, N. K. (2021) *Postprint : Books and Becoming Computational*. New York: Columbia University Press. Available from: ProQuest Ebook Central. [10 March 2023].
- Henry, G. T. (1990) *Practical sampling*. London: Sage Publications.
- Herssens, J. and Heylighen, A. (2010) Haptic design research: a blind sense of place. *ARCC/EAAE 2010 International Conference on Architectural Research, 23-26 Jun 2010, Washington*.
- Hoad, T. (ed) (2003) *The Concise Oxford Dictionary of English Etymology*. Oxford: Oxford University Press.
- Hollander, B.A., Krugman, D.M., Reichert, T. and Adam Avant, J. (2011) The E-Reader as Replacement for the Print Newspaper. *Publishing Research Quarterly*, 27(2): p126-134.
- Holliday, A. (2007) *Doing and Writing Qualitative Research*, (2nd ed). London: Sage Publications.
- Holmes, T. (ed) (2008) *Mapping the Magazine: Comparative Studies in Magazine Journalism*. London: Routledge.
- Holmes, T. and Nice, L. (2012) *Magazine Journalism*. London: Sage Publications.
- Hoogeveen, H.R., Dalenberg, J.R., Renken Remco, J., ter Horst, G.J. and Lorist, M.M. (2015) Neural processing of basic tastes in healthy young and older adults — an fMRI study. *NeuroImage* 119(1): p1-12.
- Hooper, M. (2012) *Who says print is dead?* [Online].
<<https://www.theguardian.com/media/2012/jun/03/who-says-print-is-dead>>
[Accessed 28 June 2017]
- Houtveen, J.H. and de Geus, E.J.C (2009) Noninvasive psychophysiological ambulatory recordings: study design and data analysis strategies. *European Psychologist*, 14(2): p132–141.
- Howes, D. (2003) *Sensual Relations: Engaging the Senses in Culture and Social Theory*. Michigan: University of Michigan Press.
- Hsieh, H.F. and Shannon, S.E. (2005) *Three Approaches to Qualitative Content Analysis*. *Qualitative Health Research*, 15: p1277-1288.
- Husband, G. (2020) *Ethical Data Collection and Recognizing the Impact of Semi-Structured Interviews on Research Respondents*. *Education Sciences*, 10(8): p206.
- ICO (ND) *Guide to the General Data Protection Regulation (GDPR)* [Online]. Available from:
<<https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-d>

ata-protection-regulation-gdpr/> [Accessed 5 June 2019].

Immersion (ND) *Immersion* [Online]. Available from: <<https://www.immersion.com/>> [Accessed 28 August 2018].

InPublishing (2015) *Metro gives voice to commuters in new consumer campaign* [Online]. Available from: <http://www.inpublishing.co.uk/news/articles/metro_gives_voice_to_commuters_in_new_consumer_campaign_9270.aspx> [Accessed 27 June 2016].

Jabr, F. (2013) *The Reading Brain in the Digital Age: The Science of Paper versus Screens* [Online]. Available from: <<https://www.scientificamerican.com/article/reading-paper-screens/>> [Accessed 13 July 2016].

Jackson, J. (2015) *Broadsheets see election sales boost as tabloids make few gains* [Online]. Available from: <www.theguardian.com/media/2015/may/08/broadsheets-see-election-sales-boost-as-tabloids-make-few-gains> [Accessed 29 May 2015].

Jackson, J. (2016) *Independent's digital audience drops to below level it was before paper closed* [Online]. Available from: <<https://www.theguardian.com/media/2016/jun/16/independents-digital-audience-drops-to-below-level-it-was-before-paper-closed>> [Accessed 27 June 2016].

Jacob, T. (2017) *Smell and Health* [Online]. Available from: <<http://www.cardiff.ac.uk/biosi/staffinfo/jacob/teaching/sensory/taste.html>> [Accessed 3 August 2016].

Jansson-Boyd, C.V. (2011a) The Role of Touch in Marketing: An Introduction to the Special Issue. *Psychology & Marketing*, 28(3): p219–221.

Jansson-Boyd, C.V. (2011b) Touch matters: exploring the relationship between consumption and tactile interaction. *Social Semiotics*, 21(4): p531-546.

Jarvis, W.B.G. and Petty, R. (1996) The Need to Evaluate. *Journal of Personality and Social Psychology*, 70(1): p172-194.

Jedwab, R., Christiaensen, L. and Gindelsky, M. (2017) Demography, urbanization and development: Rural push, urban pull and...urban push? *Journal of Urban Economic*, 98: p6-16.

Jefferson, M. (2019) *Bauer's Munro-Hall: 'Stop bemoaning the decline of print'* [Online]. Available from: <<https://mediatel.co.uk/newsline/2019/05/10/bauers-munro-hall-stop-bemoaning-the-decline-of-print/>> [Accessed 7 August 2019].

Jenkins, H. (2006) *Convergence Culture: Where Old and New Media Collide*. New York: New York University Press.

Jenkins, H., Ford, S. and Green, J. (2013) *Spreadable Media: Creating Value and Meaning in a Networked Culture*. New York: New York University Press.

Johinke, R. (2017) "Get Swiping!" The magazine editor's role in guiding readers from print to new media. *Journalism Studies*, 18(3): p.288-303.

Jones L. (2018) *Haptics*. Cambridge, MA: MIT Press.

Jones, P. (2013) *World's oldest web page (I have it)* [Online].
<<http://www.ibiblio.org/pjones/blog/worlds-oldest-web-page-i-have-it/>> [Accessed 31 January 2019].

Jones, B (2015) *Social Media @ Global News Agencies: News(s) Technology in a Professional Culture of Practice* [PhD thesis]. Liverpool John Moores University.

Jones, J. and Salter, L. (2012) *Digital Journalism*. London: Sage Publications.

Jourard, S. and Rubin, J. (1961) Self-disclosure and touching: A study of two modes of interpersonal encounter and their inter-relation. *Journal of Humanistic Psychology*, 8(1): p39-48.

Kampfer, K., Leischnig, A., Ivens, B.S. and Spence, C. (2017) Touch-flavor transference: Assessing the effect of packaging weight on gustatory evaluations, desire for food and beverages, and willingness to pay. *PloS one*, 12(10): p186121.

Kansara, V.A. (2009) *Future of Fashion Magazines | Part One - A Changing Landscape* [Online]. Available from:
<<https://www.businessoffashion.com/articles/fashion-tech/future-of-fashion-magazines-part-one-a-changing-landscape>> [Accessed 3 July 2018].

Kattsoff, L. (1950). Is Eidetic Intuition Necessary? *Philosophy and Phenomenological Research*, 10(4): p563-571.

Katz, D. (1989) *The World of Touch*. Translated by: Krueger, L.E. Mahwah: Lawrence Erlbaum Associates.

Keen, A. (2008) *The Cult of the Amateur: How blogs, mySpace, YouTube, and the rest of today's user-generated media are destroying our economy, our culture and our values*. London: Nicholas Brealey.

Keen, A. (2015) *The internet is not the answer*. London: Atlantic Books.

Kelly, K. (2016) *The Inevitable: Understanding the 12 Technological Forces that will Shape Our Future*. New York: Viking.

Kelly, S. (2015) *The Entrepreneurial Journalist's Toolkit: Manage Your Media*. Waltham: Focal Press.

