The Power of Digital Storytelling to Influence Human Behaviour

A thesis submitted to the University of Stirling for the Degree of
Doctor of Philosophy

By

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Abstract

The aim of this multi-disciplinary research was to explore the power of digital, interactive or participatory storytelling to influence human behaviour in the context of public health. It addressed three related questions:

RQ1: Does digital storytelling have the power to influence human behaviour?
RQ2: If digital storytelling can influence human behaviour then *how* might it do so?
RQ3: Is a 'digital storytelling framework' feasible as an approach to behaviour change?

Four linked qualitative studies were conducted: a scoping review, in-depth interviews with 11 international 'digital storytellers', two case studies of 'digital storytelling designed to influence human behaviour' and six focus groups with 35 adolescent 'digital story participants'. The research found that:

RA1: Digital storytelling appears to influence human behaviour.
RA2: Digital storytelling appears to influence by engaging at ever deepening emotional and non-conscious levels. Commerce appears to understand and embrace this power: But public health appears to rely on traditional uni-directional, non-participatory message led approaches and appeals to cognition. This presents threats and opportunities to public health.
RA3: The proposed 'digital storytelling framework' is feasible and desirable as a behaviour change paradigm.

The thesis concludes that Digital Storytelling appears to influence human behaviour. It appears to derive its power to influence by facilitating unprecedented depths of emotional engagement potentially *en route* to behaviour change. The current imbalance in how commerce and public health corral the power of digital storytelling suggests that the latter might embrace its potential; and tougher regulation might constrain how the former uses it to market harmful products. The proposed digital storytelling framework makes a valuable creative, analytical and critical contribution to both of these ends. Its core principles have informed the design of numerous story-led digital health interventions; and they now sit at the core of a counter-marketing campaign to reduce harmful effects of marketing on children's health.

Declaration

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma of the university of other institute of higher learning, except where due acknowledgement has been made in the text.

Signature.....

Date.....

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'He wants to be a God with only the equipment of an animal,
and so he thrives on fantasies'. (Becker, 1973)

Contents

Introduction

This research concerns the power of mass (digital) media to influence human behaviour globally. It responds to, and supports calls for, further research into the influence of digital media on human *health* behaviours from three main sources: those who recognise the *opportunities* that digital media present to positive health behaviour change e.g. (Baranowski et al, 2008); those for whom digital media present *threats* to public health when used by commerce e.g. (Cairns, 2013) and those who call for regulatory constraint on the use of digital media to market harmful products e.g. (Hastings and Sheron 2013). Arguments from all three camps rely upon answers to the same two questions: 1. *Does digital media influence human behaviour?* And 2. *If digital media do influence human behaviour then* ***how*** *do they influence?* Each position relies further upon a coherent conceptual framework by which to understand, research, analyse and critically evaluate the use of digital media to influence behaviour by commerce *and* public health. This research addresses all three of these related concerns; but it does so in what is perhaps an unorthodox manner, as the following section explains.

This introduction comprises:

i) The Background to the Research
ii) The Evolution of the Research Aim, Objective and Questions
iii) The Methodological Approach
iv) Towards a Definition of 'Digital Storytelling'
v) Thesis Structure and Overview

i) The Background to the Research

It is over 20 years since I studied for a Masters degree (Grindle, 1994). I have since worked in the Creative Industries as a film, television and computer games writer, producer and trainer. I have kept diaries throughout my life and record observations and reflections on a daily basis (an obsession that led to my career in writing rather than the reverse). That career might be seen as an extended period of 'participant observation' (Gold, 1958). This thesis is not *about* that period: But it does address questions that arose directly from beliefs and insights forged during it. Professional experience determined the choice and focus of the research questions, the methodological approach to addressing those questions and the written style of the thesis itself. It has therefore introduced a potential for bias at each of those stages. Since that bias appeared inevitable, from the outset every effort was made to reduce its influence. The main stages at which bias may have been introduced are now highlighted to that end.

ii) The Evolution of the Research Aims, Objectives and Questions

The research questions arose from my beliefs about *commercial* audiovisual storytelling formed by observations made in and about my professional milieu over more than 20 years. Between 1991 and 1997 internet adoption was expanding rapidly and linear audiovisual storytelling was becoming increasingly 'interactive'. Digital – or 'multi-media' as it was called then – was replacing analogue media incrementally. As media professionals we had to adapt rapidly to these new storytelling, production and dissemination tools. Our adaptation to the 'new media' landscape meant asking questions continually about each technological development.

I began to question how film and television storytelling and computer games might become merged and used to structure social media experiences online. That curiosity was supported first through a professional development initiative run by BBC and SVT (Sweden's Public Service Broadcaster) in London, Bristol, Paris and Stockholm. I observed, at the BBC in particular, considerable anxiety about this new form. The idea that citizens could talk back and even tell their own stories appeared to pose an inherent threat to 'proper' editorial control. I referred to this phenomenon as 'The Participation Paradox': *How do we tell stories that educate, inform and entertain when the audience has equal control over the storytelling process?* (Grindle, 1997). The tension between the power of the storyteller and the story participant to tell their respective stories is one that runs throughout this thesis and I return to the issue in the concluding Chapter Ten.

Between 1997 and 2009 when working with the computer games industry[1] I observed something repeatedly. Industry collaborators, my students and young sons, Callum and Luc, would refer to themselves in the first person during and after engaging with a story-led computer game. They would report '***I*** *defeated the Evil Emperor Zorg', '****I*** *saved Princess Peach'*. They would use the first person pronoun when referring to the onscreen protagonist who was quite clearly a third person; the representation of a character on the screen. When playing computer games, I too *felt as if* I was the main character. I began to call this phenomenon '*The Participant as Protagonist'* (Grindle, 2006). This apparent '*shift or elision in subjectivity'* (Grindle, op cit) was something I had neither observed nor heard reported in my experience of commercial linear audiovisual storytelling. It was as if digital stories could *transform* our sense of self somehow, if well told. A more compelling form of storytelling appeared to be emerging with an effect possibly unprecedented in the history of audiovisual entertainment. It was exactly that *transformational* quality that led me to ask if digital storytelling could be used to improve people's physical and mental health. I wanted to use my

[1] As writer of educational computer games and industry writing mentor for *Dare to be Digital* – the 'Gold Standard' for computer Games training and intellectual property development.

professional skills, knowledge and experience earned in the Creative Industries sector to make that happen in the context of public health.

But these observations were just that – hunches. They did not derive from systematic academic research upon which interventions could be based. So in 2008, I proposed research exploring whether converging storytelling and computer games structures could be used to influence health behaviours in the emerging social media landscape. My research aim became to explore the power of digital storytelling to influence human behaviour. That meant asking two specific and related research questions:

RQ1: Does digital storytelling have the power to influence human behaviour?

RQ2: If digital storytelling can influence human behaviour then *how* might it do so?

A third question arose out of my objective to explore the potential use of commercial digital storytelling strategies in public health: It asked:

RQ3: Is a 'digital storytelling framework' feasible as an approach to human behaviour change?

iii) The Methodological Approach

My professional experience influenced my choosing an ethnographic approach to explore the research questions. My Master's thesis was based on a year-long ethnography in Los Angeles. I used depth interviews and extended participant observation to gain insights into how Hollywood writers, directors, producers and executive producers developed stories commercially. I adopted an ethnographic approach in part because I felt comfortable with ethnography.

That research may also have influenced my approach. It concluded that '…*those with power sought to control the same storytelling elements during and across different productions'*. Seeing those and similar elements recur again and again throughout my professional life steered my focus towards similar elements when considering the feasibility of a digital storytelling framework. But this use of prior knowledge and insight meant potentially *biasing* the research findings; whereas ignoring that insight meant learning no further from it. I chose then to retain the knowledge and use it, quite manifestly, to form the basis of an outline digital storytelling framework. But I chose to lay that process bare in order to remain as reflective as I possibly could be about its possible influence throughout each stage of research.

The ideas or beliefs leading to the research were simply hunches. I *believed* that certain conditions were true: but I did not *know* that they were so. It was for that reason that I started the research journey with a 'theory building and scoping phase'. This became Part One of the thesis. I conducted an historical review (Chapter One) to consider whether *storytelling* had influenced human behavior over space-time and if so how? This was followed by a more contemporary review considering if, and if so how, interactivity as it pertains to digital media influenced (Chapter Two). A scoping review showed that, although interactivity *and* storytelling were both potent - and may be more potent when merged - there was a gap in the literature and the need for a coherent framework became apparent (Chapter Three). A digital participatory storytelling framework was then proffered and *grounded* in the light of professional experience, and secondary research (Chapter Four). I then considered that framework against an *established* approach to behaviour change - Social Marketing - and an exemplary case of Social Marketing practice (Chapter Five).

My background also led to my *interdisciplinary* approach. I did not emerge fresh from an established discipline with a rehearsed epistemology, ontology and methodology. Creative Industries departments now exist in universities and colleges by dint of there being a Creative Industries sector within the economy; but 'Creative Industries' is not widely recognised as an established academic discipline in itself: But it draws from many. My personal view was that storytelling can be considered from, and can inform, the perspective of many disciplines from Biology to Human Computer Interaction, Anthropology to Physics, Theology to Neuroscience and Public Health to Marketing and Policy etc. I draw here on History, Literature, Neuroscience, Psychology, Evolutionary Psychology, Behavioural Science, Marketing, Social Marketing and Health Psychology. I maintain that owing to the quintessentially human nature of storytelling in a digital age, there is no one discipline or field within it sits; rather it represents a discipline in itself that, like social marketing, which must draw on many. We might usefully call that multi-disciplinary approach the 'natural history of digital participatory storytelling'. The proposed digital storytelling framework was 'tested' through a social marketing 'lens' for three reasons: Social Marketing is *also* interdisciplinary; it is about behaviour change and it co-opts expertise from commerce and deploys it in public health. Since I was bringing commercial 'knowledge, concepts and techniques' (Lazer & Kelly, 1973) and experience *to* the discipline of Social Marketing this approach made good sense.

The second phase of research was designed then to 'test' the findings from secondary research via primary research. Three linked qualitative studies were conducted: in-depth interviews with 12 international 'storytellers' (behaviour change experts working in commerce and public health), two cases of 'digital storytelling designed to influence human behaviour' were analysed (from commerce

and public health), and six focus groups with 35 adolescent 'digital story participants' were conducted to analyse the perspectives of those subject to the stories alcohol marketers tell digitally.

The research journey required that I learned many new tricks and quickly; but I could not hide the fact that I came from another place and spoke another language; indeed, it felt disingenuous to even attempt to do so. This became manifest in a creative and discursive style in which this thesis is written. The reader will also note that I use creative scenarios.[2] This approach allowed me to demonstrate how the developing theoretical framework works in design and creative practice (Chapter Four). It is hoped that they augment rather than distract from my thesis that public health needs a commercial approach to digital storytelling; and digital marketing policy needs an understanding of *how* commerce uses digital storytelling to manipulate emotionally and non-consciously. It is hoped that the proposed Digital Storytelling Transformation Framework can contribute towards those ends.

iv) Towards a definition of 'Digital Storytelling'

So what do we mean by 'digital storytelling' exactly? How does it differ from pre-digital storytelling? And what do we mean by 'interactivity'? How might interactivity as it pertains to digital media augment more traditional forms of storytelling in the context of human health behaviour change? This section outlines the parameters of what I refer to when I write 'digital' 'interactive' or 'participatory' storytelling. I present working definitions of 'storytelling' and 'interactivity' as distinct phenomena before I bring the two together as 'digital storytelling'. 'Digital storytelling' is an emerging term and defining it the subject of much debate (Wikipedia, 2012/1). Please see Handler (2008) for a wider discussion. But before we can understand what we mean by 'digital storytelling' we must first understand what we mean by 'storytelling' and, indeed, 'story'.

There are many definitions of 'story' of which '*a narrative of a chain of events'* or '*the narration of a series of events'* are just two (Collins, 1979). But these definitions become problematic immediately: Both definitions include the concept of a 'narrative' or 'narration' and thereby conflate the idea of a 'story' with the idea of 'the telling of' a story. And, the '*chain of*' or '*a series of*' events, what we see here as 'story', remains distinct practically from '*the narration'* or '*the telling of*' the '*chain* or *'a series of*' events. So the concepts should also remain distinct for analytical purposes. As concepts they refer to or denote different phenomena. 'Story' and 'storytelling' might usefully be

[2] Scenarios and 'walkthroughs' are used by interactive entertainment developers to 'pre-test' user experiences and communicate creative concepts to colleagues and clients. Bordered text boxes with green backgrounds are used to denote their use.

operationalised as distinct in order that can be researched or deployed with any rigour in behaviour change interventions.

'Story' might more usefully be defined as *'The event or material for such a report'* and 'storytelling' or 'narrative' as '*A report or statement on a matter or event'* (Collins, op cit). But, speaking professionally, simply representing '*a series of events'* alone would lead to a commercial television series' ratings failure, reduced download figures for a story-led computer game, or a film's box office demise. Commercial stories or 'narratives' are more complex. A richer and more nuanced definition of '*event'* or '*material for such a report'* is therefore needed.

Commercial stories and their telling usually involve the representation of a character's emotion and agency over time. Jonathan Gottschall (2012) goes so far as to define story as '*a character with a problem*.' But commercial storytelling involves more than simply representing a character with a problem: It involves representing *how* a character with a problem acts on that problem; and how the conflict of acting on that problem *changes* that character *over time*. Cron (2012) defines story as '*how what happens affects someone who is trying to achieve a difficult goal and how she or he changes as a result'*. This comes closer to what appears to be axiomatic about commercial storytelling. Story is used here then to refer to '*how a character acts on her environment, objects, events and others in it over time'* and when that story is told well it also represents *'how she feels about it and thus changes over time'*. Storytelling as defined here then refers to '*the audio visual representation of how a character acts on her environment, objects, events and others in it over time' and how she feels about it and thus changes over time'*.

We can see then how commercial storytelling requires something more elaborate than the simple representation of a series of events over time. It also requires intent to influence emotionally. It requires a real concern for the audience member (or 'story participant' as I will use here). The storyteller thus provides a world, a setting (time and place) within which the observing, listening (and later interacting) participant can see, hear and actively *intuit* and *infer* what a character acting on her environment, objects, events and others in it over time might feel and thus why she might change over time'. I refer to my approach to storytelling as '*the structuring of human emotions over time'* for brevity. And I argue overall that the power of digital storytelling derives from its ability to structure human emotions in this way.

I make a distinction throughout between the *external* representation of characters, objects, settings and events over time – what I refer to as 'the storytelling elements of change' – and the *internal* representation of characters, objects, settings and events over time – what I call 'the storytelling

mechanisms of change'. The seemingly inextricable relation between *external* and *internal* representations is of central importance to the developing theoretical framework: And it is critical to our understanding of how exposure to, and participation with digital storytelling may or may not influence human behaviour over time. As we shall see in Chapter One, a non-conscious physiological link has been drawn between external and internal representations and our emotions and behaviours by neuroscientists. And that appears to influence our sense of self.

I use the term 'audio-visual' within my working definition of storytelling (above) to indicate that the parameters of 'storytelling' here include the active orchestration of audio-visual representations of character(s), story, setting, objects and events over time. This orchestration of sound and light is as you might experience it in commercial films, television series, serials and soap operas. It is also how you might experience it in computer games, internet commercials and advergames, web based series, You Tube films. It is also as you might see it in brand and consumer authored content on social media 'channels' such as Instagram or WhatsApp?' My definition does not however preclude the use of appeals to other human senses such as smell and taste for which technologies are now being developed.

The proposed digital storytelling approach differs from traditional approaches to behaviour change in that it is mediated *necessarily* using digital media hardware and software. It is mediated using current and future digital platforms (such as PC computers, computer games consoles, smartphones and tablets). My definition then subsumes the use of digital media software such as 'social media', texts (SMS), 'web sites' or computer games, for instance. Conventional approaches to behaviour change are not mediated necessarily using digital media hardware and software; although attempts to embed traditional behaviour change theories and techniques using digital media and 'narrative' are now becoming commonplace as this thesis attests. But traditional approaches do not rely *necessarily* upon the orchestration of sound, image and interactivity, as it pertains to digital media, to structure human emotions over time. Moreover, this approach makes a clear delineation between real and digital world interventions which are blurring, as this thesis argues.

The proposed framework includes the use of commercial film, television, computer games and internet storytelling formats. These include professional strategies used in making live action, animated, documentary and computer generated films. It subsumes storytelling strategies used in television drama series and serials such as soap operas, for instance. It includes storytelling approaches used in PC, console, and internet based computer games. And it subsumes the use of storytelling by commerce in advergames.

The definition of storytelling here does *not* include stories or their telling using the media of billboards, novels, the printed press, books, comics or magazines. But the storytelling principles at the core of the developing paradigm can, nevertheless, be used to create, analyse and critique stories told using those media too. Indeed the rest of this thesis argues, the structures underlying pre-digital storytelling – using the media tools of quill and papyrus, oratory, the theatre, the pulpit, the printed press, radio and film etc. - are used in digital storytelling today by commerce to influence consumer's behaviours, for good or for bad. I make no distinction between factual or fictional storytelling: When either works professionally and commercially they appear to use the same strategies – It is just the process of making and telling factual or fictional stories that differs. So as we concern ourselves with 'digital storytelling' we simply concern ourselves with the latest set of storytelling *tools*. And as we try to make sense of and understand something so very *new*, fast-moving and apparently potent – the power of *interactive* media to influence behaviour - so we might usefully understand something so very old and potent – storytelling and its underlying elements and structures. But as Chapters Two and Three demonstrate, digital storytelling appears more potent to influence human behaviour than its pre-digital forms owing to the function of *interactivity.* So what exactly do we mean by *interactivity* as it pertains to digital storytelling?

There appears to be little or no agreement over the meaning of the term 'interactivity' across the disciplines of human computer interaction, information science, industrial design and communication, (Wikipedia, 2012/2; Bucy, 2004; Svanaes, 2000)**.** I address how 'interactivity' has been conceptualised in the literature in Chapters Two and Three. I defined 'interactivity' for the purposes of my previous research, lecturing, training initiatives, prototype development and production as *'a dialogue between a human and a machine, or a human and many more humans, facilitated by a machine'*. The term 'interactivity' is used similarly throughout this thesis to refer to the ability of an artifact – any computer in this case – *to allow or facilitate a dialogue or interaction with a human being*. To 'interact with a human being' I simply mean to respond or feedback to human input. That input might be touch, for instance. But it could equally be 'touch less' (as we now see used increasingly in airport security lounges and supermarket checkouts). The machine's response or feedback to human input might be to emit a new audio or visual signal or a combination or sequence of the two. Those emissions may be very short or very long. They might be available to, and perceived by the participant audio visually; or they may not be available to and perceived by the participant audio visually. This becomes contentious since it means that part of the interactive storytelling process can remain *invisible* to the participant. And as we see it can render the participant's engagement with an intervention *involuntary* and the process thus manipulative.