Khan, A.M., Lawo, M. (2016). Recognizing Emotion from Blood Volume Pulse and Skin Conductance Sensor Using Machine Learning Algorithms. In: Kyriacou, E., Christofides, S., Pattichis, C. (eds) *XIV Mediterranean Conference on Medical and Biological Engineering and Computing 2016*. IFMBE Proceedings.

Knight, M.A. (2016) The impact of changing technology on the practice of journalism [PhD thesis]. University of Central Lancashire.

Knight, M. and Cook, C. (2013) *Social Media for Journalists*. London: Sage Publications.

Koci Hernandez, R. and Rue, J. (2016) *The principles of multimedia journalism*:

packaging digital news. London: Routledge.

Kontu, H (2015) *Creating a strategy for social media: perspectives from the fashion industry* [PhD thesis]. University of the Arts London.

Kollewe, J. (2018) *Marmite maker Unilever threatens to pull ads from Facebook and Google* [Online].

<<https://www.theguardian.com/media/2018/feb/12/marmite-unilever-ads-facebook-google>> [Accessed 31 January 2019].

Kologeski T.K., Strapasson, N.R., Schneider, V. and Renosto, J.M. (2017) Skin-to-skin contact of the newborn with its mother in the perspective of the multiprofessional team. *Journal of Nursing*, 11(1): p94-101.

Konnikova, M. (2014) *Being a Better Online Reader* [Online]. Available from: <www.newyorker.com/science/maria-konnikova/being-a-better-online-reader> [Accessed 8 December 2015].

Krishna, A. (2012) An integrative review of sensory marketing: Engaging the senses to affect perception, judgement and behaviour. *Journal of Consumer Psychology*, 22(3): p332-351.

Krishna, A. (2013) *Customer Sense*. London: Palgrave Macmillan.

Krishna, A. and Morrin, M. (2008) Does Touch Affect Taste? The Perceptual Transfer of Product Container Haptic Cues. *Journal of Consumer Research*, 34(6): p807-818.

Krotoski, A. (2013) *Untangling the web: What the internet is doing to you*. London: Faber and Faber.

Kuchenbecker, K. (2012) *The Technology of Touch* [Online]. Available from: <https://www.ted.com/talks/katherine_kuchenbecker_the_technology_of_touch> [Accessed 20 June 2014].

Laaksolahti, J., Isbister, K. and Höök, K. (2009) Using the Sensual Evaluation Instrument. *Digital Creativity*, 20:3: p165-175.

Lackner, J.R. (2014) Motion sickness: more than nausea and vomiting. *Experimental Brain Research*, 232(8): p2493-2510.

Landmann, M. (1941). Socrates as a Precursor of Phenomenology. *Philosophy and Phenomenological Research*, 2(1): p15-42.

Lanier, J. (2020) *You are not a gadget*. London: Penguin.

Lapan, S.D., Quartaroli, M.T., Riemer, F.J., Quartaroli, M.T. and Riemer, F.J. (eds) (2011) *Qualitative Research: An Introduction to Methods and Designs*. New York: John Wiley.

Le Masurier, M. (2012) Independent magazines and the rejuvenation of print. *International Journal of Cultural Studies*, 15(4): p383-398.

Le Masurier, M. (2015) What is slow journalism? *Journalism Practice*, 9(2): p138-152.

Leadbeater, C. (2009) *We-Think: Mass Innovation, Not Mass Production* (2nd ed). London: Profile Books.

Leader, D. (2016a) *How technology is changing our hands* [Online]. Available from: <<https://www.theguardian.com/books/2016/may/21/darian-leader-how-technology-changing-our-hands>> [Accessed 13 August 2018].

Leader, D. (2016b) *Hands: What we do with them - and why*. London: Penguin Random House.

Lederman, SJ and Jones, LA (2011) Tactile and Haptic Illusions. *IEEE Transactions on Haptics* 4, p273-294

Lee, S.H., Workman, J.E. and Jung, K. (2017) *The influence of need for touch and gender on Internet shopping attitudes among Korean consumers*. *International Journal of Fashion Design, Technology and Education*, 10(2): p230-239.

Legreco, M. (2015) Discourse Analysis. In: Mills, J. and Birks, M. (eds). *Qualitative Methodology: A Practical Guide*. London: Sage Publications.

Leslie, J. (2013) *The redesign of Elle magazine* [Online]. Available from: <<http://magculture.com/the-redesign-of-elle-magazine/>> [Accessed 14 March 2013].

Levinson, P. (1999) *Digital McLuhan*. London: Routledge.

Lewis, P.J. and Adeney, R. (2014) Narrative Research. In: Mills, J. and Birks, M. (eds). *Qualitative Methodology: A Practical Guide*. London: Sage Publications.

Liberman, A. and Mitchell, J. (2008) An analytical dictionary of English etymology: an introduction. Minneapolis: University of Minnesota Press.

Linden, D.J. (2015) *Touch: The Science of Hand, Heart and Mind*. New York: Viking.

Lindstrom, M. (2006) *Brand Sense: how to build powerful brands through touch, taste, smell, sight and sound*. London: Kogan Page.

Lister, M. Dovey, J., Giddings, S., Grant, I. and Kelly, K. (eds) (2009) *New Media: A Critical Introduction*, (2nd ed). London: Routledge.

Lor, P.J. (2017) *International and comparative librarianship: concepts and methods for global studies*. Munich: De Gruyter Saur.

Luft, O. (2011) *Vogue owner Condé Nast bounces back in 2010* [Online]. Available from: <www.campaignlive.co.uk/article/vogue-owner-Condé-nast-bounces-back-2010/1074771?src_site=mediaweek> [Accessed 27 November 2014].

Lunenburg, F. C. and Irby, B. J. (2008) Writing the Methodology Chapter. In: *Writing a Successful Thesis or Dissertation: Tips and Strategies for Students in the Social and Behavioral Sciences* [Online]. Thousand Oaks, CA: Corwin Press. pp. 165-205 Available at: <<http://www.doi.org/10.4135/9781483329659.n8>> [Accessed 7 July 2021].

Lyubomirsky, S. and Tucker, K.L. (1998) Implications of Individual Differences in Subjective Happiness for Perceiving, Interpreting, and Thinking About Life Events. *Journal of Motivation and Emotion*, 22(2): p155-186.

McAlpine, S. (2018) *The Power Of Print With ELLE, DAZED, gal-dem And Riposte* [Online]. Available from <www.elle.com/uk/life-and-culture/culture/a20537076/power-of-print-with-elle/> [Accessed 15 May 2018]

McCandless, D. and Posavec, S. (2010) *Left vs Right (World)* [Online]. Information is Beautiful. Available from: <<http://www.informationisbeautiful.net/visualizations/left-vs-right-world/>> [Accessed 29 September 2014].

McCormack, L. and Joseph, S. (2018) *A 9-Step Guide to Avoiding Pitfalls When Doing Interpretative Phenomenological Analysis (IPA)—IPA and the “Lived” Experience of Complex Trauma* [Online]. Available from: <https://methods.sagepub.com/case/interpretative-phenomenological-analysis-lived-experience-of-complex-trauma> [Accessed 24th April 2021].

McCracken, E. (1993) *Decoding Women’s Magazines: From Mademoiselle to Ms.* New York: Macmillan.