We have seen above how an understanding of the relation between *external* and *internal* representations is critical to our understanding of pre-digital storytelling – and how exposure, to and participation with storytelling may or may not influence human behavior over time. *Digital* storytelling similarly refers here to the *external* representation of what happens to a character over time. Chapter Two shows how Neuroscientists have also drawn physiological links between *interactivity* and the internal representations of external events. And that process appears to influence our sense of self. But with digital storytelling, and the use of interactivity to feedback, what a participant *feels* about what she sees and hears can now be augmented by what she *feels* about what she *does* in response to what she sees and hears. Digital or interactive storytelling is understood then to augment more conventional forms of storytelling here then because audio visual storytelling *emerges* from that dialogue and relationship over time. I refer to this as 'emergent storytelling'. And as I argue in Chapters Eight and Nine that emergent storytelling can recapitulate the original stimulus for it. Or as commerce appears to understand it, '*They will tell the story we want them to tell'*.

I make a distinction throughout the thesis between 'linear' and 'non-linear' storytelling. Indeed the thesis explores primarily what can happen when the former becomes, increasingly, the latter. Films, television dramas, series, serials, documentaries, commercials, as much as brand-authored consumer authored content online are all examples of *linear* audiovisual storytelling. That is to say they rely on the juxtaposition of sound and light alone to represent characters, objects, settings and events over time. And they are authored asynchronously, *before* the moment of consumption. These are all *participatory* forms still; but only insofar as the participant may infer actively from what she sees and hears represented. She may only see and hear what is represented. The degree to which she can *interact* physically with and change the elements represented externally to her is limited usually to turning them on or off. This is an important distinction; since whereas a film or a commercial might be produced, disseminated and consumed *digitally* on You Tube, for instance, it can still be linear. So, for our purposes, while not *all* digital storytelling is non-linear - much of it is linear - *all* non-linear storytelling is digital. Digital audiovisual storytelling can then be more or less interactive. Case Study 1: *Belong* Chapter Eight represents a case of linear audiovisual commercial storytelling that became *interactive*, to a degree, and brand authored stories appear to be recapitulated in consumers own content. This is further reinforced in Chapter Nine where alcohol brand-authored digital stories provide the wherewithal for, and appear to trigger adolescents' own stories of health, belonging and social success online.

Digital storytelling thus augments more conventional forms of storytelling with *interactivity,* and interactivity facilitates a dialogue between human and machine. It augments storytelling with what the participant does to, and with digital technology over time. Digital storytelling might thus be

understood operationally as *'An external audiovisual and digital representation of how a character acts on her environment, objects, events and others in it, how she feels about it and how she changes over time'*. This may result, in whole or in part, from how that participant interacts with digital media technology over time and place. This research remains concerned with how that has the potential to affect the participant *internally,* incrementally and cumulatively across the duration of the digital storytelling process and thereafter.

Digital storytelling is understood here as being produced and/or consumed using digital hardware and/or software anywhere in the world, synchronously and asynchronously. It can according to our definitions take place over time, place and platform. So the participant can see and hear what is represented externally and she can interact physically with those representations, potentially changing them synchronously and non-synchronously. I make no distinction between digital storytelling as it is currently manifest in computer games, for instance, and how it can be used to structure social media storytelling online. Social media *are* digital media and the term 'social media' is simply one that has been used of late to refer to software that preceded it. The technology social media are based upon is similarly interactive and the same as that upon which computer games are based – the programming of a series of 'ones' and 'offs', 0's and 1's. The main difference lies in the bandwidth available for the consumption of each, and so the number and frequency of individual interactions possible. But audio visual stories can be told using the tools provided by 'social media' as readily as they can by a television soap opera or computer game. It can be used to represent a character, setting, objects and events over time and it can represent audiovisually how a character acts on a problem and behaves and changes over time. It is likely that as online bandwidths are increased - and so the frequency of individual interactions - so computer games storytelling strategies will be used to structure 'social media' experiences over time. Indeed, one of the issues that concern us throughout the thesis is what happens when *linear* storytelling becomes increasingly interactive and the participant also becomes the storyteller and protagonist well as simply the recipient.

Digital storytelling occurs over time, place and platform. It can happen over very long periods or very short periods, over many locations or just one. Chapters Four and Five show how the concept of digital storytelling, as it appears within the participatory storytelling framework is *scalable*. That is to say it can account for storytelling taking place over many episodes and series or during a single moment. I have stated above that the proposed framework can also account for pre-digital forms of storytelling too; storytelling does not have to interactive to be scalable. My argument throughout is that interactivity as it pertains to digital media augments those forms rendering them more potent.

Stories embedded in computer games might typically see the player interacting with a computer for over 40 hours or more; online games such as *World of Warcraft* allow potentially infinite interactive storytelling; and the story of your life, loves and losses on Facebook may similarly stretch for many years. Stories can also be told in a single moment as the 'every picture tells a story' maxim reminds us. This is of course also true of pre-digital media such as newspaper photographs; and the emotional impact resulting from the representation of simply polygons and the juxtaposition of just two still images is discussed further in Chapter One. The point here is that interactivity as it pertains to digital media sufficiently, but not necessarily, facilitates a dialogue with the participant. And I argue that their active participation in that storytelling process can deepen levels of emotional engagement. As we shall see in Chapters Eight and Nine the influence of participating with a digital story lasting just 42 seconds appears to be considerable, even when interactivity facilitates merely the receipt and ability to comment and share comments on that story.

An example of a short story might include one teenage girl. Rachael is 13 when she reconciles her need for validation by posting a humorous picture of her last night out; it might include photographic 'evidence' of her initiation into alcohol on the social media site, Instagram, for instance. That representation, and previous representations in her timeline might tell the story of Rachael's desire for social success. But that same story may also alter her friends' predisposition towards her; and it might influence their predisposition towards under-aged alcohol consumption, for instance. The findings from case studies and focus groups in chapters eight and nine suggest, such a scenario may be typical where the digital storytelling has been orchestrated with manifest intent by alcohol marketers.

The parameters of 'interactivity' and how it has been conceptualised are addressed further in Chapters Two and Three of this thesis. In Chapter Two, I show how interactivity appears to be potent, in and of itself; and I show how it can be biased and designed to affect, for good and bad. In Chapter Three, a scoping review, I show how interactivity has influenced a wide range of human cognitive, emotional and physical conditions *without* storytelling. The elements of the developing digital storytelling framework as an approach to behaviour change are discussed in detail in Chapters Four and Five. The tension between the deployment of digital storytelling and conventional cognitive based approaches to behaviour change is explored throughout.

v) Thesis Structure and Overview

This section presents an overview of the thesis. The thesis is divided into three parts:

Part One: reports the findings from the 'theory generation phase' of research (using secondary methods).

Part Two: reports the findings from 'the theory-testing phase' (using primary research methods).

Part Three: synthesises the theory generated in Part One with the evidence gathered in Part Two.

A narrative of the Chapter Contents follows. A summary of the main research findings can be found 'at a glance' at the ends of Part One (pg 84) and Part Two (180).

Part One (Chapters 1-5)

Chapter One reports the findings of an Historical Review. Storytelling appears to have influenced human behaviour for millennia, for good and for bad; it appears to influence behaviour owing to the presence of recurrent storytelling 'elements of change'; and Neuroscience now suggests that the power of storytelling to engage emotionally and non-consciously derives from its neurological underpinnings. The chapter concludes that since *storytelling* appears to have the power to influence human behaviour so might *digital* storytelling.

Chapter Two reports the findings of a more contemporary narrative review. It concludes that *interactivity* also appears to have the power to influence human behaviour *non-consciously*, for good and for bad. Therefore *storytelling* merged with *interactivity* has great potential and can be used as an approach to health behaviour change. But since it is used for good and for bad any feasible digital storytelling framework would need to be analytically *and* critically robust.

Chapter Three reports the findings of a Scoping Review. It appears that *storytelling* merged with *interactivity* has been used in few health behaviour change contexts: research and practice remains in its infancy. A gap and an opportunity for public health exist. A wide range of human emotional, cognitive and physical 'conditions' have, however, been influenced by digital media use, for good and for bad; this can be attributed to the power of *interactivity* as it pertains to digital media alone. This presents a threat to public health should commerce use interactivity to market harmful products. The absence of a coherent 'digital storytelling framework' suggests that one is desirable. It might usefully help design and evaluate affective health interventions; as well as evaluate critically the impact of digital storytelling practice in the hands of commerce.

Chapter Four presents a digital storytelling framework based on the conclusions of Chapters One, Two and Three *and* professional insight. It shows that the framework is consistent in its creative, analytic and critical applications.

Chapter Five then 'tests' that framework against the central tenets of Social Marketing theory as an established approach to behaviour change. It also 'tests' it against an exemplary and formative case of Social Marketing practice. The chapter reinforces the previous showing that this new framework appears to have creative, analytical *and* critical potential: but the power of digital storytelling to appeal emotionally and non-consciously appears to be at odds with 'text book' notions of *voluntary* behaviour change. If public health remains retentive in its approach it has to accept that its current methods of influencing health behaviours will likely prove impotent in the fast evolving digital landscape.

Part Two (Chapters 6-9)

Chapter Six discusses the research methodology. It considers the advantages and disadvantages of the methods used to approach the research questions. It points to the limitations overall and concludes that research into the influence of digital storytelling requires responsive and innovative combinations of methods that move us beyond 'content' analysis.

Chapter Seven reports the findings of depth interviews with 12 behaviour change experts from commerce and public health; ('the digital storytellers'). Experts who use digital media to influence human behaviours in both sectors believe strongly in the power of digital storytelling to influence human behaviour: but they disagree as to how best it influences. Experts in commerce embrace the *participatory* power of digital storytelling to influence human emotions. By using interactivity to facilitate deepening levels of participation and emotional engagement, commerce appears to encourage consumers to move beyond being 'participants as recipients' to become 'participants as storytellers' and even brand advocates; they will '*tell the story commerce wants them to tell'*. Experts in public health, by comparison, appear to use digital storytelling elements to maintain attention and deliver health messages *uni-directionally*. The power of digital storytelling to deliver 'the moral of story' and engage *emotionally* is recognised. But the use of established *cognitive* approaches to behaviour change in public health appears to militate against its potential to influence at any emotional depth. The developing digital storytelling framework proves to be consistent as an analytical tool across both sectors, commerce and public health.

Chapter Eight reports the findings of two case studies of 'digital storytelling designed to influence specific behaviours'.

Case Study 1: **'*Belong*:** A Commercial Alcohol Marketing Campaign' uses content analysis supplemented with secondary data and online ethnography to show what appears to happen when linear audiovisual storytelling becomes interactive storytelling online. Two levels of exposure to, and participation with, digital storytelling are identified. By embracing the emotional and non-conscious power of digital storytelling, consumers appear to move from the role of 'participant as recipient' to 'participant as storyteller' and so '*tell the story the brand wants them to tell'*. This reinforces the findings from depth interviews where it is shown that to achieve that is commerce's manifest intent (Chapter Seven). These new levels of engagement augment the developing framework. It now proves further useful as an analytical, creative and critical tool; particularly when considering the influence of these deepening levels of exposure to, and participation with digital storytelling.

Case Study 2: '*Escape*: A Social Marketing Intervention on Diet and Physical Activity uses content analysis supplemented with secondary data. It shows that while interactivity is used, linear audiovisual storytelling does not become fully participatory in a PC - based intervention. It shows how these experts in public health used digital storytelling to maintain attention and deliver health messages *uni-directionally*. The use of established *cognitive* approaches to behaviour change appears to militate against the power of digital storytelling to influence behaviour via the emotions. This reinforces the findings of the previous study. The developing framework proves useful as an analytical *and* a critical tool in each case.

Chapter Nine reports the findings of six focus groups with 35 adolescents who are exposed to, and participate with, digital storytelling ('the digital storytelling participants'). Digital storytelling, in the context of digital marketing strategies, appears to appeal to adolescents and influence their alcohol consumption behaviours *emotionally* and *non-consciously*. This supports the previous findings (Chapters Seven and Eight) where it was shown that specific underlying storytelling elements of change were used with manifest intent by digital storytellers to achieve that result.

Three levels of exposure to, and participation with, digital storytelling were identified: I call these the 'participant as recipient', 'the participant as storyteller' and 'the participant as protagonist'. These concepts further augment the proposed framework as an analytical *and* a critical tool when considering the influence of deepening levels of exposure to, and participation with digital storytelling. I argue that the developing framework can also be used to analyse brand *and* consumer-generated content and the dynamic, non-conscious relationship between them. My findings suggest

that digital storytelling influences human behaviour by structuring human emotions over time, place and platform. The use of digital storytelling by public health appears to raise *rational* awareness about the dangers of excessive alcohol consumption: But it appears to *repel* rather than *attract* emotionally. *Positive* emotions associated with health, belonging and social success appear to trump *negative* emotions associated with illness and isolation.

Part Three (Chapters 10-11)

Chapter Ten presents the findings overall. It revisits the main propositions generated in Part One against the evidence gathered in Part Two in relation to the three main research questions. It then considers the implications for public health practice, promotion and policy. Recent developments in commerce suggest that the very idea that the consumer has any power in the digital storytelling process is becoming increasingly illusory. The contributions of the research are outlined. Hypotheses are drawn from the developed theory and recommendations for further research are made.

Thesis Conclusion Chapter Ten and the thesis conclude that digital storytelling appears to influence human behaviour. It appears to derive its power by facilitating unprecedented depths of human engagement and participation; and it appears to influence *en route* to behaviour change by structuring emotions non-consciously over time, place and platform. This presents opportunities and threats to public health globally. The current imbalance between how commerce and public health corral the power of digital storytelling suggests that change is needed. Public health might simultaneously embrace both the power of participatory storytelling *and* policy restraint against the use of digital storytelling in the marketing of harmful products. The proffered Digital Storytelling Transformation Framework contributes a coherent and robust creative, analytical and critical toolset to both of those ends.

Part One

Theory Development

Chapter One

Storytelling has the Power to Influence Human Behaviour

1.1 Chapter One Overview

This chapter argues that *digital* storytelling may have the power to influence human behaviour because *storytelling* has the power to influence human behaviour. Section 1.2 shows that storytelling has influenced human behaviour across the planet for millennia, for good and for bad. Section 1.3 demonstrates *how* storytelling appears to have influenced behaviour owing to the presence of recurrent 'storytelling elements of change' and section 1.4 suggests that the power of storytelling derives from its neurological underpinnings. The chapter concludes that since pre-digital storytelling has influenced human behaviour across the planet for millennia, for good and for bad, so might *digital* storytelling.

1.2 The Power of Storytelling to influence over time and place, for good and for bad

This section suggests that storytelling has influenced human behaviour across the planet for millennia, for good and bad. Political and religious leaders have believed in, and used the power of storytelling to influence human beliefs and behaviours across time and place. Over 2,394 years ago in ancient Greece, political thinkers believed strongly in the power of storytelling to influence human behaviour as evidenced in Plato (1992). Religious leaders have in every civilisation reached to storytelling to influence beliefs and behaviours **(**Gottschall, 2012**)** and in 1930's Germany, the Nazis used storytelling to influence human behaviour *in extremis* **(**Gottschall, op cit**)**.

Plato wrote *Republic* in Athens in 380 BC. He argues (Book II), that stories and storytelling are essential for controlling citizens and their guardians' beliefs in a 'just' and happy civilization.

> *'…we must first of all it seems, supervise the storytellers. We'll select their stories…And we'll persuade nurses and mothers to tell their children the ones we have selected, since they will shape their children's souls…Many of the stories they tell now, however must be thrown out.'* (Plato, 1992:53).

Plato's belief in the power of storytelling to influence beliefs and virtuous behaviours was absolute. He proceeds, in *Republic*, to demonstrate how the Iliad, Odyssey and many of the Greek legends should be censored. From a 21st Century perspective, Plato's control over storytelling to influence human behaviour appears totalitarian, manipulative and abhorrent given the freedoms we appear

now to enjoy. We might note, however, that Plato's objective was to create a just and happy civilisation where the actions that subjects value as just, are those that benefit the subjects and *not* just the rulers. As Reeve, (in Plato, 1992: xviii) argues, '*…if Plato is right we may value these freedoms simply because our own enslavement to desires that distort our perception of the good and cause us to chase after things that will never make us happy'*. Please see Reeve (2006) for a further defense of this view.

All cultures over time and place, '*that anthologists have visited and archeologists have dug up'* (Gottschall, 2012:119), adopt a form of religion (see also Dawkins, 2006). Stories about supernatural worlds, characters and magical acts have informed the beliefs of the most powerful monotheisms across time and place, Judaism, Christianity, Buddhism and Islam. The Bible and the Koran, for instance, are filled with stories about how people should behave (Dunbar et al, 2007). Since many beliefs and behaviours adopted in the name of those religions are based on what those stories represent and *how,* it follows that storytelling has influenced behaviour over time place and culture. It becomes difficult then to argue that storytelling has *not* influenced human behaviour. More recently, Hitler's command of 1930's and 1940's Germany provides unsettling testimony that the power of storytelling can influence human behaviour for good and for bad. Storytelling was used to influence human behaviour *in extremis* and ordinary men and women were transformed into killers. We clearly need to reach a deeper understanding as to the nature of storytelling in cases where it is used to influence. A closer inspection and analysis of stories and storytelling designed to influence behaviour shows *how* it appears to influence.

1.3 The Power of Storytelling 'elements of change' to influence *emotionally*

This section demonstrates how storytelling influences emotions or 'desires' owing to the presence of certain storytelling 'elements of change'.

Plato had a clear 'behaviour change theory' in mind when he proposed that storytelling was a vital tool in controlling citizen's behaviours; and he put the emotions or 'desires' at the centre of this thesis. For Plato, humans are ruled by three fundamental desires – appetitive desires (for food and sex), desire for money, and rational desires (for justice, knowledge and virtue). The role of education, socialisation - and storytelling - was to *change* people's desires from the base to the rational and *not* to impart knowledge (Plato, 1992) He believed that this could be achieved over three clear stages of change:

i. Those bound by unnecessary 'appetitive desires' see external representations at face value.

ii. Education and socialisation allows those citizens to see the models, '*the things themselves',* where they previously saw the representations alone, thereby shedding 'unnecessary desires' and becoming ruled by 'necessary' ones.

iii. Citizens, through further education, become bound by 'spirited desires' and then '*the greatest object of study'*, the rational desires and virtue itself.

In Plato's model, only those who were able to shed their 'appetitive desires' and become ruled by their 'rational desires' could and should become 'virtuous rulers' or 'philosopher kings'. The power of storytelling lay then in its ability to shift those desires from being driven by base emotions to reason and cognition; and the power of the rulers and their representatives lay in controlling - censoring - the form and content of stories and their messages to that end. We will return to this approach when the developing digital storytelling framework is outlined in Chapter Four and then revisited in the light of primary research (Chapter Ten).

For Plato, the state's control over story *content* was key. He was particularly concerned with the elements of character, their characterisation, theme and tone. Since Plato's focus was on the virtue of justice any characterisation of the Gods, or their human representatives on earth as anything *but* virtuous was to be guarded against. Themes evoking a fear of death were to be avoided since, to the philosopher, there was nothing to be feared and only glory resulted from death. Stories that were tonally humorous provoking violent laughter were to be banished. Story *form* was also important to Plato. Forms that relied upon imitation, comedic and tragic fiction, were to be avoided. Imitation was seen as the storyteller's use of many fictional voices to charm and influence their audience. Imitation was permissible only in cases where virtuous behaviours were represented. Since storytellers and poets were seen as just one remove from understanding the true nature of the world, the objects and characters they represented - their storytelling - was in danger of appealing to the base emotions. For Plato, unsupervised storytellers and poets were in danger of corrupting behaviours and should therefore be banished from a just and virtuous civilisation (Plato, 1992).