McIntyre, L. J. (2005) *Need to Know: Social Science Research Methods.* Maidenhead: McGraw-Hill International.

McLeod, S. (2017) *Attachment Theory* [Online]. Available from: <<http://www.simplypsychology.org/attachment.html>> [Accessed 3 August 2016].

McLuhan, M. (1964) *Understanding Media.* London: Routledge.

McTighe, T. (2013) *The haptic aesthetic in Samuel Beckett’s drama.* London: Palgrave MacMillan.

Madden J. (2017) ‘What does luxury sound like?’ *Shortlist*, 2.11.17, p34.

Magnetic (ND) *Magnetic sessions at the PPA festival* [Online]. Available from: <<https://magnetic.media/news-views/magnetic-sessions-at-the-ppa-festival>> [Accessed 16 May 2018].

Magnetic (2018a) *New Ofcom report confirms magazines are the most trusted news source* [Online]. Available from: <<https://magnetic.media/news-views/new-ofcom-report-confirms-magazines-are-the-most-trusted-news-source?previewId=kbt55xh>> [Accessed 29 August 2018].

Magnetic (2018b) *New report and sector analysis: a matter of trust* [Online]. Available from: <<https://magnetic.media/insight/a-matter-of-trust-insight>> [Accessed 8 November 2018].

Magnetic Media (2019) *Pay Attention: Magazines’ Role in the Modern Media Mix* [Online]. Available at: <<https://magnetic.media/research/studies/pay-attention#:~:text=Magazines%20provide%20high%20quality%20attention,high%20attention%20to%20the%20mesSagePublications>> [Accessed 24 April 2021].

Majumdar, D., Banerji, P.K. and Chakrabarti, S. (2018) Disruptive technology and disruptive innovation: ignore at your peril! *Strategic Management*, 30(11): p1247-1255.

March, A. (1994) *Usability: The New Dimension of Product Design* [Online]. Available from: <<https://hbr.org/1994/09/usability-the-new-dimension-of-product-design>> [Accessed 13 July 2018].

Marchant, J. (2016) *Cure: A Journey into the Science of Mind over Body*. Edinburgh: Canongate.

Markham, A. (2017) Reflexivity: Some techniques for interpretative researchers [Online]. Available from: <<https://annetmarkham.com/2017/02/reflexivity-for-interpretive-researchers/>> [Accessed 31 March 21].

Marks, L.U. (2002) *Sensuous Theory and Multisensory Media*. Minneapolis: University of Minnesota Press.

Marks, L.U. (1999) *The Skin of the Film*. Durham: Duke University Press.

Mathews, N. (2021) Print imprint: the connection between the physical newspaper and the self. *Journal of Communication Inquiry*, p1-15.

Matthews, E. (2006) *Merleau-Ponty: A guide for the perplexed*. London: Continuum.

May, R. (1974) *The Courage to Create*. New York: WW Norton.

May, T. and Perry, B. (2011). *Social research and reflexivity: Content, consequences and context*. London: Sage Publications.

Max Planck Institute (ND) *Decoding the genetics of synaesthesia - About synaesthesia* [Online]. <<http://www.mpi.nl/departments/language-and-genetics/projects/decoding-the-genetics-of-synaesthesia/about-synaesthesia>> [Accessed 30 June 2017].

Maxwell, J.A. (1996) *Qualitative Research Design: An Interactive Approach*. London: Sage Publications.

Mead, M. and Métraux, R. (eds) (2000) *The Study of Culture at a Distance: The Study of Contemporary Western Cultures*. New York: Berghahn Press.

Mediatel (2018) *For the love of print* [Online]. Available from: <<https://mediatel.co.uk/newsline/2018/10/22/for-the-love-of-print/>> [Accessed 7 August 2019].

Mediatel (2019) *March ABCs: A steady month for newspaper circulation* [Online]. Available from: <<https://mediatel.co.uk/newsline/2019/04/18/march-abcs-a-steady-month-for-newspaper-circulation/>> [Accessed 31 July 19].

Mertens, D. (1998) *Research Methods in Education and Psychology: Integrating Diversity with Quantitative and Qualitative Approaches*. London: Sage Publications.

Michel, L. (1999) Combining Focus Groups and Interviews: Telling How It Is; Telling How It Feels. In: Barbour, R.S. and Kitzinger, J. (eds) (1999) *Developing Focus Group Research*. London: Sage Publications.

Milhalj, M. and Podobnik, J. (2012) *Haptics for Virtual Reality and Teleoperation*. New York: Springer.

Miller, D. (2016) *How the world changed social media*. London: UCL Press.

Miller, G.A. (1962) *Psychology: The Science of Mental Life*. London: Penguin.

Miller, V. (2008) New Media, Networking and Phatic Culture. *Convergence*, 14(4): p387–400. doi: [10.1177/1354856508094659](https://doi.org/10.1177/1354856508094659)

Miller, V. (2011) *Understanding Digital Culture*. London: Sage Publications.

Miller, V (2020) *Understanding Digital Culture*, (2nd ed). London: Sage Publications.

Mills, J. (2014) Methodology and Methods. In: Mills, J and Birks, M (eds) (2014) *Qualitative Methodology: A Practical Guide*. London: Sage Publications.

Mixam (ND) *Magazine quote* [Online]. Available from: <<https://mixam.co.uk/magazines>> [Accessed 14 July 2021].

Moodie, G. (2014) Gutenberg's Effects on Universities. *History of Education*, 43(4): p450–467.

Moore, S. (2014) Digital orientations: “Ways of the hand” and practical knowing in media uses and other manual activities. *Mobile Media & Communication*, 2(2): p196–208.

Moran, D. (2002) Editor's introduction. In: Moran, D. and Mooney, T. (eds) (2002) *The Phenomenology Reader*. London: Routledge.

Moran, K. (2020) *How people read online* [Online]. Available from: <<https://www.nngroup.com/articles/how-people-read-online/>> [Accessed 11 November 2021].

Moritsen, O.G. (2015) *The science of taste* [Online]. <<https://flavourjournal.biomedcentral.com/articles/10.1186/s13411-014-0028-3>> [Accessed 30 June 2017].

Morrow, R., Rodriguez, A. and King, N. (2015) Colaizzi's descriptive phenomenological method. *The Psychologist*, 28(8): p643-644.

Mosely, T. (2016) *The Haptic and the Emerging Critical Discourse on Artists Books*. *Journal of Artists Books*, 39: p36-39.

Moustakas, C. (1994) *Phenomenological research methods*. London: Sage Publications.

Müller, J. and Christandl, F. (2019) Content is king – But who is the king of kings? The effect of content marketing, sponsored content & user-generated content on brand responses. *Computers in Human Behavior*, 96, p46-55.

Murray, R. (2017) *How to write a thesis* (4th ed). Maidenhead: Open University Press.

Murray, S.J. and Holmes, D. (2014) Interpretive Phenomenological Analysis (IPA) and the Ethics of Body and Place: Critical Methodological Reflections. *Journal of Human Studies*, 37: p15–30.

Negroponte, N. (1995) *Being Digital*. New York: Vintage Books.

Newscorp (ND) *Newscorp* [Online]. Available from:
<<https://newscorp.com/business/news-corp-uk/>> [Accessed 8 August 2019].