Aristotle countered Plato's stance in *Poetics* 335 BC (Aristotle, 1967). Like Plato, Aristotle believed that the power of storytelling was its ability to engage the emotions. Unlike Plato, Aristotle believed that the role of the storyteller, poet or dramaturge was to arouse feelings through imitation and invoke the emotions of '*pity, fear, and anger and the like'* (Aristotle, 1967:52). '*The question is not whether they shall be aroused but how they shall be handled*' (Else in Aristotle, 1967:6). For Aristotle, storytelling represents and brings about emotional change. Through storytelling, civilians come to understand the limitations of being human,

become nourished and grow. Citizens can thereby imagine and *feel* new ways of being. For Aristotle, the idea of emotional *transformation* was critical. By empathising with a character's representation on stage, or the page, people could experience vicariously, the actions, intentions, emotions of others and the consequences of their actions. The idea was that when a spectator empathises with a character and witnesses *transformation* and change in that character, emotional catharsis results; the story participant also feels empowered to take control of their own destiny.

For Aristotle the story's theme '*the arguments and general idea presented by the characters in the course of their action'* allowed people to feel the emotions of characters represented, (Aristotle 1967:5). It was this 'argument', 'general idea' or thought that brought about emotional catharsis and so *change*. Theme remains a key storytelling 'element of change' in the developing framework. Aristotle wrote of its stealth:

> *'It is evident that one must use the same practices in tragic actions as in everyday life when it is a question of making things appear pitiable or fearful or important or probable. There is just this much difference that the emotional effects ought to carry across to the spectator* ***without explicit argument****'*[3]. (Aristotle 1967:52)

The author's emphasis seeks to underline the importance of the unspoken power of theme in engaging emotions.

Plato and Aristotle both agreed then that storytelling has the power to change behaviour; but they disagreed as to *how* it might do so. They agreed that the storytelling elements such as character, story structure, characterisation, theme and tone were important. Aristotle believed in the power of theme to structure the emotions and to allow the citizen to see and feel him or herself in a fresh light. But Plato's approach to behaviour change relied upon a move *from* the base desires or emotions towards reason and cognition. For that reason, storytelling had to be controlled. As Chapter 10 suggests, we do not appear have travelled far in over 2,300 years when it comes to there being stark differences in *how* storytelling should or could be used to influence human behaviour.

An inspection and analysis of religious storytelling now suggests that religious storytelling also uses the unspoken power of theme to appeal to human emotions and influence behaviour. Appeals are made to the human desire to know, for order to prevail over chaos and for belonging and familiarity to prevail over isolation.

[3] Author's emphasis

The creation myths appeal to a human desire to know. They represent how 'things' (the universe, human beings, family and social structures and objects) came to exist from nothing. In Indian mythology, Brahma, the Creator made 'the mind', from the mind he created water, from water he created light and 'earth' and from Brahma's '*luminesce upon earth*' came fire, (Radhakrishnan, 1953). In Chinese mythology, the character Pan Gu lived at the centre of a huge celestial sphere, a giant egg made up of swirling gasses and believed to contain the entire universe. Pan Gu stretched wide, tearing the giant egg apart, giving rise to humans and all natural matter, (Walls and Walls, 1984). Both myths represent a character whose agency causes change bringing about knowledge thus satisfying the desire to know.

The role of character in bringing about and causing change is critical in the creation myths. Gods have the power to change a state of 'before' (darkness and no matter) to 'now' (light, matter and us). They perform epic and magical acts by *interacting* with their environment. Deities appear then to 'stand in' as the catalysts of change so we might be *reassured* that we know how it all came from nothing - they appear to provide a way of understanding *how* what we see around us came from nothing. As we shall see in the following section, this predisposition to easily attribute agency is hardwired and has evolved as a survival and adaptive mechanism.

Creation myths also appear to appeal to a human desire for order to prevail over chaos. In the Chinese myth above, fearing that chaos might one day return, Pan Gu bore the heavens on his shoulders and the earth beneath his feet until his death whereupon heaven and earth became apart and finally, *stable*. In his death, Pan Gu's body transforms into the rivers, the seas, the mountains minerals and rocks (Walls and Walls, op cit). This story appears to appeal to a need for comfort by implying that through Pan Gu's agency order will prevail over chaos.

Creation myths also represent a human desire for familiarity. According to Maori (Polynesian) myth, in the beginning all was dark because heaven and earth, as represented by the characters Rangi and Papa, clung so tightly together. When this very human embrace was over, Rangi and Papa were wrenched apart. And their offspring - the fathers of the seas, the wind, the storms, the forests, fish reptiles and humans – fought viciously amongst themselves until finally the elements became *stable* again, (Grey 1956). We recognise again the appeal to a desire for stability. But here, human offspring are produced and sibling rivalry ensues, as if inevitably.

Religious storytelling appears to influence by representing *power* structures as if they are inevitable.

> *Nu Wa, lonely, saw her reflection in a pond and decided to make a replica of herself from the mud. She created many humans, who became the aristocrats of the world. And, by drawing a vine through the mud, she flung her mud spawn more widely: And these became the poor of the world* (Walls and Walls, op cit).

By representing power structures as if they are inevitable, religious storytelling appears to influence by attributing to the gods, and their agents on earth, the authority to mete punishment (pain) and rewards (pleasure). In the Old Testament, Yahweh crafted and breathed life into Adam (man) then created Eve from Adam's rib. Yahweh created Eden and in this beautiful garden he placed a fruit-bearing tree, the tree of knowledge of good and evil - The Tree of Life. Eve's desire rendered her intoxicated by the Snake who persuaded her to eat the fruit from the tree of knowledge, good and evil. Yahweh was angry with Adam and Eve for taking knowledge and control over their own destiny. By exercising their agency on their environment they were acting too much like 'the gods'. Knowledge is represented as being something inherently owned and controlled by authorities. As we shall see this approach appears to be used in public health to this day.

Through storytelling and myth 'justice' as well as order is seen to prevail, positioning the subject, 'the story participant', on the side of and her behaviours in line with that justice and the authority of its enforcers. By suggesting that authority is God given, religious stories appear to suggest that the sanctions, rewards and punishments meted out by those acting in the power of the gods are just. Adam and eve were punished for ignoring their subjugation. To Eve Yahweh said, *'You will keep the desire to reproduce yet you will be cursed with great pain in childbirth and your husband will rule over you'.* To Adam he said '*Because of what you have done, the ground is cursed and you will never eat of this fruit again. You will grow plants and fields and eat bread until you die, becoming the dust from which you were made. To dust thou shalt return'* (Habel, 1971).

Adam and Eve were punished by the withdrawal of their right to belong and made to feel the *emotion* of shame through exclusion. This theme is referred to hereon in as 'the desire to belong'. Religious storytelling then appears to influence by reinforcing an idea of power relations symbolically as if they were fixed, given and inevitable; and inappropriate behaviours will be punished. Without storytelling and its ability to influence behaviours 'voluntarily', power structures might resort to physical coercion. As Gottschall writes, '*The world's priests and shamans knew what psychology would later confirm: If you want a message to burrow into a*

human mind, work it into a story' (Gottschall, 2012:118). The power and responsibility of the storyteller thus remains of valid research concern.

Religious storytelling also appears to appeal by representing *transformation*. In the Indian myth (above), male and female characters are driven by the emotion of shame and have to *transform* into animals in order to reproduce successfully. Brahma found himself in human form, lowly, alone, lonely and unhappy; and so he transformed. He divided himself, into a man and a woman and they mated creating the human race. But she too felt *shameful* and hid herself by *transforming* into a cow. So Brahma *transformed* himself into a bull and mated with her. Together they sired the rest of the animal kingdom. We see the character in internal conflict – he is isolated (because he takes the diminished form of a human). Crippled by the emotion of s*hame*, Brahama's conflict is resolved by his transformation; and he feels good about it: '*Proud and rested he created deities; the gods of fire and the moon'* (Radhakrishnan, op cit). Religious storytelling may influence by representing transformation as a necessary pre-condition of emotional 'growth' and 'stability'; it suggests what our own destiny and future selves might become if we *transform*. This echoes Aristotle's argument that by experiencing change vicariously we get to see the world anew, for good or for bad.

Religious storytelling appears to have influenced over time and place then by representing power and desire; it also represents *destiny.* Destin*y* might be seen here as a future, 'space-time' within which the protagonist will arrive; and it is represented as being proportional to how the protagonist is judged to have behaved. In religious stories people get the destiny they deserve. Coitus appears intrinsically shameful. Adam and Eve become ashamed by their nakedness and clothe themselves with aprons of fig leaves. We see a similar denigration of humanity in Indian myth too. In the Indian myth above, one son, the father of the storms survives, to punish man for rending heaven and earth apart because they had fought amongst themselves. When Brahma takes the shape of a person, he becomes *lonely*, (Radhakrishnan, op cit). The story participant, it might be argued, gets to imagine where in the time and space of that story world *they* too might belong, how they too might behave; and to understand the costs and benefits, rewards and punishments, and the emotional and physical, pleasures and pains of behaving in a certain manner.

Religious stories then appear to appeal to our desire to assuage guilt, satisfy and secure pleasure. They appeal to our fears: of the dark, danger, not knowing, chaos, exclusion, isolation and death. We experience loneliness, embarrassment, guilt, and shame, in fear of being punished vicariously. Our destiny becomes to be 'banished from the kingdom of heaven'. These stories appear to satisfy a *desire* to seek pleasure and avoid pain. The story participant gets to witness representations of others and thereby to consider their *self* from a new perspective. Understanding a character's sense

of destiny, seeing the 'future self' and appropriate behaviours appears to be central to understanding the role of storytelling in the context of human behaviour change. Religious stories thereby appear to influence by eliciting emotional rather than rational 'instruction' according to which we might subsequently behave.

Hitler and the third Reich influenced behaviour *in extremis* using the same 'elements of change' to represent power, desire and destiny. Storytelling was used to reinforce Germany's destiny and ownership of the homeland as if it were stable, inevitable and 'God given'. Hitler used storytelling in line with many of the world's religions to foster feelings of belonging, stability, togetherness, a common destiny and common enemy. The Third Reich characterised Germany, 'the homeland', as belonging to the Aryan race – and the Aryan race to it, as if inevitably. Grimm's fairy tales were used for Nazi propaganda films (Hall, 2010) in which Nazis were characterised as tall, uniform clad, gallant heroes acting with 'shared' interest, values and *destiny* (Gottschall, op cit). Hitler borrowed from Wagner's *Ring Cycle* with its theme of good versus evil, an appeal to the human desire for justice and the sense that we too are on the side of 'good'. Hitler himself is reported to have said *'Whoever wants to understand National Socialist Germany must know Wagner'* (Rosefield, 1988).

In the Ring Cycle, a ring of gold represents knowledge and power and various people try to acquire it for themselves (recall Adam and Eve). Wotan, its hero, wants power and wisdom. As a young God, he cuts down a branch from the World Ash Tree, the source of all wisdom and power (recall Adam and Eve). Wotan's influence increases over the years as he secures relationships and makes treaties, until he titles himself Chief of all the Gods. But the Ring (like the apple) has a corrupting influence and the hero fails. But, so the story goes, his 'natural' descendants will return from the wilderness and complete his quest for him, in this case for the Third Reich.

An overview of religious stories and the use of storytelling in modern political history show how storytelling appears to have influenced behaviour by engaging human emotions over time and place. Political and military leaders have then used storytelling to influence men and women to go to war and commit atrocities. Adult men and women have, under the influence of storytelling, committed suicide, genocide, become martyrs and war criminals simply to feel good about belonging on the side of good. *'When the villain kills, his or her violence is condemned. When the hero kills he or she does so righteously' (Gottschall op cit:132).* When deploying the power of storytelling to influence emotionally, the story we tell story and how we tell it will depend on what side of the moral fence we belong.

Storytelling appears also to be tied inextricably to power relations. Without storytelling authority structures may never emerge, evolve or appear to be 'given', 'inevitable' or stable over nations, cultures and over time. Through storytelling, notions of *destiny* are manufactured and conveyed, *power* relations are defined, and the range and pattern of appropriate and acceptable *behaviours* is established accordingly. As we have seen, power structures and authorities influence and modify their subjects' behaviour(s) with reference to shared and common interests, destiny, values, and morals through storytelling using the same elements – power, desire and destiny – it can therefore be used as a force for good and for bad.

This brief critical overview of religious storytelling does not attempt to *prove* that religious storytelling influences human behaviour; nor does it purport to be exhaustive. It merely suggests that these stories exist and millions around the world have been exposed to, and have acted in accordance with them. This is strong argument then to suggest that storytelling has the power to influence behaviour. By the same brief survey, we begin to understand *how* religious storytelling at least might influence behaviours.

Storytelling then does not influence alone: it needs storytellers acting with *intent* to influence. It is for this reason that the current research focuses on the beliefs and praxis of those in whose interests the behaviour of others is to be changed; and to understand their *intent* as to *how* they approach the behaviour change process. To that end the first empirical study (Chapter Seven) explores the beliefs of behaviour change experts who use digital storytelling to influence behaviour. The second study analyses the relationship between the storytellers' intent, digital storytelling 'content' and the influence on those subject to it (Chapter Eight) and the third relates the digital storyteller's intent to the digital storytelling 'content' and its influence on the subject's real world behaviours (Chapter Nine).

We arrive at a point where it appears that exposure to, and participation with, storytelling appears to have the potential to influence human behaviour. Storytellers appear to be able to influence behaviour by controlling and orchestrating recurrent storytelling elements, character, story, story structure, setting, theme and tone, thereby appealing to a specific range of human emotions. There are good reasons why that appears, universally, to be the case.

1.4 The Power of Storytelling and its neurological underpinnings

This section shows how storytelling appears to influence via its neurological underpinnings.

Recent developments in Neuroscience support what the ancient Greeks agreed on and religious and political leaders have relied on for centuries: storytelling has the power to influence behaviours because it influences emotionally and *non-consciously*. In so doing it has the potential to shape who we feel ourselves to be, what happens around us and how we might bring about change in ourselves, others and our environment - without us ever knowing too much about it.

For Damasio (1999) our sense of *self* as a stable entity emerges from the process whereby our brains represent external people, places, events and physical objects and our body's internal milieu to us. That is to say, *without* interacting with internal and/or external representations our sense of self or 'core consciousness' as he calls it, cannot, and does not emerge. So if storytelling is defined as the structuring of human emotions over time using external audiovisual representations of character, story, setting, objects etc. then storytelling appears to be inextricably bound up in defining what we perceive and *feel* ourselves to be. That is to say, without the storytelling process we simply do not appear to *be*. At that level alone, it becomes easy for a 'storyteller' in command of the elements above to influence or 'write' how and who we *feel* we are. Humans appear to be more vulnerable to storytelling than any of us would perhaps like to admit.

The idea that external and internal representations 'create' our sense of self, others and our environment is supported by Gazzaniga (2012). Gazzaniga discovered neural circuitry in the left hemisphere whose function it is to find order, stability and meaning in that fast and vast flow of data from the environment. Recall the religious stories above whose themes appeared to appeal to the human desire to know and for order to be brought from chaos. The emotional satisfaction derived from witnessing gods bringing about stability and standing in as the causal agents, explaining away the unknown, appears to leave a residual belief in those same deities. There appears to be a neurophysiological underpinning to this. For Gazzaniga our brains actively seek out and detect patterns in random data in our environment. He calls the neural circuit that does this 'the interpreter' and describes it as like a 'scientist' acquiring and assimilating data and interpreting patterns on our behalf. It generates our story, automatically, largely without us knowing and we make sense of it only after it has happened.

> '*Our left brain interpreter's narrative is one of the automatic processes, and it gives rise to the illusion of unity and purpose, which is a post hoc phenomenon'*. (Gazzaniga 2012:109).

Our brains not only seek out stories: they actively interpret incoming data and create them. To be clear, we engage with what appears to be agency and attach emotions and intent to it non-consciously: and our ability to detect character from patterns in sound and light works with little help from, or even in spite of, the rational mind.

> *'It is the left hemisphere that engages in the human tendency to find order in chaos, that tries to fit everything into a story and put it into a context. It seems that it is driven to hypothesise about the structure of the world* ***even in the face of evidence that no pattern exists'*** [4] (Gazzaniga 2012:85).

The 'interpreter' seeks out patterns and attributes emotional states to them. These patterns allow us to *infer* the emotional states of others as we conserve the energy required for conscious effort and what we consider in modern liberal democracies to be the more important business of exercising reason and rational choice. The interpreter even attaches emotional states to non-human objects as Walt Disney's estate will attest and interactive media designers now appreciate. Please consider Fig 1. Which of these polygons appears more happy, sad or 'neutral'?

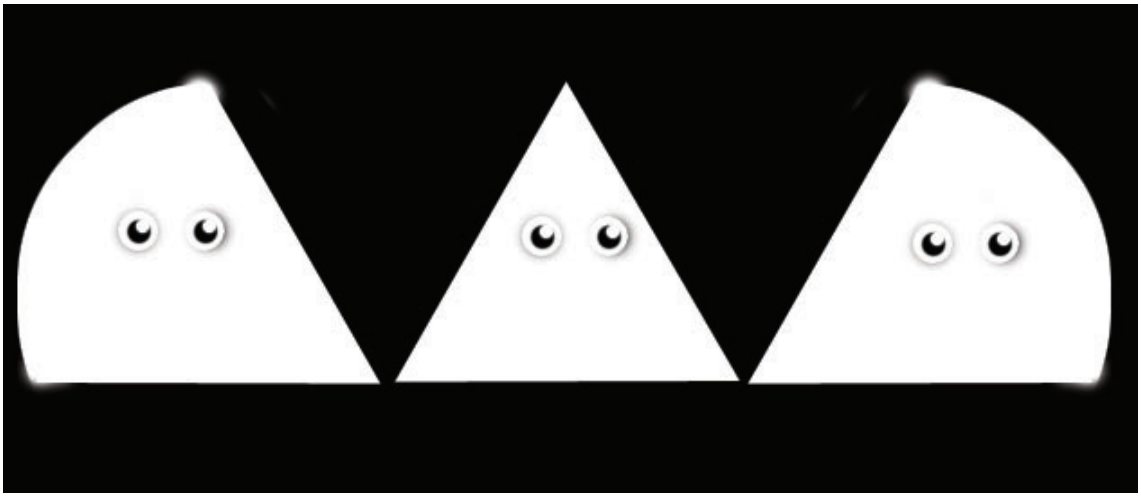

Fig 1. Emoting Polygons

There is, of course, no right or wrong answer. It is merely interesting to note how we readily read emotion in the full knowledge that polygons don't express emotions independent of us: We appear to reach out and attach them. The reader is also directed to the original Kulechov film editing experiment online where static images of a character are intercut with images of a woman, a baby and food (Kulechov, 2013). Even though the image of the character is exactly the same in each clip

[4] Author's emphasis.