Newsworks (2016) *National newspapers enjoy 2.7 million uplift in June* [Online]. Available from:
<http://www.newsworks.org.uk/Media-Centre/abc-national-newspapers-enjoy-over-2-million-uplift-in-june?utm_source=News%20Works&utm_medium=email&utm_campaign=7354179_NFN%2022%2F07%2F2016&utm_content=ABCintro&dm_i=1RGQ,4DMIR,L2XSN3,G2ZU1,1> [Accessed 18 July 2016].

Newsworks (2018) *Context matters* [Online]. Available at:
<<https://www.newsworks.org.uk/research/context-matters/>> [Accessed 22 April 2022].

Nielsen, J. (2006) *F-Shaped Pattern For Reading Web Content (original study)* [Online]. Available at:
<<https://www.nngroup.com/articles/f-shaped-pattern-reading-web-content-discovered/>> [Accessed 1 July 2017].

Nolen-Hoeksema, S., Fredrickson, B.L., Loftus, G.R., and Wagenaar, W.A. (2009) *Atkinson & Hilgard's Introduction to Psychology* (15th ed). Boston: Cengage.

Norman, D. and Nielsen, J. (ND) *The Definition of User Experience (UX)* [Online]. Available from: <<https://www.nngroup.com/articles/definition-user-experience/>> [Accessed 11 July 2019].

Norman, J.F., Cheeseman, J.R., Adkins, O.C., Cox, A.G., Rogers, C.E., Dowell, C.J., Baxter, M.W., Norman, H.F. and Reyes, C.M. (2015) Aging and Solid Shape Recognition: Vision and Haptics. *Vision Research*, 115(A): p113-118.

O'Connor, T. (2021) *Vanessa Kingori's Commercial Reboot of British Vogue* [Online]. Available from:
<https://www.businessoffashion.com/articles/media/vanessa-kingoris-commercial-reboot-of-british-vogue?utm_campaign=Daily_Digest_250621&utm_content=intro&utm_medium=email&utm_source=newsletter_dailydigest> [Accessed 25 June 2021].

Oblak, T. (2005) The Lack of Interactivity and Hypertextuality in Online Media. *Gazette*, 67(1): p87–106.

Odell, A. (2019) *Fashion media is addicted to data* [Online]. Available from:
<<https://www.businessoffashion.com/articles/professional/fashion-media-is-addicted-to-data>> [Accessed 18 May 2019].

Odile-Bernez, M. (2014). Comfort, the Acceptable Face of Luxury: An Eighteenth-Century Cultural Etymology. *Journal for Early Modern Cultural*

Studies, 14(2): p3-21.

Odlyzko, A. (2001) Content is not king. *First Monday*, 6(2).

Ofcom (ND) *Ofcom* [Online]. Available from:
<<https://www.ofcom.org.uk/research-and-data/multi-sector-research/cmr>>
[Accessed 9 November 2018].

Office for National Statistics (2011) *2011 Census* [Online]. Available from:
<<https://www.ons.gov.uk/census/2011census>> [Accessed 20 August 2021].

Office for National Statistics (2015) *Pen Portraits for the 2011 Area Classification for Output Areas* [Online]. Available from:
<<https://data.cdrc.ac.uk/output-area-classification-2011/resource/pen-portraits-2011-output-area-classification/resource/pen-portraits-2011-output-area-classification>>
[Accessed 3 August 2021].

Oliver, P. (2012) *Succeeding with your literature review*. New York: McGraw-Hill.

Olivier, P. (2015) *Writing your Thesis* (3rd edition). London: Sage Publications.

Ollander, S., Godin, C., Campagne, A. and Charbonnier, S. (2016), A comparison of wearable and stationary sensors for stress detection. *IEEE International Conference on Systems, Man, and Cybernetics (SMC)*, p004362-004366.

Onwuegbuzie, A.J. and Frels, R. (2016) *7 Steps to a Comprehensive Literature Review: A multimodal and cultural approach*. London: Sage Publications.

Open University (2003) *Signals and Perceptions: The Science of the Senses*. Maidenhead: Open University Press.

PPA (ND) *PPA* [Online]. <<http://www.ppa.co.uk/>> [Accessed 1 April 2017].

Paley, J. (2016) *Phenomenology as qualitative research: a critical analysis of meaning attribution*. London: Routledge.

PAMCo (ND) *PAMCo* [Online]. Available from: <<https://pamco.co.uk/about-us/>>
[Accessed 8 November 2018].

Pape, S. and Featherstone, S. (2006) *Feature Writing: A Practical Introduction*. London: Sage Publications.

Parisi, D (2008) Fingerbombing, or 'Touching is Good': The cultural construction of technologised touch, *Senses and Society*, Vol 3(3) 397-327.

Parisi, D. (2014) *Reach In and Feel Something: On the Strategic Reconstruction of Touch in Virtual Space*. *Animation: an interdisciplinary journal*, 9(2): p228–244.

Parisi, D. and Archer, J.E. (2017) *Making touch analog: The prospects and perils of a haptic media studies*. *New Media and Society*, 19(10): p1523–1540.

Parisi, D., Paterson, M. and Archer, J.E. (2017) Haptics media studies. *New Media and Society*, (SI): p1-10.

Paterson, M. (2007) *The Senses of Touch: Haptics, Affects and Technologies*.

Oxford: Berg.

Paterson, M. (2017) On haptic media and the possibilities of a more inclusive interactivity. *New media and society*, 19(10): p1541–1562.

Pearson, G.D.H. and Kosicki, G.M. (2016) How Way Finding is Challenging Gatekeeping in the Digital Age. *Journalism Studies*, 18(9): p1087-1105.

Peck, J. (2013), "Please touch: how your sense of touch can influence marketing decisions", in Solomon, M.R. (ed.), *Why We Buy: Understanding Consumer Behavior* [Online]. The Marketing & Management Collection. Available from: <<http://hstalks.com/?t=MM1643555>> [Accessed 16 June 2016].

Peck, J. and Childers, T.L. (2003a) To Have and To Hold: The Influence of Haptic Information on Product Judgments. *Journal of Marketing*, 67: p35-48.

Peck, J. and Childers, T.L. (2003b) Individual differences in haptic information processing: the 'Need for Touch' scale. *Journal of Consumer Research*, 30: p430-442.

Peck, J. and Childers, T.L. (2006) If I touch it, I have to have it: Individual and environmental influences on impulse purchasing. *Journal of Business Research*, 59: p765–769.

Peck, J. and Wiggins Johnson, J. (2011) Autotelic Need for Touch, Haptics, and Persuasion: The Role of Involvement. *Psychology & Marketing*, 28(3): p222–239.

Peoples, K. (2021) *How to write a phenomenological dissertation: A step-by-step guide*. London: Sage Publications.

Pernice, K. (2017) *F-Shaped Pattern of Reading on the Web: Misunderstood, But Still Relevant (Even on Mobile)* [Online]. Available from: ,<https://www.nngroup.com/articles/f-shaped-pattern-reading-web-content/>. [Accessed 19 July 2018].

Pidgeon, D. (2018) *Magazine readership across all platforms revealed for first time* [Online]. <<https://mediatel.co.uk/newsline/2018/04/19/magazine-readership-across-all-platforms-revealed-for-first-time/>> [Accessed 20 April 2018].