(it is the same clip) viewers tend to feel the character is emoting lust, compassion and hunger respectively.

> *'Human beings like stories. Our brains have a natural affinity not only for enjoying narratives and learning from them but also for creating them. In the same way that your mind sees an abstract pattern and resolves it into a face, your imagination sees a pattern of events and resolves it into a story' (Wallis, 2014:5)*

Evolutionary Psychologists argue that storytelling is powerful for evolutionary reasons. We search for signs of emotion and intent in the patterns and signals all around us (Krebbs and Dawkins, (op cit). We appear to have evolved to over-attribute agency (Barrett 2004) as the '*prototype of cause'* (Boyd 2009). This even applies to non-human or animal objects for good survival reasons: '*It is safer to mistake a twig for a snake than vice versa'* (Boyd 2009:137). It follows therefore that by structuring audiovisual signals and patterns over time the storyteller will structure emotion over time. But surely *we* know the difference between fact and fiction and make rational choices accordingly?

The amygdala, what Ressler (2007) calls a 'fear centre' is stimulated by fictional representations of danger in exactly the same manner as it would to perceptions of danger in the real world. '*Knowing that fiction is fiction doesn't stop the emotional brain from processing it as real'*. (Gottschall, op cit). In this model, storytelling is entertaining because it *feels* rewarding. It *feels* rewarding because although we *feel* scared, we *know* that we're really safe. The amygdala says *'It's the Wolf!'* and the neocortex says *'it's alright, you are safe, really'*. This goes some way to explain how we gain *pleasure* from being scared by storytelling. *'... because your cortex knows you're not in danger that spillover is rewarding and not frightening.'* (Resler, 2007) And so storytelling allows us to hypothesise "what if that character were me?" And to *feel* what it would be like to adjust our behaviours accordingly.

Neuroscience provides evidence that demonstrates why the imitative forms of storytelling, tragedy and comedy, influence so profoundly. Physiological evidence supports the idea that there is a direct and non-conscious link between the observation of the external actions, intentions and emotions of others and our own actions, intentions and emotions. Rizzolati (1996) using fMRI scans discovered that the same neurons fire in the brains of Macaque monkeys when they observe goal directed hand and mouth movements of other monkeys, as when they carry out the same goal directed hand and mouth movements. But we are not, of course, Macaque monkeys. In humans, mirror neurons fire in response to facial expressions, whole body movements, the sounds of actions, the representation of

emotions and non-goal directed actions (Keyser, 2011). As we shall see, in Chapter Nine, the representation of facial expression, body movement and posture are enough to elicit positive emotions associated with belonging and social success, and thereby reinforce adolescents' alcohol consumption behaviours. And as Chapter Eight shows, the representation of facial expression, body movement and posture appear to be enough to elicit positive emotions associated with belonging and social success, and thereby reinforce adults' alcohol consumption behaviours - even when the characters are non-human. Such is the power of storytelling in the hands of commerce.

The work of Neuroscientist Keyser shows that when we observe actions in others we automatically mimic those actions, firstly in the motor cortex. He argues (Keyser, op cit) that an observer directly mimics internally the facial expression, body posture and the sounds of an actor's actions. This takes place without conscious or rational thinking. By screening films to participants and observing fMRI scans Keyser saw that actors' facial expressions were mimicked by the observer. '*...the brain internally simulates the actions of other people and generates a mirror image of those actions…*' (Keyser, 2011:161). When an actor was observed using facial expressions to communicate strong emotions such as disgust, the emotion of disgust was stimulated in the recipient (Wicker et al, 2003). This was also true of positive emotions such as the pleasure associated with tasty food. Intense facial displays of pleasure trigger pleasant internal representations and intense facial displays of disgust trigger unpleasant internal representations. As Keyser's experiments show:

> *'When we witness the actions and emotions of others, our brain makes us share these actions and emotions by activating parts of the brain that are normally part of performing the same actions or experiencing the same emotions'.* (Keyser, 2011:107).

Neuroscientists have also found that storytelling represented as text, thereby relying on words and sentence structure rather than audio-visual representations and requiring the use of the imagination, also has the same affect. '*Our own actual emotions come together with those of others and those we read about and imagine'* (Keyser:108**).** Gazzaniga's research supports this, '*the same neurons are active even when we only imagine an action'*, (Gazzaniga 2012:161). A character on the page, stage, screen or radio that is laughing, disgusted or afraid leads to the observer and/or listener sharing those feelings. It follows then, that if we observe a character overcoming obstacles, objects and events and observe their emotional state we will share their emotional journey as if it were our own, over time.

Storytelling influences emotions non-consciously; and those emotions appear to be contagious: they spread. The neural link between the observation of *external* actions, intentions and emotions and *internal* actions intentions and emotions has been established. The automatic mimicking and synchronisation of non-verbal cues such as facial impressions postures, vocal intonations and accents and speech patterns of others unconsciously has been called 'emotional contagion' (Hatfield, et al, 1993). Our minds respond to the emotions and actions of other non-consciously (Goleman 2006). Imagine how laughter ripples around the cinema or babies in nurseries cry in unison. For Gazzaniga such imitative behaviours act as a '*social glue'* (Gazzaniga 2012:164). Imitation, mimicry and the humour that arises from it defines 'prosocial' or 'in-group' behaviours, defining who the outsiders are. We have seen how the use of storytelling to suggest who the insiders and outsiders are and who 'belongs' by political leaders has influenced human behaviour *in extremis.* There appears to be neurological reasons for this. It is also a strategy commercial marketers have deployed through digital storytelling as chapters eight and nine attest.

Emotions appear to be contagious selectively. There appears to be a clutch-like mechanism, operating non-consciously that selects who we mimic. We don't for instance appear to mimic outsiders or those with whom we are in competition. '*It is an affiliative signal that is a major player in maintaining and regulating social interactions, especially within a social in-group'* (Gazzaniga 2012:164). Evolutionary Psychologists agree: imitating others can be a powerful pro-social mechanism involved in learning and acculturation (de Waal, 2002). As we shall see, in Chapters Eight and Nine, 'emotional contagion' appears to influence adolescents' exposure to, and participation with, digital storytelling. And that exposure and participation appears to reinforce perceived alcohol 'norms' and initiation into alcohol.

We have seen how for Aristotle, emotional catharsis results when an observer empathises with a protagonist, experiencing their emotions over the duration of a tragedy. We have seen from Neuroscience that there are neurological reasons why pity and fear are evoked in the observer; and that representations of a character's movements, actions, intentions and emotions are mimicked by the observer as if they are their own, over the same duration. Sharing a character's emotions, moment by moment, is sufficient to make the observer feel those emotions, moment by moment. But from drawing now from professional insight into commercial drama and comedy, it is how the representations of emotion are sustained, escalated, suspended and then stop, over time that provides emotional structure and catharsis. Neuroscientists share this view. '*The purifying (cathartic) effect…is based on the sudden suspension of steadily induced state of fear and pity…Alfred Hitchcock built a brilliant career on this simple biological arrangement and Hollywood has never stopped banking on it'* (Damasio 1999:59). Storytelling can then also

structure emotions over time by inviting the audience to reappraise and even suppress their own emotional reactions to previous scenes and thus to view the character's predicament and, by extension, their own world view anew (Gazzaniga, 2008).

Evidence from Neuroscientific studies using fMRI scans have been criticised for being a blunt instrument. All of the above findings were corroborated in either human patients with acute epilepsy or with injuries or lesions in the brain. The idea that we simulate internally what emotions others express, in order to understand the inner states of others, for instance, was also evidenced when patients with localised brain damage were shown photographs of angry, fearful and happy faces (Adolphs et al, 2000). There is not the space here to pursue a full critique. The reader is directed to the authors and texts cited above where comprehensive appraisals of how neuroimaging studies and their data have been corroborated are detailed.

Storytelling has then influenced over time and place. There are recurrent storytelling 'elements of change' that appear to be instrumental to the structuring of human emotion, as a mechanism of change, over time. But the knowledge that neurological processes lead us to seek out patterns and to find story, character, emotion and intent in those patterns non-consciously does not necessarily mean that we can deploy storytelling to influence behaviour; particularly as it seems we both consume *and* create story *non-consciously.* So where does the *power* to influence human behaviour come in?

Dawkins & Krebbs (1978) argue that animals and humans (as animals) have evolved signals in order to *manipulate* the behaviours, 'the muscle power' of others. This has competitive advantage because it reduces energy expenditure. The authors make a useful distinction between 'manipulators' and 'mind readers' as *roles* that have co-evolved. Any one individual organism or organisation can adopt either role and power in this complex game of collaboration and/or competition is, in theory, in equilibrium. Each party has the potential to use signals to conceal and/or reveal their emotion and intent; but the outcome becomes a function of the relative power, status and resources of each party.

Animals and humans have then evolved complex systems of reading *and* writing non-verbal and verbal signals. Facial expressions, body posture, frequency and intonation of display are used to repel or attract. But evolutionary power might be gained, over time, by any organism, group or organisation, if they *consciously* control and manipulate others by the same preternatural and non-conscious means. In spite of however *conscious* of that process the 'mind-reader' may become, however much they anticipate and are aware of the manipulator's *intent,* the power of storytelling

to engage them *non-consciously*, will likely override and preclude any effort to counter those means. As we shall see, this appears to be true of the digital storytelling where part of the process is invisible and the participants' sense of mastery and control over the process, albeit compelling and addictive, is illusory. That imbalance of power, given the fundamental aspects of human nature we bring to it, and upon which it draws, needs to be further addressed.

1.5 Chapter One Summary and Conclusion

This chapter has shown that storytelling has influenced human behaviour across the planet for millennia, for good and for bad. By considering a small sample of religious stories that have influenced we gain an understanding about *how* storytelling appears to influence. Storytelling influences emotions or 'desires' owing to the presence of certain 'elements of change' that recur. The orchestration of characters, settings, objects and events to represent human desire, power and destiny over time are most noteworthy. This chapter has also shown how storytelling appears to influence via its neurological underpinnings that have an evolutionary purpose. Storytelling is how we understand change, in ourselves and others, in order to adapt to our environment, reproduce and survive. It would appear unwise therefore *not* to use it as part of a behaviour change approach. A digital storytelling framework that has the elements identified in the stories that have influenced for millennia will likely be feasible.

Since storytelling has influenced human behaviour for millennia, for good and for bad, so then might digital storytelling. Chapter Two now argues that *interactivity*, as it pertains to digital media can render digital storytelling more potent than its linear and pre-digital forms.

Chapter Two

Interactivity has the power to influence human behaviour

2.1 Chapter Two Overview

Chapter One argued that storytelling has influenced human behaviour across time and place, for good and for bad. Since linear storytelling has influenced human behaviour so might digital storytelling. This chapter argues that:

a. Like storytelling, interactivity has the power to influence non-consciously
b. Like storytelling, interactivity has the power to influence, for good or for bad
c. Storytelling *and* interactivity might therefore be merged and influence behaviour

The chapter concludes that interactivity *is* potent: and the concept of the 'Participant as Protagonist' can be grounded in evidence. If digital storytelling is as potent as it appears to be it will likely have been used to influence health behaviours. Further work is needed to map what research has been done in the context of health and to establish what particular behaviours have been influenced. Chapter Three then reports the results of a scoping review designed to explore research in the field.

2.2 Interactivity appears to have the power to influence *non-consciously*

This section argues that like storytelling, interactivity appears to have the power to influence non-consciously; and it can be *biased* to influence non-consciously.

In 2011, with a global turnover in the region of $65Bn the computer games industry became the most successful entertainment medium ever (Reuters, 2011). In October 2013, the social network site *Facebook*, secured its billionth user worldwide, 27 million in the UK alone (BBC, 2011). The economic and cultural impact of the games and internet industries make their strategies of participation worth considering in the context of behaviour change. As we shall see, recent research in the fields of Neuroscience, Commerce, Human Computer Interaction and Psychology suggests that digital storytelling is potentially more potent than its predecessors owing to the key ingredient *interactivity* and its ability to facilitate *feedback*. It appears that by interacting with digital media technologies we appear to engage at even deeper levels.

Chapter one showed that external visual and auditory representations of character's facial expressions, body movements, actions and gestures could trigger positive and negative emotions over time. But what happens when a participant becomes *physically* engaged with digital media technology, holding and managing a computer games controller, touching a smartphone screen or tapping keys on a keyboard, for instance? Neuroscientist Keyser (2011) argues that mirror neurons are 'multimodal'; that is to say, they respond to visual, auditory *and* tactile data in the external world. When visual or auditory stimuli appear in isolation the response is less intense: where audio, visual *and* tactile stimuli are present there is an increase in the *intensity* of feeling (Keyser, op cit). Interactivity allows the participant to see, hear and *do* thereby increasing her level of engagement and increasing *sense* of engagement at increasing levels. This goes some way towards explaining the phenomenon of the Participant as Protagonist that was outlined in the introduction and is explored throughout the rest of the thesis.

Our visual and auditory cortices are engaged: *and* our *proprioceptive* faculties are also engaged; (i.e. those faculties that map our body's position in space and in relation to what we touch). We have seen in Chapter One how we mirror the intentions, actions and emotions of others. Now, through our physical actions - doing as well as seeing and hearing - a character on the computer screen can appear to become *us.* By engaging sensorimotor as well as visual and auditory activity in the brain interactivity appears to conflate or elide the sense of what the participant is doing, (interacting with what the game's mechanics - what the technology hardware and software allows us to do) and the protagonist's story. '*The classic divide between self and other and between body and mind becomes fuzzy and permeable in this process'* (Keyser, op cit). By augmenting the power of storytelling with interactivity then, a more potent form of storytelling arises. The idea that an elision or shift in subjectivity occurs (please see introduction) becomes grounded; and the central premise that digital storytelling *transforms* the participant's sense of self as they appear to become the protagonist is thereby supported.

Green and Brock (2000) have argued that storytelling 'transports' the observer, temporally distancing them from reality; because the story seems like a real experience it can have a persuasive effect. *Interactivity* can further increase that sense of transportation by increasing our sense of *presence* (Sukoco & Wu 2010). Presence refers to a mental state whereby a participant experiences a feeling of 'being there' (Lombard & Ditton 1997). When presence is felt the participant has a feeling of 'being' in a *real* place. Presence has been found to enhance memory and persuasion in response to advertising intent (Nicovich, 2005). It has led to brands being perceived in a positive light, recalled easily by participants and as a mediating factor in the enjoyment of 'advergames' by young people (Nicovich, op cit; Sukoco & Wu op cit). Similarly

'Telepresence' is seen as a psychological state of mind that exists when participants interact with 3D images in computer-mediated environments. (Li et al, (2001). The participant feels that they are 'present' in a *virtual* place. Feelings of *telepresence* in adult game players are seen to be pleasurable and have led to positive evaluations of brands embedded in games (Grigorovici & Constantin, 2004). It is important hereon in that we note the power of interactive media to *transport* the participant from real place to virtual place and one real place to another; and that it likely transports to a greater degree than linear storytelling.

For Steuer (1992) writing from a commercial perspective, the sense of presence can be further enhanced by increasing the degree of *vividness.* Vividness is in turn determined by the breadth and depth of digital media technology as a *perceptual* system. The more vivid it is, the more the participant experiences a sense of being *transported* into and *belonging to* that environment. Steuer (op cit) refers to the '*breadth and depth'* of an interactive '*perceptual system*'. *Breadth* refers to the number of perceptual channels available to the participant at any one time. These include the 'visual', 'auditory', 'touch', 'taste-smell' and 'orienting' senses or how we coordinate our bodies relative to what we see, hear, taste-smell, and touch. 'Depth' refers to the sampling rate, quality and resolution of those channels. They influence how vivid and 'real' representations of character, setting, and events appear to be. But can a parameter such as perceptual 'depth' influence behaviour?

Simple variations in depth can influence the human brain. Epilepsy has been caused by increasingly vivid interactive media displays. '*The increased sensitivity of video-game patients to IPS at 50 Hz indicates that display flicker may underlie video-game seizures'* (Fylan et al, 1999:28). It is not simply a matter of 'what' content is represented by any medium but *how* it is represented technically. The number and range of human senses that are stimulated in this way at any one time and place, or conversely may *not* be stimulated at any one time or place, might be seen to influence how the world appears and feels to be to the participant. Control over the number and range of human senses that are stimulated at any one time and place can therefore influence where and who the participant feels him or herself to be at non-conscious levels. Breadth and depth then remain important parameters when considering how digital media can be *biased* to influence.

Ching-Jui Keng & Hung-Yuan Lin (2006), writing from a commercial perspective, identify digital media as having three vital parameters: 'speed', 'range' and 'mapping'. Speed is the time taken for the technology to *feedback* to the participant following their input. That value may represent the time taken to display the results of a search engine, such as Google. The speed of *feedback* relative to the participants' input is seen to influence a participant's sense and understanding of what is

happening when they interact with that digital media environment. It influences how they perceive that digital environment and in turn, how they see their own *performance* and sense of self when they participate. As we shall see, how participants feel they are performing can influence the degree to which they are motivated to repeat the experience. 'Range' refers to the number of choices available to the participant at any one time. Mapping '*denotes the ability of a system to map its controls to changes in the mediated environment in a natural and predictable manner'* (Ching-Jui Keng & Hung-Yuan Lin 2006:83. Control over mapping may be used then to influence behaviours because external representations of events, characters and objects. These elements can be biased to *appear* to be natural, predictable and believable as if they were in the real and natural world.

We need to understand the influence that control over these technical parameters or elements may have; but we cannot, in the interests of brevity and focus carry too many technical design features forward. Breadth, depth, speed, range and mapping are hereon in subsumed under the concept of 'bias'; a control over of what is represented and how using these technological parameters. Feedback however, will be treated as higher-level concept along with interactivity and storytelling for reasons that become apparent below.

2.3 The Power of Interactivity to influence, for good or for bad.

Like storytelling, interactivity appears to have the power to influence, for good or for bad; and the power of digital media interactivity to influence has been the subject of much controversy. Psychologists and computer games theorists argue that interactive technologies can influence for good - but others disagree. The focus of much research has been on the negative impact of exposure to, and participation with digital media; violence, aggression and addiction (Barnett and Coulson 2010; Ferguson, 2010). More positive and pleasurable influences of interactive technologies have now been recognised. Chapter Three outlines in detail what conditions have been influenced.

The idea of being *transformed* by exposure to and participation with digital media technology appears to be gaining some ground. Jin's (2009) study explores the use of avatars in 'exergames' and the degree to which they represent, or differ from, the actual person, the greater the user perceives the 'interactivity' to be (or to have been). When an avatar is most like the participant that person experiences the least sense of 'immersion'. Participants whose avatars conformed most to their 'ideal' selves enjoyed the greatest sense of enjoyment during participation. Jin borrows from Higgins' (1987) 'self-concept discrepancy theory': *'According to which, when an individual's perceived discrepancy between the actual self and the ideal self ('actual–ideal self-concept*

discrepancy') is salient, the individual experiences a negative emotional state, such as dissatisfaction or disappointment' (Jin 2009:762).