Pink, S. (2009) *Doing Sensory Ethnography*. London: Sage Publications.

Pink, S. (2012) *Situating Everyday Life*. London: Sage Publications.

Pirzada, Z. (2016) *Quality time with news brands* [Online]. Available from: <http://www.newsworks.org.uk/News-and-Opinion/quality-time-with-newsbrands?utm_source=News%20Works&utm_medium=email&utm_campaign=6377836_NFN%2006%2F11%2F2015&utm_content=Toucpointsintro&dm_i=1RGQ,3SP64,L2XSN3,DOHE6,1> [Accessed 18 July 2016].

Plotnik, R. (2017) Force, flatness and touch without feeling: Thinking historically about haptics and buttons. *New media & society*, 19(10): p1632–1652.

Polkinghorne, D.E. (2005) Language and meaning: data collection in qualitative research. *Journal of Counselling Psychology*, 52(2): p137-145.

Press Association (ND) *PA Media* [Online]. <<https://pa.media/>> [Accessed 15 Nov 2019].

Press Gazette (2007) *Newsagents stops delivering Sunday papers due to weight* [Online]. Available from: <<http://www.pressgazette.co.uk/newSagePublicationsnt-stops-delivering-sunday-papers-due-to-weight/>> [Accessed 27 June 2016].

Print Power (2019) *Why people need print now more than ever* [Online]. Available from: <<https://www.printpower.eu/experts/martin-lindstrom/>> [Accessed 17 January 2020].

Probst, B. (2015) The Eye Regards Itself: Benefits and Challenges of Reflexivity in Qualitative Social Work Research. *Social Work Research*, 39(1): p37–48.

Publishers Association (2017) *UK Publishing has record year up 7% to £4.8bn* [Online]. <<https://www.publishers.org.uk/media-centre/news-releases/2017/uk-publishing-has-record-year-up-7-to-48bn/>> [Accessed 5 July 2017].

Pursey, T. and Lomas, D. (2018) Tate Sensorium: An experiment in multisensory immersive design. *The Senses and Society*, 13(3): p354-366.

Quarrell, O., Nance, M.A., Nopoulos, P., Paulsen, J.S., Smith, J.A. and Squitieri, F. (2013) Managing juvenile Huntington's disease. *Neurodegenerative Disease Management*, 3(3): p267-276.

Quinn, B. (2013) *Rupert Murdoch firm dips into hipsters' bible with \$70m stake in Vice* [Online]. <<https://www.theguardian.com/media/2013/aug/17/rupert-murdoch-vice-magazine-sake>> [Accessed 22 February 2018].

Racat, M. and Capelli, S. (2020) *Haptic Sensation and Consumer Behaviour The Influence of Tactile Stimulation in Physical and Online Environments*. London: Palgrave Macmillan.

Racer, T. (2017) *Qualitative Analysis using Excel* [Online]. <<https://www.youtube.com/watch?v=P0gzlWNodKw>> [Accessed 22 September 2020].

Radio Times (ND) *About Radio Times* [Online]. Available at: <<https://www.radiotimes.com/about/>> [Accessed 6 Jul 2022].

Ragot, M., Martin, N., Em, S., Pallamin, N. and Diverrez, J.M. (2018) Emotion Recognition Using Physiological Signals: Laboratory vs. Wearable Sensors BT - Advances in Human Factors in Wearable Technologies and Game Design. *Applied Human Factors and Ergonomics*, p813 - 22.

Rajan, T. (2002) *Deconstruction and the Remainders of Phenomenology*. Redwood City: Stanford University Press.

Ramsey, C. (2006) *Introducing Reflective Learning*. Maidenhead: Open University

Press.

Randall, D. (2000) *The Universal Journalist* (2nd ed). London: Pluto.

Randall, K. (2017) *Glamour magazine goes digital-first and cuts back print editions* [Online]. Available at:
<<https://www.theguardian.com/uk-news/2017/oct/06/conde-nast-unveils-digital-first-future-for-glamour-magazine>> [Accessed 4 Jul 2022].

Reiter, S., Stewart, G. and Bruce, C. (2011) A strategy for delayed research method selection: deciding between grounded theory and phenomenology. *The Electric Journal of Business Research Methods*, 9(1): p135-146.

Reuters (2022) *Barry Diller-owned Dotdash ends print edition of six magazines* [Online]. Available at:
<[https://www.reuters.com/business/media-telecom/barry-diller-owned-dotdash-ends-print-editions-six-magazines-2022-02-09/#:~:text=Feb%20%20\(Reuters\)%20%2D%20Dotdash,part%20of%20a%20digital%20push](https://www.reuters.com/business/media-telecom/barry-diller-owned-dotdash-ends-print-editions-six-magazines-2022-02-09/#:~:text=Feb%20%20(Reuters)%20%2D%20Dotdash,part%20of%20a%20digital%20push)> [Accessed 4 July 2022].

Reynolds, J. and Sweney, M. (2014) *Magazine chiefs urge industry change from burning platform to growth* [Online]. Available from:
<<https://www.theguardian.com/media/2014/may/25/magazine-change-digital-job-cuts>> [Accessed 5 November 2014].

Robles-De-La-Torre, G. (2013) *Haptics in the real and virtual environment* [Online]. Available from: <<http://www.roblesdelatorre.com/gabriel/>> [Accessed 22 July 2013].

Rogers, E.M. (1995) *Diffusion of Innovations* (4th ed). New York: The Free Press.

Romdenh-Romluc, K. (2011) *Routledge Philosophy Guidebook to Merleau-Ponty and Phenomenology of Perception*. London: Routledge.

Romey, K. (2016) *Here's What Was in the First Issue of 'National Geographic' Magazine* [Online].
<<https://news.nationalgeographic.com/2016/09/geographic-magazine-natgeo-first-hubbard-greely-1888/>> [Accessed 20 April 2018].

Romo, R. and Salinas, E. (2001) Touch and Go: Decision-making mechanisms in somatosensation. *Annual Review of Neuroscience*, 24(1): p107-137.

Rosenwald, M.S. (2015) *Why digital natives prefer reading in print. Yes, you read that right* [Online]. Available from:
<http://www.washingtonpost.com/local/why-digital-natives-prefer-reading-in-print-yes-you-read-that-right/2015/02/22/8596ca86-b871-11e4-9423-f3d0a1ec335c_story.html?noredirect=on&utm_term=.8390c4fe2191> [Accessed 17 May 2018].

Rothkopf, E.Z. (1971) Incidental memory for location of information in text. *Journal of Verbal Learning and Verbal Behaviour*, 10: p608-613.

Roopchand, R. (2016). Analyzing the Impact of Sensory Marketing on Consumers: A Case Study of KFC. *Journal of US-China Public Administration*, 13: p278-292.