Psychologists argue that playing video games is intrinsically motivating and can contribute to individual wellbeing (Ryan et al, 2006). Przybylski et al (2012) argue that computer games have the greatest *'influence on emotions'* if the role the player adopts in the game is congruent with who they want to be in real life. Interactivity thus provides them with ideal aspects of their selves that they cannot normally experience (Rigby & Ryan, 2011). Interactive media become compelling because they allow them to 'try on' new skills and characteristics. This strand of research, and literature, draws on James' (1910) idea that individuals discriminate between who they want to be in real life (their ideal selves) and who they really are (their actual selves). Any discrepancy between the two can cause anxiety as other authors have observed and described. For Rogers & Dymond (1954) *congruence* between ideal and actual selves is important for an individual's sense of wellbeing. Ryan and Deci, (2000) have shown that close interpersonal bonds can help to nurture and bring out an individual's ideal self as might happen in a sibling, parent child or romantic couple. It appears that the same result can be achieved through playing characters in computer games. Przybylski et al (op cit) refer to '*ready made idealised roles'* such as the caring parents in *The Sims* or tough gangsters in *Grand Theft Auto* or a protector of kingdoms in *World of Warcraft* can be tried on in '*immersive narratives'*. If humans were indeed naturally inclined to develop their potential and reduce self-concept discrepancy as Higgins (op cit) suggests playing their ideal selves would lead to positive affect during play and reduce negative affect thereafter. Przybylski et al (op cit) found in one of a series of experiments that this appeared to be the case.

The strongest results were found in participants who experienced high discrepancies between their actual self and ideal selves in real life. A participant who plays a character that resembles their ideal self will likely experience positive emotions and be *transformed* by the experience. It takes no leap of the imagination then to argue that by targeting individuals with the highest self-concept discrepancies and providing digital stories in which the protagonist most resolves that discrepancy, commerce or public heath can transform who that participant feels his or herself to be. The degree to which that process can be controlled or biased technologically is seen here as part of the power of the digital storytelling to influence human behaviour.

There is a need for some caution here. We need to distinguish between who a character appears to *be* in a game, how they appear visually for instance, and what interactivity lets the player actually *do* in a game. Participants in the experiment above were not tested playing story and character-led games but games that tested their '*lexical abilities'*, '*visual and spatial skills'* and '*pattern*

matching'. This study measured how participants felt about their performance in tasks set within games or '*challenges embedded in accessible narratives'*. The game *Bejeweled* was used in which the participant matches patterns; in *Bookworm*, the participant exercises their lexical abilities and in *Peggle*, participants draw on their visual and spatial skills. The concept of narrative was operationalised no further. Previous research did not explore how participants felt about their ideal or actual sense of self relative to the games' storytelling.

They enabled players to '*explore their talents and personal choices'*. Measures of 'ideal self' in this experiment, included questions such as '*think of the characteristics you would ideally like to have'*. Participants were also asked to reflect on '*the characteristics you had when playing the game'*. Rather than testing congruence and/or incongruence in *who* the participant wanted to *be,* the study points to congruencies and/or incongruences between what they believe they can *do* and what they *appear* to be doing. This study marks an important step towards how interactivity can potentially *transform* a participant's sense of self. It demonstrates the power of *interactivity* alone in creating a sense of mastery and physical control over the environment and the positive emotions that can result. It demonstrates the potential of interactive technology, in the authors' words to '*put players in touch with ideal aspects of themselves'* (Przybylski et al, 2012:74). Chapter Ten reflects on how the findings of the current research contributes to this strand.

McGonigal (2011) argues that computer games can influence human behaviour for good. And interactivity alone, without storytelling can evoke happiness and alleviate boredom. It does so by deploying four traits: A *'goal', 'rules', 'feedback'* and *'voluntary participation'*. A goal focuses the participant's attention, provides '*a sense of purpose'* and '*orients participation'*. Rules limit the ways the participant can achieve their goal. (The goal of a computer game might typically mimic the objective of a game of chess, football, or fishing). Rules set up a tension between the ability of the participant and the chance of her achieving her goal. Once a participant knows the goal and has understood the rules they can orient themselves towards the goal relative to, and in some conflict with, the constraints set by the rules. By *constraining* participation, rules *'unleash creativity and foster strategic thinking'*. Happiness is seen to result, in part, from feedback.

Feedback communicates a sense of proximity to the goal letting the participant know where they are relative to their goal at any one moment. It tells the player how well (or poorly) they are interacting with their environment. It allows the participant to *judge* their relative success or failure moment by moment. For McGonigal feedback *'provides a promise to the players that the goal is definitely achievable and provides motivation to keep playing'* (McGonigal (2011:21). In that sense, feedback tells the participant's story rather than the protagonist's. It speaks to the

participant's relative mastery over their environment using the modalities of sight, sound and, increasingly, touch. We have seen how important that can be at a non-conscious level. Digital storytelling appears then more potent than linear storytelling because internal and external representations of *both* the participant's and the protagonist's actions, intentions and emotions are available to the participant at any one time. This further supports the idea of a 'shift in subjectivity' and explain in part the concept of 'the participant as protagonist'.

McGonigal's fourth essential trait is that the participant accepts the goals, the rules and the feedback knowingly and willingly. '*Voluntary participation'* is seen to be critical if the game is to appeal to the participants' attention and emotions for any length of time. But, she argues, a well-designed game doesn't have to start with a statement of the rules and the goal: games can be fun even if the participants have to '*work it all out for themselves'*. This becomes problematic and an ethical concern: without knowledge of the rules and the goals, by her own argument, a critical trait is missing and participation becomes less than voluntary. As we shall see this can lead to the same principles being used to manipulate.

McGonigal's thesis builds on the work of psychologist Csikszentmihalyi for whom *flow* (Csikszentmihalyi, 1991) is achieved when '*a participant's skills are adequate to cope with the challenges at hand, in a goal directed, rule bound action system that provides clear clues as to how well one is performing'* (Csikszentmihalyi, 2012:71). From extensive studies of high achievers in music, sport and chess, he concludes that an optimal and pleasurable trance like state can result where the participant loses sense of time and self-awareness. *'Optimal experiences add up to a sense of mastery – or perhaps better of participation in determining the content of life,* (Csikszentmihalyi, 2012:4). The environmental challenges must not be too difficult so as to frustrate, nor too easy so as to bore. Without a goal nothing is set for the participant to achieve in the environment. Without rules, there are no parameters defining what the participant can and cannot do. Without feedback the participant cannot know at what point on that balance between success and failure they are at any one moment. In this way the self is seen to be *transformed* by becoming more complex.

That humans have evolved technologies that cater to and facilitate positive emotions is perhaps unsurprising but nonetheless remarkable. Csikszentmihalyi associates 'flow' with the 'emotions of adaptation' (Lazarus, 1968; Lazarus, 1991). Flow makes you happy because it triggers the release of neurotransmitters thus rewarding the participant for interacting with their environment. Acting upon our environment feels pleasing for good evolutionary reasons; the same reasons that humans enjoy belonging to social groups, eating, sex, and being healthy. But it

raises the question as to whether we act as rationally and reasonably as we might like to think we do. By participating with this technology, aside from the power of storytelling to transport, we appear potentially to lose, and change our sense of self in a non-conscious way. It follows that by introducing the power of storytelling, the power to influence behaviour can be increased, for good.

This chapter has gone some way towards identifying some of the parameters by which interactivity, as it pertains to digital media, can be biased. McGonigal's thesis is that the traits she envisions can be used to 'gamify' banks, commerce and the workplace to make the world a happier place.[5] Interactive experiences that lead to happiness and alleviate boredom can also generate vast profits. It is likely then that interactive *and* storytelling will be merged and used increasingly to structure online experiences over time. To be sure, if interactive technologies appeal *non-consciously*, and can be *biased* to affect they have the potential to influence human behaviours *involuntarily.* If commerce alone is in control of that process we have much to be concerned about.

This matters because Hitler and the Third Reich effectively 'gamified' Germany. They created an 'Alternate Reality Game'[6] played out in the real world, using the principles outlined by McGonigal *plus* the storytelling elements of change foregrounded in Chapter One. Hitler defined a goal, a destiny, communicated clear rules and devised a feedback system for appropriate and inappropriate behaviours, based on his predilection for the Aryan race. As Csikszentmihalyi writes, he created *'...an attractive game plan. It set simple rules, clarified feedback, and allowed a renewed involvement with life that many found to be a relief from prior anxieties and frustrations'* (Csikszentmihalyi, 2012:82). Participants were characterised and afforded roles and subject to the rules according to racial stereotypes; and the feedback they received was used to punish or rewarded them accordingly. He used storytelling to appeal to their desire to belong and to create a sense of the nations' *destiny*, and his own power as if it were inevitable. But Hitler hadn't studied his games theory properly: as McGonigal suggests, we need to accept the rules, feedback and goals *voluntarily*.

We saw in Chapter One how religious storytelling appeals to the desire for order to prevail over chaos. We also saw how that has neurological underpinnings. The ease with which digital design triggers easily and non-consciously those same desires is supported by Chetfield, (2012); '*We've evolved over hundreds of thousands of years to find things very exciting…with challenge*

[5] 'Gamification' is the use of game thinking and game mechanics in non-game contexts (Wikipedia, 2014)

[6] An 'alternate reality game' (ARG) is an interactive networked narrative that uses the real world as a platform and uses transmedia storytelling to deliver a story that may be altered by players' ideas or actions (Wikipedia, 2014)

and uncertainty'. '... free of the restrictions of the physical world, we are free to create virtual environments that tick all our evolutionary boxes'. Digital interactive technologies provide a way to do this, *'...based on the way that its creators think that we want'* Chetfield, (2012 op cit.) The theories outlined above suggest that games as cultural products, '*reduce the impact of randomness on experience'* and similarly provide comfort by *'limiting the possibilities'* (Csikszentmihalyi, 2012). That we create and seek out opportunities that limit the sense of chaos and uncertainty is undeniably fundamental to the human condition; and that we do so suggests that in evolutionary terms, the storytelling forms we are in the process of creating have great and lasting potential - for good and for bad.

Technology author Douglas Rushkoff is not optimistic about the power of interactive media to do good. For Rushkoff digital technology is unlike any tool we've had before; it is designed for commercial gain, *'embedded with purpose'* and requires a more critical approach.

> *'Participation in a digital society requires at least some knowledge of how these tools work. What are their underlying biases, what are their leanings so that we can implement them consciously and willfully, purposively as humans rather than passively which really does make us no better than robots'* (Rushkoff, 2012).

It was conjectured from industry insight that digital storytelling has the potential to *transform* by creating an elision between the participants' sense of self and who the protagonist is. Interactivity alone appears to have the power to influence at profound levels. The literature appears to confirm this view. *Participation*, as it pertains to digital media *and* 'pre-digital' linear storytelling both appear to appeal to fundamental aspects of human nature: and they appear to be *independently* potent. There is a need to understand better understand this conjoined nature and its ability to influence human behaviour (s). And we need to better understand the digital storyteller - who is it that gets to imply what our ideal selves could or should be and whether our current behaviours are right or wrong, good or bad.

As Rushkoff (2012) states,

> *'I am much less concerned with what technology is doing to us than what we are doing to one another through technology'.*

2.4 Chapter Two Summaries and Conclusion

This chapter goes some way towards helping explain the phenomenon of the 'participant as protagonist' and how digital storytelling – as defined - may have the power to transform human behaviour. Interactivity like storytelling appears to have the power to influence non-consciously, for good and for bad. Commerce appears to understand how to control the technological parameters by which interactivity can be biased to manipulate the participant's sense of their external environment and *who* he or she feels his or herself to *be.* Since storytelling and interactivity both have the power to influence emotionally and non-consciously, when *merged* the influence of digital storytelling may likely be greater than the sum of its parts; all other things being equal. Chapter Three now reports the results of a Scoping Review designed to map research in the field; and to identify what aspects of the human condition digital media use has influenced.

Chapter Three

The Power of *Storytelling & Interactivity* to Influence Human Behaviour: A Scoping Review

3.1 Chapter Three Overview

The previous two chapters have shown that *storytelling* has influenced human behaviour for millennia; and *interactivity*, as it pertains to digital media is a potent force in and of itself. It is likely, therefore, that storytelling *merged* with interactivity would be more potent. Chapters One and Two also demonstrate that storytelling and interactivity have independently influenced human behaviour for good and for bad by influencing *non-consciously*. Both can be *biased* to manipulate. We need therefore to better understand *how* they likely influence behaviour on their own terms and together. This chapter reports the results of a Scoping Review whose aim was to explore the use of digital storytelling to influence human behaviour. The objectives were to:

- Map the range of research activity into the use of digital storytelling to change health behaviours and identify any gaps in the literature.
- Discover what behaviours appear to have been influenced by digital media use.
- Better understand how interactivity and storytelling have been conceptualised.

Methods: Arskey and O'Malley's (2005) scoping review framework was adapted. The study design is discussed in Chapter Six.

Findings: The study found that:

a) Commercial *Storytelling* merged with *interactivity* appears to have been used in few health behaviour change contexts and a gap exists.

b) A wide range of human 'conditions' has been influenced by digital media use, for good and for bad.

c) *Interactivity* is understood in some depth in the fields of commerce and political communications.

The results are presented below as a narrative review and discussed in relation to the developing conceptual framework. The chapter concludes that commerce 'understands' *interactivity* and how it can be '*biased'* to influence; whereas the emphasis in public health appears to be on cognition, the acquisition of knowledge and appeals to reason rather than emotion. This presents threats as well as opportunities to public health. The gap in public health research and practice needs to be addressed and a coherent digital storytelling framework becomes desirable as well as feasible.

3.2 Scoping Review Findings

a) Storytelling merged with interactivity appears to have been used in few health behaviour change contexts.

The Scoping Review showed that although a peer review literature is emerging few studies have focused on how 'storytelling' and 'interactivity' might be used together to influence behaviour in the context of public health. The concept of 'storytelling' appears in the literature reviewed in the context of computer games narratives (Ip, 2011) and the use of improvisational storytelling in live action role-playing games (Harger et al, 1993). One study dealt directly with the deployment of storytelling *and* interactivity in commercial behaviour change contexts (Gorry and Westbrook, 2011); this is considered below as it shows how commerce understands interactivity. Another study addressed the use of storytelling *and* interactivity to promote environmental policies (Garcı́a-Barrios', 2008); this is also considered since it addresses how the power of digital storytelling can be used to *bias* a behavioural outcome. But only Baranowski et al, (2008) and Gamberini et al, (2009) addressed the combination of interactivity *and* commercial storytelling in health behaviour change contexts. These two studies are considered first.

Baranowski, et al (2008) conducted an extensive review of public health literature and concluded that digital media (computer games) '*provide a channel for delivering health behavior change experiences and messages in an engaging and entertaining format'* (Baranowski et al, 2008:74). The study is seminal as it merged the *'attention-maintaining properties* of storytelling and *'the engaging properties of interactivity'* perhaps for the first time in public health. The emphasis is clearly on the fun element of interactivity, the 'attention maintaining' properties of story and *'fantasy'* and delivering messages *uni-directionally*. The authors recognise the need to use commercial storytelling approaches and point to the importance of the three-act structure. For Baranowski et al (op cit) the three act structure communicate the 'moral' of the story or the main message; but they argue further research is needed. *'Research on how best to use the three-act structure to design games offers the possibility of enhancing effective behavior-change*

programming' (Baranowski et al, 2008:80). This current research places the use of the three-act structure at the centre of the developing framework (Chapters Four and Five).

The authors also draw from Green and Brocks (2000) 'Transportation Theory' which argues that being *transported* or 'absorbed' in a story leads to changes in beliefs, attitudes and behaviours represented by that story. A story *transports* if it has 'personal appeal' or is 'personally relevant' for the participant. 'Character' is deemed to be an important '*mechanism that influences people.'* (Green and Brock, 2004). By observing engaging likeable characters, participants will assimilate or 'model' those same desired behaviours. This view that fictional characters can stand in for and model the behaviours of a specific population, and then the participant will imitate those behaviours in the real world appears now to be common (Kreuter, 2008; Maibach, et al 1995; Schunk, 1986).

Baranowski, et al argue that storytelling needs to be aligned with cognitive based theories of behaviour change. After Bandura (1986) social cognitive theory posits that without goals it is not possible to direct attention, activity or resources (personal and/or social) towards the desired behavioural performance. The emphasis is firmly on cognitive approaches such as goal setting and knowledge acquisition. The power of storytelling here lies in its ability to deliver messages that lead to the completion of those goals. This approach chimes with Plato's (Chapter One) where messages are delivered and controlled to appeal to the rational mind. The power of storytelling to engage *emotionally* is recognised: '*Game players become involved literally and emotionally in the story*' (Baranowski et al, 2008:78): but the emphasis is placed upon how that can improve the attention to and retention of messages. The lack of research into how storytelling can be used to influence the emotions was also evidenced here.

> *'How emotions influence health-related behaviors and its changes are not well known. An empiric literature needs to be generated on how aspects of story, components of games and stories within games, evoke emotional responses, which in turn enhance attention to, and retention of messages and otherwise enhance (or inhibit) behavior change'* Baranowski, et al (op cit).

The current research places the influence of specific storytelling 'elements of change' on human emotional responses over time.

Gamberini et al (2009) emphasise the importance of active participation and how a story-based computer game allows the participant to engage in some behaviour rather than staying passive

(Gamberini, op cit). This is the theory behind *Happy Farm*, a game designed to engender the dangers associated with psychoactive drugs. The storytelling adopted a comedic tone. *Happy Farm* used anthropomorphised animals to create '*an ironic perspective'* which appealed to the young people at which the game was targeted. The message was that 'this game is fun!' Participants were thereafter assumed to have internalised the messages apparent within the game's '*normative structure'* and thus learned about the dangers associated with substance abuse. Gamberini's study is valuable as it shows how interactivity allows participants to take on realistic roles, to cope with problems, to make decisions; it emphasises the importance of interactivity *and* storytelling in the acquisition of knowledge. But does this use of storytelling lead to the desired behaviours?

For Gamberini (op cit) the credibility of the source material determines the degree to which the desired behaviours carry over into the real world. This finding was reinforced during focus groups with adolescents in Chapter Nine. The influence appears to be a function of the authenticity of the source; of how much we trust the digital storyteller. The use of humour to that end is also noteworthy, since a humorous tone likely appeals to positive emotions. This findings was reinforced in the case studies and focus groups in Part Two. The use of tone as a critical element of change sits at the heart of the developing framework and is explored further in Chapter Four.

Garcı́a-Barrios' (2008) demonstrate how the use of storytelling *and* participation can be used promote environmental policies; it allows the participant to take part in a story. As in Baranowski et al, (2008) the emphasis is on the use of the three-act structure. In the first act, participants play the part of 'slash and burn' farmers, pressured into planting maize by the government. As in Baranowski et al, (op cit) the emphasis is on goal setting where the participant's goal is to increase the nitrogen levels in the soil. The story is that a community that lives down river prides itself on the revenue from tourists who return again and again to visit their crystal clear, unpolluted, lake. The threat of environmental destruction is explored throughout the second act, where the participant can 'play with' animated models. As in Baranowski et al, (2008) the emphasis is on 'modeling'; in this case participants '*become conversant with the dynamics of this fragile ecosystem through a process of modeling*.' (Garcı́a-Barrios', op cit). The third act similarly delivers the story's resolution, and 'moral': which is that the maize crop will be grown using nitrogen management strategies.

This study provides an early example of how storytelling and participation can be used to bias an outcome. The interventionist's agenda is that the maize crop *will* be planted, extra nitrogen *will* go into the soil and using *no* extra nitrogen is *not* an option. The question 'in whose interests is the game was commissioned the Maize farmers, the lake dwellers, or the environment, remains moot.

But we note that the intervention is *biased* to change behaviour in a specific direction. The three-act structure forms part of that approach and has a valuable part to play as just one storytelling 'element of change' outlined in the next chapter.

Commerce appeared to be embracing storytelling; but not 'commercial storytelling' as we defined it in the introduction. Since that was a working definition, and the very nature of storytelling its use and influence are being explored, the following study was included for review. As we shall see, it allows us to begin to understand what happens when linear storytelling becomes participatory online. Gorry and Westbrook (2011) argue that by listening to consumers' stories commerce can better serve customers and companies. The study is a response to the reliance on established quantitative approaches that can muffle the consumer's voice. Taking a '*controlled exploratory approach'* the authors demonstrate that by paying attention to the stories consumers tell consumer services and organisational innovation can be enhanced. They argue that by using new methods to listen to social media conversations, commerce can engage in a dialogue with consumers. The emphasis is here on developing two-way conversations that allow stories to relay back to 'the executive suite'. The objective is then to listen to and 'read' consumers beliefs and behaviours in order to influence or 'write' organisational change. This finding that commerce is prepared to engage in two-way conversations with consumers is supported by evidence from depth interviews with behaviour change experts (Chapter Seven).

b) A wide range of human 'conditions' appear to have been influenced by digital media use

Few studies then report the use of commercial storytelling strategies and interactivity as part of a coherent approach to human health behaviour change. The scoping review nevertheless provided a valuable *breadth* of data as to what human 'conditions' had been influenced by digital media use more broadly. A wide range of human 'behaviours' has been considered to be influenced by digital media consumption. Of the wide range of human 'conditions' reported to have been influenced by digital media use most reported negative influences. Fig 1 illustrates the range of negative influences of digital media use. The number of papers reporting on each specific influence is expressed as a percentage of the 318 abstracts selected because they reported an influence of digital media use. These statistics are used for descriptive purposes only.

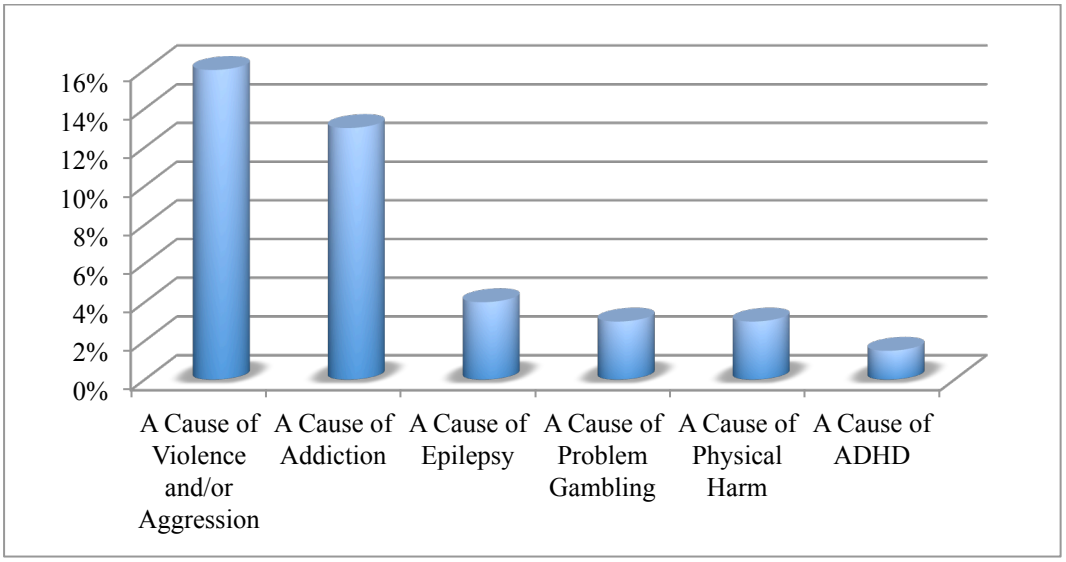

Fig 2. The percentage of articles representing the negative influence of Digital Media use (n =318)

Problematic influences include violence (Barnett and Coulson 2010), addiction (Ferguson 2010), physical harm **(**Wartella & Jennings, 2000**)** and epilepsy (Kasteleijn-Nolst Trenite et al 2002). The emphasis on violence and addiction resulting from computer games use was prevalent. A meta review of the violence literature concluded that '*exposure to violent video games has been linked significantly to increases in aggressive behaviour, aggressive cognition, aggressive affect, cardiovascular arousal, and decreases in altruism'* (Anderson, 2004:113). Please see Gentile and Stone (2005) for a review of research into the violent effects of video games on children. For Baird (2010) and Frolich et al (2009) interactive media are addictive. For a bibliometric analysis of the scientific literature on internet, video games, and cell phone addiction please see Carbonell et al (2009). It appears from the outset that interactivity as it pertains to digital media is potent; this reinforces the findings of the previous chapter.

Internet, as well as computer games use has negative behavioural effects. '*The new psychological disorder of Internet addiction is fast accruing both popular and professional recognition*' (Chak & Leung (2004:559). Students' performance at school was seen to be influenced by 'pathological use' of the internet. Students *'grade point average (GPA) decreased when pathological Internet usage increased'* (Bayraktar & Gun, 2007:191). This distinction between the negative influence on both digital and physical world behaviours points to the need for a clear distinction to be made between the two and the potential interplay between them. Indeed, this becomes an important concept, as we shall see when the digital storytelling framework is outlined in the ensuing chapter. The need for this distinction is also reinforced by primary research data as part two of this thesis demonstrates.

A number of studies considered the physical harm resulting from excessive use of increasingly motion sensing gaming technologies such as the Nintendo Wii and Microsoft's Kinect (a computer games console). The most commonly recurring physical harm was wrist and hand repetitive strain injuries in children, (Macgregor, 2000). Other studies expressed concerns over sedentary behaviour and increased food intake as a consequence of prolonged video game play (Chaput et al 2011). Again, the ratio between the amount of time spent in the physical world and digitally mediated worlds appears to be a valuable measure. Indeed, this appears to be as important a measure when analysing the efficacy of story based digital media interventions as an analysis of what participants see, hear and do in either 'place' during the intervention as the case studies in Chapter Eight reveal. This is also an issue to which we return in Chapter Ten when the implications of this research for the future are discussed.

Digital Media use appears also to have had a *positive* influence on a wide range of human 'conditions'. Fig 2 illustrates the range of positive influences of digital media use. The number of papers reporting on each specific influence is expressed as a percentage of the 318 abstracts selected because they reported an influence of digital media use.

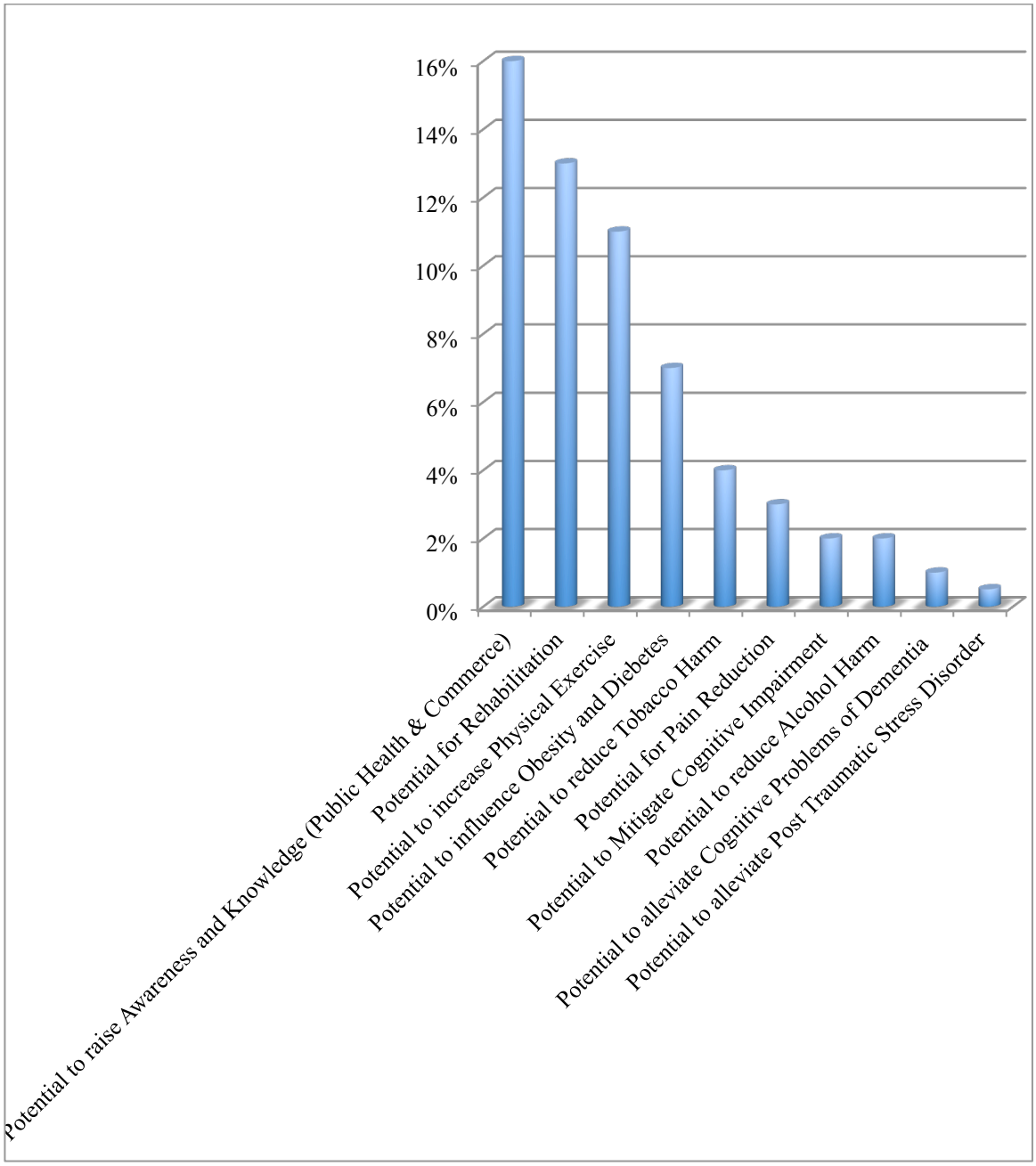

Fig 3. The percentage of articles representing the positive influence of digital media use (n =318).

Web based interventions have reduced alcohol harm (Bingham, 2006) and improved smoking cessation rates through cell phone and internet use (Brendryen et al, 2008). Most articles reported the use of digital media to influence cognition, knowledge and awareness. Fernandez-Calvo et al (2011) show that computer games such as *Big Brain Academy* can reduce cognitive impairment in patients with Alzheimer-type dementia. Digital media use has also had positive physical influences. Radon et al, (2011) demonstrated that interacting with computer games could increase physical activity in obese adolescents. The Nintendo Wii (a computer games platform) has been used to influence physical rehabilitation of upper body and arm movements following chronic illnesses

such as strokes. Flynn et al (2007), for instance, demonstrate how Sony's PlayStation 2 proved effective in improving both sensory and physical impairments following strokes and aneurisms.

Digital media use has then influenced cognitive, physical, perceptual and sensory conditions. The data also revealed that digital media have been used to measure or *'read'* as well as influence or 'write' human cognitive and perceptual states. Computer games have been used to measure motor and cognitive dysfunction in Parkinson's disease (Allen et al, 2007) and to read cognitive workload when participating with games consoles (Allison & Polich, 2008). Digital media have *also* been used to influence negative and positive human emotions as well as read cognitive states. Addictive patterns of internet use, for instance, are thought to be mediated by emotions such as loneliness, shyness, anxiety, depression and self-consciousness. In some instances this has led to the withdrawal in young people from wider society (Chak & Leung op cit). As we shall see in Chapters Eight and Nine, the power of digital storytelling in the context of social media use appears to lie in its ability to engage positive emotions associated with belonging and social success; and this is something commerce appears to know well.

Public health has also recognised its potential to engage the emotions. Gold et al (2006) demonstrated that digital media could mitigate and modulate emotional pain in children. '*Virtual Reality is a promising tool for decreasing pain, and anxiety in children undergoing acute medical interventions'*. Chumbley and Griffiths (2006) in a study about the effect of gender, personality and computer game reinforcement structures argue that playing video games can influence both positive and negative emotions. We saw in Chapter Two how active participation with interactive media was 'intrinsically motivating' and instrumental to goal setting and the modeling of various health behaviours (Ryan et al, 2006). Perugini & Bagozzi (2001) show how the emotions of excitement and frustration can mediate the reinforcement of goal directed behaviours.

A synthesis of these data tells two different stories: a wide range of human 'conditions' appears to have been influenced by digital media use. Digital media use appears to have a profoundly negative and positive influence on a wide range of human 'conditions'. Super Mario World (a computer game) has been known to cause many first-time epileptic seizures, (Kasteleijn-Nolst Trenite et al, op cit). But the internet has been used to help adolescents manage their adherence to epilepsy medication and to monitor sleep quality of sufferers remotely (Dilorio et al, 2009). Computer games have been seen to cause obesity and diabetes; but they have also been deployed to mitigate *against* obesity and diabetes and to improve physical activity regimes, as the public health case study in Chapter Eight explores in detail.

c) Interactivity appears to be understood in some depth in the fields of commerce and political communications.

The review provided a sense of how interactivity was understood in commerce and political communications. Definitions ranged from those that posit interactivity as an aspect of digital media technology, to how the technology is *perceived* by the participant and in terms of its function i.e. what the technology 'allows' or 'facilitates'. For those writing from a commercial marketing perspective, interactivity is functional. It facilitates '*exchange*' (Haeckel, 1998) and allows a '*dialogue'* between consumer and manufacturer (Bezjian-Avery et al, 1998). Ching-Jui Keng & Hung-Yuan Lin (2006) provide a useful summary of the definitions available in the context of commerce and advertising effects. They see interactivity as '*a powerful one-on-one, two-way communication'* between advertiser and consumer. The ratio of power between the brand and the consumer is seen to be in equilibrium. For Steuer (1992), arguing from a commercial perspective, interactivity allows the consumer as participant to exert *control* over the medium. It determines *'the extent to which users can participate in modifying the form and content of a mediated environment in real time'* (Steuer 1992:84). Vagaries of speech, gestures, facial expressions, tone of voice, voice quality, pace of speech, inflexions, and loudness are seen as important components. How a participant *perceives* his or her control over these elements as part of the participation process is seen to be a function of the 'reciprocity', 'responsiveness', 'speed of response', 'audio visual' and 'non-verbal aspects' of the media system. For Steuer these parameters imbue messages with meaning. But the degree to which the user can modify these elements depends ultimately upon how they are programmed. Participants can act upon the environment, but the degree to which they are able to exert any control is always programmed and pre-determined.

The idea that interactivity allows *mutual* control over the medium is explored in the field of political communications. Digital media have been lauded as politically democratic because interactivity '*levels the playing field'* and thus allows 'political mobilisation' (Bimber, 1998). Digital media allow citizens to speak with those in power and express their opinions openly. This 'empowerment' is seen to expand the democratic process, giving the citizen *more* 'democratic' power and control. Dance (1967) speaks of this as '*participant equity',* and Rice (1989) argues that a message is something over which two or more people have only *'apparent'* control. This apparent power has to be seen in the light of the cost of this privilege for the citizen. For example, the use of SNS (social networking services) was seen by many as instrumental in the uprising during the Arab Spring. Little reported though was the fact that activists' text messages and email exchanges were monitored and their Skype and Facebook accounts were hacked (Seltan, 2011). An imbalance in power may occur if part of that democratic process is obscured from view. Some

measure of the degree to which *either* participant is pushing (writing) or pulling (reading) data and the visibility of that process is clearly needed. If interactivity facilitates a balanced two-way system, in equilibrium, then to introduce the potency of storytelling, from either side is, arguably, to bias the power relationship. This tension is explored further in the field of political communications.

Lilleker et al (2010) make a useful distinction between 'strong' and 'weak' levels of interactivity. They demonstrated that the Liberal Democrats perceived digital media as a tool for pushing messages and to 'promote their policies' in the run up to the election as part of their campaign strategy. The Liberal Democrats had no desire to 'co-create a product' with the public. Even when 'weak levels' of participation are deployed, on the internet political parties and campaign teams were found to be nervous, (Jackson and Lilleker, 2009; Tedesco, 2007). Lilleker et al (op cit) argues that this nervousness and fear is owing to a perceived lack of *control* over the process. For the campaign teams this meant '*a breakdown in the uniformity and clarity of their message'*. If discussion takes place publicly, '*this shapes future user experiences and could affect the integrity of the image of the party as a brand'*. The notion of strong and weak levels of interactivity becomes useful in the context of power and control. The control over the direction of messages and balance of storytelling power becomes then proportionate to the balance of political capital. Moody (1996) takes the idea a stage further and argues that the idea that the participant has any real control whatsoever represents '*the interactive myth'*.

3.3 Discussion of Findings

A wide range of human conditions appears to have been influenced by participation with digital media in the context of commerce, political communications and public health. These include physical conditions, cognition, perception, memory, attention, emotions and behaviour. The use of interactivity to enable, or inhibit, a two-way 'conversation' with end users has been conceptualised in some detail in commerce and politics but less so in public health. It was not clear from the literature reviewed why this might have been the case. It is clear that opportunities and threats may result from the power of digital storytelling to influence behaviour. Public health may benefit by considering further the opportunities that the power of digital storytelling presents and those that commerce and politics appear to embrace.

In commerce, interactivity appears to be represented as positive and functional because the participant is seen to control the medium, rather than negative, because the medium is seen to control the participant. What the participant gets to see, hear and do whilst interacting with digital media is seen to equate to their *control* over the medium. Similarly, what the storyteller, digital

media system or both gets to see, hear and do whilst interacting equates to *their* control over the medium. So if what they see, hear and do is equal then the system, the process, the dialogue can be seen to be in equilibrium and neutral. That may be the case, but, as we saw in Chapter One, if any one participant gains more control over the storytelling process, given the power of the medium to influence a range of conditions, *non-consciously*, then participation quickly becomes manipulation.

This review and the previous chapter show how the orchestration of technical parameters such as the range of choices available to the participant and the speed of feedback can bias how a participant feels about participating and their sense of presence and 'being there'. That alone suggests that the ratio of control over the conversation sits in the favour of commerce in that case rather than the consumer. A wide range of human emotional, cognitive and physical 'conditions' have, however, been influenced by digital media use, for good and for bad; this can be attributed to the power of *interactivity* alone. This presents a threat to public health should commerce use interactivity to market harmful products.