- Rouke, L. (2011) *Why creative writing is better with a pen* [Online]. <<https://www.theguardian.com/books/2011/nov/03/creative-writing-better-pen-longhand>> [Accessed 4 April 2017].
- Rowlands, B. (2018). *The fall and rise of magazines from print to digital*. [online] Available from: <<http://www.theguardian.com/media-network/media-network-blog/2013/mar/07/fall-rise-magazines-print-digital>> [Accessed 1 August 2013].
- Ruane, J.M. (2005) *Essentials of Research Methods: A guide to Social Science Research*. Hoboken: Blackwell.
- Ruddick, G. (2017) *News magazines enjoy circulation boost while celebrity titles suffer* [Online]. Available from: <<https://www.theguardian.com/media/2017/aug/10/news-magazines-circulation-celebrity-private-eye-economist>> [Accessed 5 May 2019].
- Rugg, G. and Petre, M. (2004) *The Unwritten Rules of PhD Research*. Maidenhead: Open University Press.
- de Saint-Exupéry, A. (1943) *The Little Prince*. Paris: Gallimard.
- Sacharin, V., Schlegel, K. and Scherer, K. R. (2012) *Geneva Emotion Wheel rating study*. University of Geneva: Swiss Center for Affective Sciences.
- Sartre, J.P. (1938) *Nausea*. London: Penguin.
- Schaeffer, G.O. and Wertheimer, A. (2011) *The Right to Withdraw from Research*. Kennedy Institute of Ethics, 20(4): p329–352.
- Scharrer, E. (2008) Media Exposure and Sensitivity to Violence in News Reports: Evidence of Desensitization. *Journalism and Mass Communication*, 85(2): p291-310.
- School Guide (2016) *York Steiner School report* [Online]. Available from: <<https://www.schoolguide.co.uk/schools/york-steiner-school-york>> [Accessed 13 July 2018].
- Schreier, M. (2014) Qualitative Content Analysis. In: *The Sage Publications Handbook of Qualitative Data Analysis*. London: Sage Publications, p170-183.
- Schubert, T.W., Zickfield, J.H., Seibt, B. and Fiske, A.P. (2016) Moment-to-moment changes in feeling moved match changes in closeness, tears, goosebumps and warmth: time-series analyses. *Cognition and Emotion*, 32: p174-184.
- Schwartz, B (2014) *Google Analytics: Visits Now Sessions & Unique Visitors Now Users* [Online]. Available from: <<https://www.seroundtable.com/google-analytics-sessions-users-18424.html>> [Accessed 27 June 2016].
- Shirky, C. (2010) *Cognitive Surplus: Creativity and generosity in a connected age*. London: Penguin.

- Silverman, D. (2005) *Doing Qualitative Research* (2nd ed). London: Sage Publications.
- Silverman, D. (2013) *Doing Qualitative Research* (4th ed). London: Sage Publications.
- Silverman, D. (2019) *Doing Qualitative Research* (6th ed). London: Sage Publications.
- Simmons, J.A. and Benson, B.E. (2013) *The New Phenomenology: A philosophical introduction*. London: Bloomsbury.
- Slow Journalism Company (ND) *Delayed Gratification* [Online]. Available from: <<https://www.slow-journalism.com/delayed-gratification-magazine>> [Accessed 16 May 2018].
- Slow Journalism (2019) *Masterclass: How to be a non-fiction author* [Online]. Available from: <<https://www.slow-journalism.com/events-and-classes/live-online-masterclass-how-to-be-a-non-fiction-author>>. [Accessed 14 July 2021].
- Smith, M.J. (1998) *Social Science in Question*. Birkenhead: Open University Press.
- Smith, J.A. (2017) Interpretative phenomenological analysis: Getting at lived experience. *Journal of Positive Psychology*, 12(3): p303-304.
- Smith, J.A., Flowers, P. and Larkin, M. (2009) *Interpretative Phenomenological Analysis*. London: Sage Publications.
- Smith, J.A. and Osborn, M. (2015) Interpretative Phenomenological Analysis. In: Smith, J.A. (ed) *Qualitative Psychology: A Practical Guide to Research Methods* (3rd ed). London: Sage Publications, pp24-52.
- Solomon, R. (2006) Meditations on Nausea: Sartre's Phenomenological Ontology. In: *Dark Feelings, Grim Thoughts: Experience and Reflection in Camus and Sartre* [Online]. Oxford: Oxford University Press. Available at: <https://oxford.universitypressscholarship.com/view/10.1093/0195181573.001.0001/acprof-9780195181579-chapter-3> [Accessed 11 January 2022].
- Sokolowski, R. (2000) *Introduction to Phenomenology*. Cambridge, UK: Cambridge University Press.
- Somerset Maugham, W. (1944) *The Razor's Edge*. London: Pan.
- Sonneveld, M. H. and Schifferstein, H. N. J. (2008) The tactual experience of objects. In: Schifferstein, H. N. J. and Hekkert, P. (eds.). *Product Experience*. Amsterdam: Elsevier, p41–67.
- Southern, M. (2021) *Wordpress powers 39.5% of all websites* [Online]. Available at: <<https://www.searchenginejournal.com/wordpress-powers-39-5-of-all-websites/391647/#close>> [Accessed 20 Apr 2022].
- Sparkes, M. (2015) *What is Apple's 'Taptic Engine' and 'Force Touch'?* [Online]. Available from:

<<https://www.telegraph.co.uk/technology/apple/11466498/What-is-Apples-Taptic-Engine-and-Force-Touch.html>> [Accessed from: 25 April 2016].

Spence, C. (2016) Multisensory Packaging Design: Color, Shape, Texture, Sound, and Smell. In: Burgess, P. (ed), *Integrating the Packaging and Product Experience in Food and Beverages: A Road-Map to Consumer Satisfaction*. Cambridge, UK: Woodhead Publishing, p1–22.

Spence, C. and Carvalho, F.M. (2019) Assessing the influence of the coffee cup on the multisensory tasting experience. *Food Quality and Preference*, 75: p239-248.

Spence, C. and McDonald, J. (2004). The Cross-Modal Consequences of the Exogenous Spatial Orienting of Attention. In: Calvert, G. A., Spence, C. and Stein, B. E. (eds.), *The handbook of multisensory processes*. Cambridge, US: MIT Press, p3–25.

Stevenson, R. (2009) *The Psychology of Flavour*. Oxford: Oxford University Press.

Stevenson, W. (2014) *Ceausescu's Children* [Online]. Available from: <<https://www.theguardian.com/news/2014/dec/10/-sp-ceausescu-children>> [Accessed 14 October 2021].

Stewart, D. and Mickunas, A. (1974) *Exploring Phenomenology*. Chicago: American Library Association.

Stewart, D.W., Shamdasani, P.N. and Rook, D.W. (2007) *Focus Groups: Theory and Practice*. London: Sage Publications.

Stuart-Turner, R. (2016) *ABC results show overall circulation decline but success for some sectors* [Online]. <<http://www.printweek.com/print-week/news/1158595/abc-results-show-overall-circulation-decline-but-success-for-some-sectors>> [Accessed 1 April 2017].

Sullivan, P. (2012) Data Preparation and Analysis. In: *Qualitative Data Analysis Using a Dialogical Approach* [Online]. London: Sage Publications, p64-80. Available at: <<http://www.doi.org/10.4135/9781446268391>> [Accessed 7 Apr 2021].

Sundar, A. and Noseworthy, T.J. (2016) Too Exciting to Fail, Too Sincere to Succeed: The Effects of Brand Personality on Sensory Disconfirmation. *Journal of Consumer Research*, 43(1): p44-67.

Sundler, A.J., Lindberg, E., Nilsson, C. and Palmér, L. (2019) Qualitative thematic analysis based on descriptive phenomenology. *Nursing Open*, 6: p733– 739.