These findings from the public health literature chime with those of Chapters One and Two insofar as certain 'elements of change' begin to recur; story, character, three-act structure and tone being most evident. The concept of *theme* and its use to engage human emotions over time as we saw in the ancient Greeks, religious storytelling and 1930's Germany did not however appear. In the interest of deviant case analysis (Jupp, 2006) we might then remove the emphasis on the concept of theme from the developing framework. Alternatively, since the field is only developing, theme may not *yet* have been used. However, since the case studies reported in Chapter Eight evidence the use and influence of the themes of belonging and social success by commercial alcohol marketers; and the focus groups reported in Chapter Nine evidence the influence of those themes on adolescents' positive emotions and alcohol consumption behaviours the latter interpretation has been privileged.

Certain approaches to behaviour change recurred in this literature: The use of storytelling to 'transport' participants and retain attention; the use of the three-act structure to deliver 'the moral of the story' and health messages; the use of character to 'model' desired behaviours; the use of interactivity to facilitate active participation and the use of social cognitive approaches to set behaviour change goals. As we shall see from the findings of in-depth interviews with behaviour change experts in Chapter Seven, tensions emerge between those working in public health who believe in the emotional value of storytelling and those who prioritise established cognitive based behaviour change processes. The balance between interactivity, the storytelling 'elements of change' and behaviour change theory is further examined in detail in Chapter Eight.

3.4 Chapter Three Summary and Conclusions

The chapter has reported the findings of a scoping review. The study found that:

a) Commercial *storytelling* merged with *interactivity* has been used in few health behaviour change contexts. A gap exists in terms of practice, research, critical awareness and theory; one that the current Digital Storytelling Transformation Framework addresses.

b) A wide range of human 'conditions' has been influenced by digital media use, for good and for bad.

c) *Interactivity* is understood in some depth in the fields of commerce and political communications.

Researchers in commercial, political and social behaviour change seem to recognise the power that mass digital media have to influence human behaviour. This is later supported by the findings from depth interviews (Chapter Seven). The study has shown how the use of 'interactivity' and 'storytelling' together to change specific behaviours provides great opportunities for public health. But research appears to be in its infancy. Calls for further research into the use of storytelling to appeal to the emotions have been made (Baranowski, 2008); but the emphasis in public health appears to be on cognition, the acquisition of knowledge and appeals to reason rather than emotion. As we shall see in Part two of the thesis this appears to militate against emotional engagement.

We have seen that a 'digital storytelling framework' is feasible (Chapter One). The absence of a coherent 'digital storytelling framework' suggests that one is also desirable. It might usefully help design and evaluate affective health interventions as well as evaluate critically the impact of digital storytelling practice in the hands of commerce. Chapter Four now outlines a digital storytelling framework drawing on the findings of Chapters One, Two and Three *and* prior professional insight. Chapter Five then 'tests' that framework in the light of social marketing theory and a 'case study' of exemplary social marketing practice thus concluding Part One of the thesis. Part Two then tests that theory and its propositions against primary research data and analysis.

Chapter Four

Towards a Digital Storytelling Framework

4.1 Chapter Four Overview

The previous chapters have shown that *storytelling* has influenced human behaviour across time and place by structuring human emotions over time, (Chapter One) and *interactivity*, as it pertains to digital media, appears to influence at similarly profound levels (Chapter Two). Digital storytelling appears, therefore, to have the power to influence human health behaviours and we have now reached a better understanding as to *how*. Digital media use has influenced a wide range of human cognitive, emotional and physical conditions but storytelling *and* interactivity do not appear to have been merged as a behaviour change approach, and research remains in its infancy (Chapter Three). This chapter now addresses that lacuna, and research question three further, by outlining and proposing a 'digital storytelling framework' based on the findings of Chapters One, Two and Three *and* prior professional insight.

This chapter comprises the following sections.

4.2 The Main Assumptions Underlying the Framework
4.3 The Key 'Elements of Change' at the base of the framework
4.4 The Framework in Practice: A Creative Scenario

The chapter concludes that a digital storytelling framework is feasible and its underlying assumptions grounded theoretically. It appears to work in analytical and creative practice. Chapter Five then uses a case study to test the framework against the central tenets of Social Marketing theory thus concluding Part One of the thesis.

4.2 The Main Assumptions Underlying the Digital Storytelling Framework

The main *a priori* assumption is that since both storytelling and interactivity appear independently to be potent, their potency will increase when merged. 'Digital storytelling' was defined in the introduction as the structuring of human emotions using audiovisual representations (of characters, settings, objects and events) and *interactivity* over time. That working definition forms the basis of our framework. *External* representations of what appears to be happening to a character, socially, physically and emotionally have the potential to affect the participant *internally*, moment by moment, incrementally and cumulatively across the duration of the storytelling process, and across

whatever digital platform or channel that takes place. That is taken to be true whether the character represented is fictional (i.e. wholly digitally represented) or real (an avatar based on a physical world counterpart). The conjecture is that the participant mirrors the emotions, intentions and behaviours of a fictional character over time; and that that process becomes more intense when a participant engages with a representation of his or herself, or that of a significant other such as a parent, sibling or peer. In the latter cases a real social interaction is being mediated and, therefore, potentially manipulated. Focus groups (Chapter Nine) show just how subtle and potent the power of digital storytelling can be in influencing behaviours.

4.3 The Key 'Elements of Change' forming the base of the framework

The key concepts are now presented and their place in the model justified theoretically. The framework's key concepts are divided, for analytical purposes, into two categories: the digital storytelling 'elements of change' and the digital storytelling 'mechanisms of change'. The former refer to aspects of the 'text' and the technology while the latter refers to the psychosocial aspects of an individual. An analytical approach is needed if we are to better understand what 'storytelling elements of change' are involved and what 'mechanisms of change' they likely trigger *en route* to behaviour change. Table 1 presents the key elements of the framework 'at a glance'. The key elements are then considered in turn.

Table 1: The Outline Digital Storytelling Framework 'At a Glance'

The 'Elements of Change'	**The 'Mechanisms of Change'**
Light & Sound	Non-conscious processing of visual and auditory data (Keyser, 2012)
Interactivity & Feedback	Non-conscious processing of visual, auditory and proprioceptive data. (Keyser, 2012); 'Flow' (Csikszentmihalyi, 2012); A sense of 'presence' (Lombard and Ditton, 1997); Goal directed motivation (McGonigal, 2011; Ryan et al, 2006; Perugini & Bagozzi, 2001); A sense of mastery and control (Ryan et al, 2006)
Story	Transportation (Green and Brock, 2000); Attention maintaining properties (Baranowski et al, 2008).
Setting	Sense of spatiotemporal location and presence (Lombard and Ditton, 1997).
Character and Characterisation	Imitation, mirroring, modeling and over-attributing the actions, intent and emotion of others. (Various authors. Please see Chapter One). Empathy, pity and fear (Aristotle, 1967)

Story Structure	Structuring of emotions over time (pity and fear) and *transformation* (Aristotle, 1967); Delivering the moral or message of a story (Baranowski et al, 2008; Garcı́a-Barrios', 2008).
Theme	E.g. The use of theme to appeal to emotions such as the desire to belong, and the fear of isolation. (Current thesis).
Tone	E.g. The use of humour to appeal to positive emotions associated with social success or negative emotions associated with isolation. (Current thesis).
Bias (technical parameters	Non-conscious processing of visual, auditory and proprioceptive data (Keyser, 2012); Sense of self, environment and others (Damasio, 1999); Sense of intent, motives, actions and emotions of others (Gazzaniga, 2012) (Chapter Two)
The Participant as Protagonist	All of the above, leading to a shift in subjectivity when the participant becomes protagonist (current thesis) and sees them self in a new light.

Light and Sound: Chapter One showed that the basic and irreducible elements of *linear audiovisual* storytelling (light and sound) can influence who we believe ourselves to be, how we feel about it; and that they influence emotionally, automatically and non-consciously. Human beings are phototropic (Enoch and Birch, 1981) and we react adversely to deprivation and extreme levels of light and sound. Heron for instance (1957) reported hallucinations, difficulty in thinking and vivid daydreams when subjects were placed in an environment and deprived of sensory, light and sound, stimulation. Chapter One showed how visual and auditory representations of characters, their movements, emotions and intent influences humans quite profoundly. Chapter Two showed how visual and auditory representations can be further *biased* to influence if the technological parameters are adjusted. Chapter Three showed how this could influence a wide range of human conditions, for good and for bad. We must recall that we respond to light and sound, visual and auditory data, by actively seeking patterns and order from the chaos of incoming data. We thereby *infer* character, story motivation, intent, and 'the self'. This in turn informs our emotions and behaviours *non-consciously*. Whatever reasoning and rationale we may attach to that story and its telling, we do so consciously, post hoc and with much of the data missing, Gazzaniga (2012). This may appear pedantic but it is a point too easily overlooked. Without taking this phenomenon into account we fail to address our vulnerability to the power of sound and light. What we see and hear determines what we can infer. What we infer likely determines what we *do* in response. Any analysis of digital media participation should not perhaps stray too far for this perceptual part of the framework. Gazzaniga, (op cit) writes. *'It's a powerful and overwhelming illusion that's almost impossible to shake'*. In evolutionary terms, '*This has served us well'* (Gazzaniga, op cit). Light

and sound waves are the very data from which we create that illusion and so form the very basis of our framework.

Interactivity and Feedback: Chapters Two and Three showed that interacting with digital media technologies has parallels with interacting with our environment physically. It augments audiovisual – perceptual – processing with *proprioceptive* processing. It thereby increases our direct sense of mastery and control over the environment and can be addictive in its own right. Interactivity and Feedback are key elements of change at the core of the framework.

Story: Story is defined here as that which structures human emotions over time and place. As we have seen in the previous chapters story has been seen to 'transport' (Green and Brock, 2000). Its theoretical ability to persuade in public narratives and to maintain attention has seen to be valuable in health behaviour change contexts (Baranowski, 2008).

Setting (Time and Place): Commercial cinema, computer games and 'commercial' storytelling situate the viewer *temporally*. What is represented on screen provides a sense of *when* the story takes place. But time needs to be understood as working at another level. If digital storytelling structures human emotions over time, and might thereby influence behaviour, there is a need to define the duration over which participation takes place. In TV commercials the duration might be 30 seconds, in cinema typically 15-minute short films or features of 90 minutes or more; casual games three seconds, five minutes, story-led console games, 40 hours or more. In the world's most successful game *World of Warcraft*, or in *Facebook* for instance, that duration is potentially infinite. As we saw in Chapter Three, the time (s) spent participating relative to time spent in the 'real' world might also prove to be significant in determining, if and if so, *how* behaviours in either the real or physical world are influenced, for good or bad. This framework allows us to be clear as to exactly what participants are subject to *when* participating. The temporal axis then forms the foundation of this framework. Without that parameter we may never fully understand to what degree digital storytelling might influence real world or online behaviours.

Commercial storytelling also situates the viewer *spatially*. What is represented provides a sense of *where* the story takes place. The framework is made further complex by the fact that with digital media the *setting*, the time and place as represented, may change at any point in time during the duration of the storytelling process as a direct and causal consequence of *where* and *when* the participant is and participation takes place. Time and/or place as *represented* in the story world can change, potentially, at any one point according to *wherever* and *whenever* the participation takes place in the real world - online at home at 1pm or on the phone on the bus at 1pm. There is a need

therefore to distinguish between physical settings from digital settings and recognise that a continuum exists between the two. Subsequent research has shown how alcohol marketers merge and 'blur' physical and digital world 'settings' to influence alcohol consumption behaviours (Nicholls, 2012) This distinction becomes invaluable in critically appraising the influence of digital alcohol marketing on adolescents' initiation into alcohol consumption as Chapter Nine attests.

Character and Characterisation: The Oxford English Dictionary (2012) defines character as '*a personality invested with distinctive attributes and qualities by a novelist or dramatist'*. But what do we mean by character in the context of behaviour change? We saw in Chapter One how the desire to know how the universe came from nothing was easily explained by the actions of the deities: *Only enough* intent needed to be inferred to explain away the cause of unknown effects; and that left a residual belief in the very *existence* and *presence* of that causal agent. The idea that we attribute agency so readily and that leads to beliefs and behaviours suggests that we need not stray too far from that process and its underlying structure as part of any behaviour change endeavor and how we approach it. Without the representation of a character's movement, intent and emotion over time the framework falls apart. Without a character to whose motivation and/or emotion our non-conscious mind is drawn and from whose agency we might infer, conditionally, what happens next, there is no story. Without shape and/or pattern and/or movement, motivation and/or emotion cannot be attributed. Or, conversely without character, no pattern and/or shape and/or movement is represented from which we can infer motivation and/or emotion and/or agency.

We might recall the evidence from Neuroscience to remind us how automatic this process of characterisation is and how unaware we are of it. We might make a rational and analytical distinction between *objects* in our environment that we perceive to be animate and inanimate. But the human drive towards survival doesn't make such a distinction – and for good evolutionary reasons. It is better for us that our non-conscious brain infers 'snake' from the shape and movement in the tree rather than 'inanimate twig moving in the breeze'. In fact we 'over attribute' agency (Barret, 2004). Inanimate and inanimate objects can appear to have agency and attract our emotional attention because they might be good to eat, or have sex with *OR* they might be about to eat, or have sex with us. That we are preconfigured to respond in this is neatly captured by Gazzaniga (2012) *'...it is easy to learn to be afraid of snakes while it is difficult to be afraid of flowers'*.

How a character is characterised (represented), who they are, what they can or cannot do (their power) and how they feel about it is, therefore, important in linear audiovisual storytelling to how

they are perceived and how *we* feel about it. This appears to be even more critical in the case of interactive narratives. What a game character can and cannot *do* determines what a player can or cannot *do*. As we have seen, what a player feels they are capable of doing and mastering in a game has been shown to influence how 'immersed' they are while interacting and how they feel *about* themselves during and after participation (Pryblyski et al 2012). Character and characterisation then remain central to this framework.

Story Structure: Story structure provides a way of seeing how a character's emotions, and thereby the participant's emotions, can be structured over time. This proves to be an invaluable tool in understanding how digital content can be analysed as we shall see in the next chapter and in Chapter Eight. In the West, commercial storytelling is often structured over three periods or 'acts'; although some argue that five acts are more realistic as a 'road map to change' (Yorke, 2013). The three act structure takes the following form typically:

ACT 1: In Act 1 we get to know who our protagonist is, what she wants i.e. her rational goals and we infer what she *really* needs emotionally. We also learn what or who is preventing her from getting what she wants, her antagonist, and the obstacles he or *it* may throw in her way. We understand what she is 'up against' – her antagonist's *power*.

ACT 2: In Act 2 the protagonist takes on her antagonist and her obstacles. She may fear her failure or hope for her success through each plot twist or 'progressive complication' (McKee, 2004).

ACT 3: In Act III the protagonist takes control of her destiny and *transforms* thus resolving her emotional conflict.

We might recall Aristotle's belief in the power of storytelling to bring about change via the emotions. By experiencing a well-structured story the participant might experience emotional *catharsis* and come to see him or herself in a new light and thus become nourished. As we saw this view was corroborated by Neuroscientists over 2,300 years later (Chapter One). In a story, the protagonist gets what they need emotionally, usually at some cost to, or loss of part of their self; and so might the participant. The cost of that *transformation* or change can be seen as a death, rebirth, the shedding of a skin; or in evolutionary terms, an adaptation to a new environment that ensures homeostasis, procreation and survival. From witnessing the protagonist's costs and benefits, rewards and punishments vicariously, the participant might infer what her protagonist's ultimate *destiny* might be over the three acts - and so their own.

We might usefully compare Plato's approach to change (Chapter One). The three-act structure can be used to analyse the citizen's story. (As we shall see below the framework allows multiple stakeholder's perspectives to be considered apart or simultaneously.)

ACT 1: A Citizen suffers from unnecessary 'appetitive desires' and sees things only at face value.
ACT 2. The Citizen experiences state-censored stories and gets to see things 'as they really are'.
ACT 3. The Citizen thus sheds 'unnecessary desires' becoming bound by 'rational desire' and virtue itself.

Story structure then allows us to identify three key points in a participant's trajectory: It remains critical that all three points are considered in relation to one another if the framework is to work as a whole in behaviour change contexts.

Act 1:The characterisation of desire and the protagonists' relative power to change.
Act 2: The manifestation of the relative power invested in the protagonist and her antagonist.
Act 3: The resolution and the participant's destiny are conditional on the previous two acts.

In Aristotle's approach the three acts structure the participant's emotions over time. In Plato's approach the participant's *emotions* are changed to *reason* over time. We have already seen how, where interactivity and storytelling were used in public health, the three-act approach was foregrounded as a way of conveying the *moral* or the message of a story (Chapter Three). This is similar to Plato's approach where the emphasis is on reason and cognition rather than emotional catharsis. This distinction remains valuable to us today as the rest of the thesis attests.

Egri (1990) reinforces the author's professional observation that the 3-act structure is *scalable.* In the same way that DNA stores all the information about how to build whole organs and bodies, so any one scene, or moment within it carries the structure of the whole play if it is 'well constructed' (Scribe, 1820). The three-act structure can therefore be applied to individual moments, scenes, sequences, transactions, negotiations and relationships between characters. It can be similarly applied to a ten-minute doctor/patient consultation or a six-month behaviour change intervention. That the three-act structure renders this framework *scalable* is demonstrated further in Chapters Five and Eight.

The three-act structure also allows multiple *perspectives* to be considered within the same framework. It allows an understanding and analysis not just of the participants' *and* the protagonists' story in the same framework but also that of the storyteller. This is imperative, as we

need to map the story of the participant *and* the protagonist as 'storytellers' in analysis and critical practice as well as to see how the interventionist as storyteller *controls* each element of change across the duration of the intervention. This framework then permits the participant's, the protagonist's *and* the behaviour change practitioner's 'stories' to be told in parallel, grounded in exactly the same approach to, and theory of, human nature. That the framework can facilitate multiple perspectives is demonstrated further in Chapter Five. The case studies in Chapter Eight show how the framework also works at different levels.

Power, Desire and Destiny: We saw in Chapter One that stories that appear to have influenced over time have similar elements. One observation was that they all appear to represent power, desire and destiny. The framework proposed here sees these concepts as equating, to and mirroring the three-act structure. *Desire* is represented in Act 1, the participant's relative *Power* in played out in Act 2 and resolved in Act 3 where *Destiny* is represented as a logical consequence of what happened in Acts 1 and Act 2. As we shall see, the value of this conceptual approach is borne out by analyses of extant digital storytelling content in Part Two.

Tone: Tone has been defined as '*a particular style in discourse of writing which expresses the person's sentiment or reveals his character; also, in literary criticism, an author's attitude to his subject matter or audience; the distinct mood created by this'* (OED 2012). 'Tone' might be seen as the 'emotional temperature' of a story or the tone of voice of the author. Both meanings are useful to us. The storyteller's character and sentiment and their attitude towards their subject matter and audience likely imbue the story with a mood that might influence emotion. Explored further we might say that the tone of a story was 'comedic', 'dramatic' or 'tragic'. It was comedic when our protagonist succeeded. It was, inversely, tragic when she failed. Tone is, professionally speaking authored in advance of the screening *asynchronously* to its consumption. The storyteller's use of sound and image signals and foreshadows the protagonist's likely *destiny* so that we feel it from the beginning. If a character's story is to end tragically the spectator needs to feel within the first act *how* and *why* that character's behaviour will lead to their destruction. We don't *know* how his demise will happen but we need to *feel* that it is inevitable. Tone is taken to be a key part of *affective* storytelling and is an element of change in this framework.