Suomi, S.J., van der Horst, F.C.P. and van der Veer, R. (2008) Rigorous Experiments on Monkey Love: An Account of Harry F. Harlow's Role in the History of Attachment Theory. *Integrative Psychological and Behavioural Science*, 42: p354–369.

Sussex, R. (1996) The Production and Consumption of Text. *Annual Review of Applied Linguistics*, 16, p46-67.

Swain, J. and Spire, Z. (2020). The Role of Informal Conversations in Generating

Data, and the Ethical and Methodological Issues. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 21(1).
doi:<http://dx.doi.org/10.17169/fqs-21.1.3344>

Sweney, M. (2012) *Alexander Lebedev's 20p i bucks newspaper circulation decline* [Online]. Available from:
<www.theguardian.com/media/2012/mar/09/i-newspaper-bucks-trend-abcs>
[Accessed 9 March 2012].

Sweney, M. (2018) *NME to close print edition after 66 years* [Online]. Available at:
<<https://www.theguardian.com/media/2018/mar/07/nme-ceases-print-edition-weekly-music-magazine>> [Accessed 4 Jul 2022].

Sweney, M. (2018) *Print advertising in UK national newspapers rises for first time since 2010, study finds* [Online]. Available from
<<https://www.theguardian.com/media/2018/jul/31/national-newspapers-in-uk-enjoy-first-print-advertising-rise-since-2010-research-finds>> [Accessed 8 November 2018].

Sweney, M. (2020) *Pandemic drives ebook and audiobook sales by UK publishers to all time high* [Online]. Available from:
<<https://www.theguardian.com/books/2020/nov/14/pandemic-drives-ebook-and-audiobook-sales-by-uk-publishers-to-all-time-high-covid>> [Accessed 11 Nov 2021].

Swiss Center for Affective Sciences (ND) *The Geneva Emotion Wheel* [Online]. Available at: <<https://www.affective-sciences.org/gew/>> [Accessed 28 August 2018].

Taipale, S. (2013) The affordances of reading/writing on paper and digitally in Finland. *Telematics and Informatics*, 31: p532–542.

Taipale, S. (2015) Bodily dimensions of reading and writing practices on paper and digitally. *Telematics and Informatics*, 32: p766–775.

Taherdoost, H. (2016), Sampling Methods in Research Methodology; How to Choose a Sampling Technique for Research. *International Journal of Academic Research in Management (IJARM)*, 5(2): p18-27.

Tanvas (ND) *Tanvas* [Online]. Available from: <https://tanvas.co/technology>
[Accessed 16 Sept 2021].

Tarnoff, B. (2016) *How the internet was invented* [Online]. Available from:
<<https://www.theguardian.com/technology/2016/jul/15/how-the-internet-was-invented-1976-arpa-kahn-cerf>> [Accessed 30 May 2018].

Tate (2015) *Tate Sensorium* [Online]. Available from:
<<https://www.tate.org.uk/whats-on/tate-britain/display/ik-prize-2015-tate-sensorium>.>
[Accessed 13 July 2018].

Telegraph (2016) *20 bestselling mobile phones of all time* [Online].
<<http://www.telegraph.co.uk/technology/2016/01/26/the-20-best-selling-mobile-phones-of-all-time/nokia-3310/>> [Accessed 30 June 2017].

TheChamp (2016) Comment on: Jackson, J. (2016) *Independent's digital audience drops to below level it was before paper closed* [Online]. Comment posted on: 16 Jun 2016. Available from:
<<https://www.theguardian.com/media/2016/jun/16/independents-digital-audience-dr>

- ops-to-below-level-it-was-before-paper-closed> [Accessed 27 June 2016].
- The Economist (2006) *The Hawthorne Effect* [Online]. Available from: <<http://www.economist.com/node/12510632>> [Accessed 18 July 2016].
- The Engineer (ND) *Researchers create screen you can feel without touching it* [Online]. Available from: <www.theengineer.co.uk/more-sectors/electronics/news/researchers-create-screen-you-can-feel-without-touching-it/1017259.article> [Accessed 24 August 2015].
- The Guardian (ND) *The Guardian Advertising* [Online]. Available from: <<http://advertising.theguardian.com/>> [Accessed 29 September 2014].
- The Guardian (2016) *The ethnic population of England and Wales broken down by local authority* [Online]. Available from: <<https://www.theguardian.com/news/datablog/2011/may/18/ethnic-population-england-wales#data>> [Accessed 13 July 2018].
- Thomas, D.R. and Hodges, I.D. (2010) *Designing and Managing your Research Project: Core Knowledge for Social and Health Research*. London: Sage Publications.
- Thomasson, E. (2013) *Online retailers go hi-tech to size up shoppers and cut returns* [Online]. Available from: <<http://www.reuters.com/article/net-us-retail-online-returns-idUSBRE98Q0GS20131002>> [Accessed 25 July 2016].
- Thompson, C. (2007) *Your outboard brain knows all* [Online]. <<https://www.wired.com/2007/09/st-thompson-3/>> [Accessed 9 June 2017].
- Thompson, C. (2017) *How being bored out of your brain makes you more creative* [Online]. <<https://www.wired.com/2017/01/clive-thompson-7/>> [Accessed 9 June 2017].
- Thomson, P. and Kamler, B. (2016) *Detox your writing: strategies for doctoral researchers*. London: Routledge.
- Thurman, N. and Fletcher, R. (2018) Are newspapers heading toward post-print obscurity? A case study of The Independent's transition to online-only. *Digital Journalism*, 6(8): p1003-1017.
- Tice, C. (2012) *7 Layout Secrets of the Big Retail Chains* [Online]. Available from: <<https://www.entrepreneur.com/article/223808>> [Accessed 25 July 2016].
- Time Inc (ND) *Time Inc brands* [Online]. Available from: <<http://www.timeinc.com/brands/amateur-photographer/>> [Accessed 18 July 2016].
- Tobitt, C. (2019) *National newsbrand ABCs: Full figures for March 2019* [Online]. Available from: <https://www.pressgazette.co.uk/national-newsbrand-abcs-full-circulation-figures-for-march-2019/> [Accessed 8 August 2019].
- Tomkins, L. and Eatough, V. (2010) Reflecting on the Use of IPA with Focus Groups: Pitfalls and Potentials. *Qualitative Research in Psychology*, 7(3): p244-262

Tröndle, M. and Tschacher, W. (2012) The physiology of phenomenology: the effect of artworks. *Empirical Studies of the Arts*, 30(1): p75-113.

Trubek, A. (2010) *How the paperback novel changed popular literature* [Online]. Available from: <<http://www.smithsonianmag.com/arts-culture/how-the-paperback-novel-changed-popular-literature-11893941/>> [1 March 2017].

Uehlein F.A. (1992) Eidos and Eidetic Variation in Husserl's Phenomenology. In: Spitzer M., Uehlein F., Schwartz M.A. and Mundt C. (eds) *Phenomenology, Language & Schizophrenia*, New York: Springer.

Ultrahaptics (ND) *Ultrahaptics* [Online]. Available from: <www.ultrahaptics.com> [Accessed 24 August 2015].

Ultraleap (ND) *Ultraleap* [Online]. Available from: <<https://www.ultraleap.com/haptics/>> [Accessed 16 Sept 2021].

Unicef (ND) *Research on skin-to-skin contact* [Online]. <<https://www.unicef.org.uk/babyfriendly/news-and-research/baby-friendly-research/research-supporting-breastfeeding/skin-to-skin-contact/>> [Accessed 11 October 2017].

University of Sussex (2015) *Love is in the air: technology can transfer human emotions to your palm through air* [Online]. Available from: <<http://www.sussex.ac.uk/broadcast/read/30113>> [Accessed 28 August 2018].

University of Sussex (ND) *Broadcast* [Online]. Available from: <<http://www.sussex.ac.uk/broadcast/read/30095>> [Accessed 24 August 2015].

UserExperienceWorks (2011) Available at: <<https://www.youtube.com/watch?v=aXV-yaFmQNk>> [Accessed 13 July 2018].

Usher, K. and Jackson, D. (2014) Phenomenology. In: Mills, J. and Birks, M. (eds). *Qualitative Methodology: A Practical Guide*. London: Sage Publications.

Van Parys, H., Smith, J.A. and Rober, P. (2014) Growing up with a mother with depression: an interpretative phenomenological analysis. *The Qualitative Report*, 19(29): p1-18.

Vardigan, M., Granda, P. and Hoelter, L. (2016) Documenting Survey Data Across the Life Cycle. In: *The Sage Publications Handbook of Survey Methodology* [Online]. London: Sage Publications, p443-459. Available at: <<http://www.doi.org/10.4135/9781473957893>> [Accessed 7 Apr 2021]

Vi, C.T., Ablart, D., Gatti, E., Velasco, C. and Obrist, M. (2017) Not just seeing, but also feeling art: mid-air haptic experiences integrated in a multisensory art exhibition. *International Journal of Human-Computer Studies*, 108: p1-14.

Vicary, S., Young, A. and Hicks, S. (2017) Using Interpretative Phenomenological Analysis in social work research: a current study. *European Conference for Social Work Research*, 19(21).

Villi, M. and Hayashi, K. (2014) The Mission is to Keep This Industry Intact: Digital

Transition in the Japanese Newspaper Industry. In: *64th Annual International Communication Association (ICA) Conference, Seattle, WA, 22-26 May 2014*.

Vice Media Kit (2019) *Vice Media Kit 2019* [Online]. Available from: <<https://upload-assets.vice.com/files/2016/01/15/1452894236compressed.pdf>> [Accessed 12 June 2019].

Vitae (ND) The Vitae Research Development Framework [Online]. Available from: <<https://www.vitae.ac.uk/researchers-professional-development/about-the-vitae-researcher-development-framework/developing-the-vitae-researcher-development-framework>> [Accessed 6 May 2022].

Vogue Media Kit (2019) *Vogue Media Kit 2019* [Online]. Available from: <https://cnda.Condénast.co.uk/static/mediapack/vg_media_pack_latest.pdf> [Accessed 21 March 2019].

Vogue Media Kit (2021) *Vogue Media Kit 2021* [Online]. Available from: <https://cnda.Condénast.co.uk/static/mediapack/vg_media_pack_latest.pdf> [Accessed 14 July 2021].

Wagstaff, C., Jeong, H., Nolan, M., Wilson, T., Tweedlie, J., Phillips, E., Senu, H. and Holland, F. (2014) The accordion and the deep bowl of spaghetti: Eight researchers' experiences of using IPA as a methodology. *The Qualitative Report* 2014, 19(47): p1-15.

Warnock, M. (1970). *Existentialism*. New York: Oxford University Press.

West, D. (1996). *An Introduction to Continental Philosophy*. Cambridge, UK: Polity.

Walters, S.R. and Godbold, R. (2014) *Someone is watching you: The ethics of covert observation to explore adult behaviour at children's sporting events*. *Journal of Bioethical Inquiry*, 11(4): p531-537.

Wang, C., Rui, Z. and Handy, T. (2015) Experiencing haptic roughness promotes empathy, *Journal of Consumer Psychology*, 26(3): p350-362.

WARC (ND) *Your global authority on advertising and media effectiveness* [Online]. Available from: <<https://www.warc.com/Welcome>> [Accessed 8 November 2018].

Wastlund, E. (2007) *Experimental Studies of Human-Computer Interaction: Working memory and mental workload in complex cognition*. Department of Psychology, Gothenburg University.

Wegner, D.M. and Ward, A.F. (2013) *The Internet Has Become the External Hard Drive for Our Memories* [Online]. Available from: <<https://www.scientificamerican.com/article/the-internet-has-become-the-external-hard-drive-for-our-memories/>> [Accessed 13 July 2018].

Wheeler, A. (2017) *Designing brand identity: an essential guide for the whole branding team* (5th ed). New York: Wiley.

White, L. (2010) *Making Sense*. Available from: <<http://cargocollective.com/luke-white/Making-Sense>> [Accessed 30 July 2013].

Wilkinson, S. (2015) Focus Groups. In: Smith, J.A. (ed) *Qualitative Psychology: A*

- Practical Guide to Research Methods* (3rd ed). London: Sage Publications, p24-52.
- Witschge, T., Anderson, C.W., Domingo, D. and Hermida, A. (eds) (2016) *The Sage Publications Handbook of Digital Journalism*. London: Sage Publications.
- Whittaker, J. (2008) *Magazine Production*. London: Routledge.
- Wisker, G. (2008) *The Postgraduate Research Handbook*. London: Palgrave MacMillan.
- Wolf, M. (2008) *Proust and the Squid*. New York: Harper Collins.
- Wolff, M. (2014) *As the newspaper industry shrinks by 8 per cent a year, how is the Guardian coping?* [Online]. Available from:
<<http://www.gq-magazine.co.uk/article/michael-wolff-the-guardian>> [Accessed 29 May 2015].
- Wood, E.H. and Kenyon, A.J. (2018) Remembering together: The importance of shared emotional memory in event experiences. *Event Management*, 22: p163–181.
- Wood, J. (ed) (1998) *The Virtual Embodied: Presence, Practice, Technology*. London: Routledge.
- Woodfield, R. (2001) *Framing Formalism: Riegl's Work*. London: Routledge.
- Wordpress (ND) *Choose your hosting plan* [Online]. Available at:
<<https://wordpress.com/pricing/>> [Accessed 20 Apr 2022].
- Yardley, L. and Bishop, F. (2017). Mixing Qualitative and Quantitative Methods: A Pragmatic Approach. In: *The Sage Publications Handbook of Qualitative Research in Psychology*, London: Sage Publications, p352-369.
- Yoshitaka, O.T.A. (2013) What is 'the haptic'? Consideration of *Logique de la Sensation* and Delueze's theory of sensation. *The Japanese Society for Aesthetics*, 17: p13-24.
- Ytre-Arne, B. (2013) Changing Magazine Journalism. *Nordicom Review*, 34: p75-88.
- Zaccagnini Flynn, J. and Foster, I.M. (2009) *Research Methods for the Fashion Industry*. New York: Fairchild.
- Zahavi, D. (ed) (2013) *The Oxford Handbook of Contemporary Phenomenology*. Oxford: Oxford University Press.
- Zhou, S., Kiesow, D. and Guo, L (2021) The values of print: affordances and sensemaking for newspaper consumers. *Journalism Practice*, p1-18.