We saw in Chapters One and Three how the 'tone' of a story is critical in engaging emotions. The tone of voice of an authority might influence the emotions and then the behaviour of the listener, particularly should she be predisposed to feel preternaturally guilty. Professional insight suggests that tone forms also an important element in any critical or evaluative framework where the emotional impact of storytelling is to be analysed. Chapter Nine demonstrates the way the positive

and/or negative emotional quality of a story can influence *how* it is perceived, appeals and what the receiver then chooses to *do* with its 'message' and how that in turn likely influences real world behaviours.

Theme: 'Theme' in commercial storytelling usually refers to the device that structures the viewers' emotions over time, cumulatively and ***'without explicit argument'*** (Aristotle, 1967). Professionally speaking, if a writer is asked what their screen work is about they will answer, typically 'it's about a woman who wants…', 'a man who wants..', 'a team who wants to…' 'a polygon who…' They tell you the 'story' of the character's motivation. They might then be asked, 'What is the screen work *really* about?' and then we begin to learn more about the *theme*. And this is usually about something beyond the scope of that character's specific trajectory, something more fundamental, universally human and unspoken. A theme might be expressed in the form: 'a desire for x' or 'a fear of y' where x might be love, belonging or justice and y might be death, the unknown, love or even life itself. 'It's about belonging', 'the fear of death', 'the desire for order or justice'.

Theme can be seen then as what the orchestration of sounds and images communicate *non-consciously*. Compare character or place or setting: these can all be experienced, watched, observed and measured. But theme has to be actively *inferred* from these observations before participation elicits emotions. Themes are taken to speak to our own feelings about what it is like to be human. The representation of sounds, images, characters behaviours, objects, events, actions all point to the theme, and through *inference* allow them to be experienced non-consciously by the participant. The role of the professional storyteller is to allow the observer the space to participate with theme; without doing so the story is unlikely to engage emotionally. As we have seen in Chapter One, religious leaders and political leaders have known and used this silent skill to affect for many years. Like tone, theme earns its place as a key element of change in this framework because it refers to an aspect of the story and its structure that links to the hopes, desires or fears in the participant.

We saw in Chapter One how Plato sought to censor Greek literature so that the themes of reason and 'justice' might prevail. To that end representations of the theme of 'a fear of death' were to be censored. Aristotle emphasised its stealth and unspoken nature. We saw in the case of religious stories the desires to belong, to be just, to be stable and comfortable influenced beliefs and behaviours. It is debatable as to how many universal themes there are and any one story might use two or more (Parker, 1999). But the focus hereon in will remain on the human desire for validation and to belong in the interest of brevity.

Bias: We saw how what is a natural and perhaps essential human process can quickly tip over into manipulation (Chapter One) and that a range of parameters that can be used to 'shape' responses to digital media (Chapter Two). Digital technologies can be used to influence and 'read' emotional, cognitive and physical conditions (Chapter Three). We have also seen how commerce is advanced in its understanding of these processes. The concept of bias is central to the framework. This provides an approach that draws on professional practice and seeks to redress the balance in the favour of public health which appears less advanced.

The Participant as Protagonist: Since the non-conscious processes of responding to light and sound are augmented by further non-conscious *proprioceptive* processes, participation with digital storytelling engages at a greater depth than linear audiovisual storytelling (Chapter Two). The picture is rendered further complex by the evolving nature and levels of participation available as technology improves and bandwidths increase. We saw in Chapter Three how political communicators seek to control the level of interactivity, for instance. The level of interactivity, the nature of and the degree to which it facilitates human participation thus becomes an important variable or 'element of change'. All other concepts above align usefully with that approach.

Digital storytelling can increase the depth of participation and, thereby, the potential depth of engagement and influence. As we saw in the introduction, one of the main professional insights motivating this research was that an increased depth of participation appears to 'trick' us into feeling that *we are* the agent interacting with the environment, objects and others in it, as if it *were* the real environment, objects and others in it. That is to say we appear to conflate our story with that of a fictional protagonist represented. That transformation or shift in subjectivity as called '*the Participant as Protagonist'*. It is a phenomenon that was observed professionally: and there appears to be good evidence to support its power to influence, as we saw in Chapters One, Two and Three.

Chapter Two showed that participation with digital media can influence a participant's emotions if the role the player adopts is congruent with who they want to be in real life (Przybylski et al, op cit). This appears to be the case where the individual experiences a *'self concept discrepancy'* (Higgins, 1989) between the two in real life. This reinforces the notion that we will seek to *transform* ourselves through participation with digital media and that 'ready made idealised roles' (Przybylski et al, op cit) will likely be manufactured to facilitate that desire. As we have seen the notion that an individual *feels* a degree of anxiety, depression and emotional despair when they perceive their self to be different from how they want has a long tradition in psychology (Kierkegaard, 1884; James, 1910; Rogers & Dymond, 1954; Freud, 1959; Higgins, 1989 and Ryan

& Deci, 2000). This framework sits then on an established theoretical foundation. The remainder of this chapter is now concerned with demonstrating how a digital storytelling framework might *transform* how a participant might see and feel about his or her self on that theoretical basis.

4.4 The Framework in Practice: A Fictional Scenario

A fictional scenario is now advanced to demonstrate how the framework 'works' in practice; firstly using linear audio-visual storytelling and secondly digital storytelling. The key elements of change are all incorporated and accounted for: light, sound, physical and digital space, character, characterisation, three-act structure, theme and tone. The behavioural objective in this 'case study' is an emotional transformation over time. *Imagine:* Jennifer is 9. She speaks to her 'friends' on Facebook but they socialise without her. She feels isolated. Jennifer feels she is less attractive than she needs to be. The short film she watches on *You Tube* has the following structure.

Act 1: Character P (Protagonist) wants to join a group. She is different from the members of that group and feels isolated.
Act 2: Character A (Antagonist) stops P joining the group (at increasing cost to the community).
Act 3: Character P *transforms* becoming like the members of the new group. She now belongs, feels valued and is rewarded accordingly.

An example of how this bare bones structure works when fleshed out now follows:

Box 1: Creative Scenario: Scene 1

Act 1: A duckling wants to join the other ducks but they say that she is too ugly. She feels isolated.

Act 2: The ducks won't let her join their group. They are increasingly violent towards her; except for one young drake with whom she is having rather a lot of fun, paddling and swimming around the lake. This frisson creates increasing tensions between the elders of the swan and duck community who have their own concerns about the blossoming friendship.

Act 3: The duckling moults becoming a swan. She leaves the ducks behind but keeps her friendship with the young drake. Our cygnet is now the pride of the swannery. She feels that she belongs and feels valued accordingly.

The protagonist in this short film didn't get what she wanted *rationally*; but she got what she needed emotionally, to *belong*. The theme takes us from isolation to integration and the emotion is delivered when we see that she feels that she *belongs* and is valued. But her cost is to *transform*, lose her innocence and become an adult. This is the moment of *reversal* that Aristotle identified as providing emotional catharsis (Aristotle op cit). Jennifer, the participant, might mirror what the protagonist feels and find hope. She is able to see the world as if through another's eyes. This example illustrates then how the elements operate in linear audiovisual practice; and how the theme of validation speaks silently, playing upon the human desire to belong.

Jennifer comments on *You Tube* about how the film moved her. She tells *her* own story online. Numerous other respondents comment that she plays the game version of the film. One sends her the link to it. The next fictional scenario shows Jennifer as *the participant as protagonist*. Jennifer sits in her darkened bedroom. She leaves her Facebook page (where her 'friends' all appear to be going out without her – again!). She follows the link and clicks 'play'. Go to Box 2: Fictional Scenario: Scene 2.

Box 2: Creative Scenario: Scene 2.

It's dark, rainy, stormy. A voiceover whispers that she must search through the mist and infiltrate a gang of ducks. By moving around the living room Jennifer practices searching, through the mist. She sees she is travelling across a huge expanse of water on the huge screen in front of her. She paddles, somewhat comedically. By moving her body side to side she learns to 'swim through' the 'reeds'.

But however much she explores the environment and enjoys the sensation of seeking, she cannot escape the surrounding dark mood. Screaming ducks fly at her from all angles. They scream and threaten to attack her. She escapes using her newly acquired swimming skills. But the taunts continue: 'You are ugly! Go away. Now!

Jennifer may or may not be terrified by now, she may have even felt a sense of isolation. She could just stop the game. Or she could try to get to the next level. But she's enjoying mastering her new skills to infiltrate those ducks! Failing was fun. And so she plays on.

Act 2: The ducks still won't let her join them and are increasingly violent towards her. Her swimming skills improve radically and she can outmaneuver the best flyers amongst them – the young drake with whom she finds she is having a lot of fun. This creates tensions between the elders of the swan and duck community. The more she tries to infiltrate, the more she is attacked and the community falls apart around her. She tries another strategy. The young drake is the only duck she feels she can trust. But he warns her that something dreadful is coming their way, physical danger!

Our player has a choice to make. Her only way is to infiltrate the ducks by befriending the wild duck. But there is vicious disapproval for the swan elders. In winter she finds blood on the snow. Another battle looms: but this time she fights for the ducks. A battle with the swan looms.

ACT 3: Our young player swims and fights proudly. And discovers that she can fly! She looks down at her beautiful new wings that have now become visible onscreen either side of her. She controls her elegant glide to the surface of the water where she is greeted with welcoming voices and surrounded by adoring swans –It's her family! (Our jealous villain swan slopes off loch left) Our signet is now the pride of the swannery. We see that she feels that she belongs *and is valued. She leaves the ducks behind but young drake quacks his friendship and whispers. 'You are the most beautiful creature I have ever seen'.*

Perhaps Jennifer, our 'participant as protagonist' feels as if she too belongs, is valued, and even loved, even for a moment. The developing framework allows us to see and analyse both the protagonist's and the participant's stories in parallel from the same perspective, setting (time and place) and scale. It allows us to see the key elements of change character, characterisation, story structure, tone, theme and interactivity operating in concert. The story of the onscreen protagonist is carried audiovisually, but it is the feedback in response to the participant's own physical behaviours that drives her forward making her the protagonist and the story *hers*. It is her ability to master the controls and be rewarded with the illusion of mastery over her body and her environment. The sounds and the images were orchestrated to keep our young player enjoying the sensation of 'swimming' and 'flying' through the natural world on one level 'fighting' on another. The game's technological mechanics 'map' her body movements accurately against the vivid sounds and images to ensuring that she has a presence in and feels part of that world - when all she is really doing is flapping her arms up and down in her room. *That* is the power of digital storytelling.

4.5 Chapter Four Summary and Conclusion

This chapter has outlined a digital storytelling framework and its underlying assumptions, building on insights from Chapters One, Two and Two *and* professional experience. The key concepts were presented in turn and their place in the model justified theoretically. A creative scenario was then used to show how the framework 'works' in practice.

The research questions have now been addressed further:

RQ1*: Does digital storytelling have the power to influence human behaviour?*

The proposed framework is based on the conclusions of Chapters One and Two, that interactivity and storytelling are independently potent; therefore conjoined digital storytelling has the power to influence human behaviour.

RQ2*: If digital storytelling can influence human behaviour then how might it do so?*

We have seen how the proposed framework can structure participants' emotions over time. The 'elements of change' identified at the core of the framework can appeal to a range of emotions, including the human desire to *transform.* Digital storytelling provides opportunities for participants to *transform* by rehearsing new identities, behaviours and ways of being, feeling and seeing.

RQ3: *Is a 'digital storytelling framework' feasible as a health behaviour change approach?*

A digital storytelling framework has been presented based on secondary research and professional insight. Its underlying assumptions are grounded in theory, it can be used to create innovative intervention scenarios and it appears to have analytical power. The framework provides an approach that is scalable and can be considered from the perspectives of the participant, the protagonist, the behaviour change practitioner and/or all three together. It appears then to be feasible as an approach to health behaviour change and creative practice.

Chapter Five now 'tests' that framework against the central tenets of social marketing theory. That will conclude Part One of the thesis. Part Two then moves to report the findings of the second phase of the research – primary data collection and analysis.

Chapter Five

An Outline Digital Storytelling Framework 'tested' against Social Marketing Theory and Exemplary Practice

5.1 Chapter Five Overview

The previous chapter outlined a digital storytelling framework and its underlying assumptions, building on insights from Chapters One, Two, Three and professional insight. We have seen how the framework can engage emotionally in a fictional scenario and that the 'elements of change' identified at the core of the framework can appeal to a range of human emotions, including the desire to transform. A digital storytelling framework appears feasible as a theoretical approach to behaviour change; but further research is needed. This chapter now tests the feasibility of that framework further, in the light of an established approach to health behaviour change – Social Marketing. The chapter is structured as follows:

5.2 The framework is considered against the central tenets of Social Marketing theory

5.3 The framework is considered against an exemplary 'case' of social marketing practice.

5.4 The framework is revisited in the light of Social Marketing theory *and* exemplary practice

The chapter concludes that the framework stands up to an established approach to human behaviour change. It proves to be robust practically and analytically making is useful in both practical and critical marketing contexts. Moreover, it proffers an approach that is scalable and can incorporate, and thus evaluate, various stakeholders' perspectives simultaneously. This is important as its non-conscious appeal runs counter to the discipline's emphasis on *voluntary* behaviour change. This chapter concludes Part One of the thesis. Part Two then considers the research questions and the developing framework further in the light of primary research.

5.2 The Framework against the Central Tenets of Social Marketing Theory

The life story of Social Marketing has been scrutinised amply in Andreasen (2003) and Hastings and Saren (2003). It is the three central tenets of the discipline that concern us here.

i) Social Marketing is about behaviour change (Andreasen 1994).

ii) Social Marketing borrows the 'marketing knowledge, concepts, and techniques' of commerce and uses them in social and health contexts serving social as well as economic ends (Lazer & Kelley, 1973).

iii) The goal of Social Marketing must be *voluntary* behaviour change (Andreasen, 2003).

These are seen to be the key benchmarks that legitimatise social marketing approaches (Andreasen, 2003) but remain contested and the subject of healthy debate **(**Please see Spotswood et al, 2011). These central tenets are now considered in turn in relation to the developing paradigm.

i) Social Marketing is about behaviour change: And so too the proposed framework

The digital storytelling framework has been developed and proffered, so far as an approach to behaviour change. It has been argued in Chapters One to Three that digital storytelling and interactivity have the potential to change behaviour. By mirroring the protagonist's emotions and sharing their *destiny* vicariously the participant might see himself or herself anew and change their behaviour accordingly. *Digital* storytelling has further potential to change behaviour since the participant, it is proposed, participates *as* the protagonist, mirroring the protagonists' and their own emotions, playing out 'their own' potential *destiny* accordingly. But they experience it vicariously and safely; they get to feel the emotions of adaptation and how storytelling can structure them over time, place and digital platform. But how does this lead to behaviour change?

If key storytelling elements influence non-conscious processes, and non-conscious processes lead to specific behaviours, then *storytelling* influences human behaviour. Most psychologists now agree that emotions play an important part in everything we do, and that they pre-empt rational choices and decisions (Ekman, 1992). It follows then that digital storytelling strategies that engage at deepening emotional and non-conscious levels can influence decisions and so behaviour. The developing framework can then be used in behaviour change contexts; but it emphasises appeals to the emotions and the use of digital storytelling to structure emotions over time, place and platform *en route to* behaviour change.

Social Marketing, like many other approaches to behaviour change, comes up against a common criticism: conscious *intent* to change behaviour does not necessarily result in the intended behaviour change. Unforeseen barriers, costs, obstacles and temptations emerge between the intent and the desired behaviour. Since '*People do not behave in accordance to their intent',* Sheeran (2002) calls this the '*intention-behaviour gap.*' The developing framework can inform this debate using the high level concepts of desire, power and destiny (Chapter Four).

The ‘intention-behaviour gap’ is akin to an unresolved story. It also characterises the participant narrowly according to their cognitive intent alone; that is to say they have no clear *desire*. The story of a character with only a conscious intent to change does not make a story. They are characterised as having a problematic behaviour, uni-dimensionally. This is Act One work but without the emotional component. We know that she intends rationally to avoid alcohol: but the barriers, costs and obstacles however well defined remain untied and unrelated to any emotional need to belong, for instance. Act Two cannot then work as it should; she has no need to address her relative *power* or powerlessness to act. Without exercising her agency and taking on obstacles relative to her emotional needs and relative power to address those needs there can be no *transformation*. Without an emotional tension or conflict there can be no change.

The developing framework overcomes this problem, theoretically, by linking desire to relative power to overcome obstacles, transformation and destiny. It thereby links ‘pre-intentional factors’, to ‘post intentional factors’ and shows how those relate *dynamically* to the journey the participant is on, moment by moment, beat by beat, throughout their story. It can map the dynamic between elements of change and mechanisms of change (such as attitudes and intent) in increasingly minute and *fractal* scales. This development is paralleled by recent developments in the field of health psychology where attempts to reduce this gap are also underway.

For Schwarzer’s (2008) Health Action Process Approach, a distinction exists between pre-intentional motivation processes that lead to a behavioural intention, and post-intentional volition processes that lead to the actual health behaviour. He assumes two parallel processes of behaviour change: a motivational one that ends with an intention (the end of our Act 1)’ and a volitional one that ends with successful performance (our Act III). This corresponds to our first and third act thinking: It also recognises the importance of considering second act or ‘progressive complications’.

The Health Action Process Approach also deepens the level of characterisation. Schwarzer settles upon three ‘character’ descriptors; the non-intenders (or pre-intentional), the intenders and the actors. He recommends that interventions assess where people are on this scale before deciding whether they receive the appropriate ‘treatment’ at key stages, intention development, self-efficacy, outcome expectancy and risk perception; and at the stage of goal pursuit, self-efficacy, action planning and relapse prevention. He tests his model in the context of various health topics, within different but specific timescales and across cultures and national boundaries. The empirical evidence suggests that risk perception, outcome expectations and intention planning all play a part

in determining the relative success of outcomes over a variety of health topics. These attitudes and attributes are measured, established, understood and perhaps even communicated to other stakeholders during our Act 1. They are characterised in a way that relates to the participant's performance throughout as the current framework does. This is not to say that it makes the complex business of behaviour change any easier: it merely provides a model for understanding that complexity *throughout* the participant's journey towards change and not just within what we are calling the first act. But isn't the emphasis here on cognition rather than emotion?

Schwarzer's mechanism of change, 'volition' has a clear emotional component that operates alongside the rational component. He refers to the participant's relative ability to keep an eye on the task at hand and maintain *'a favourable emotional balance'*. He argues that such self-regulation might help to explain and predict post-intentional processes.

> *'Self regulation of attention and emotion might also be seen as a stable personal disposition, an individual difference characteristic that enables habitual control over recurrent actions as well as the process of behaviour change'* (Schwarzer, 2008:23).

The criticism due of course is that not *all* participants are equal. In this model only those who are equipped with the ability to self-regulate will succeed along the path to behaviour change. Moreover, interventions are evaluated positively when only those participants who express pre-intention *and* have the psychological wherewithal to quit are selected over those who are equally well pre-intentioned but lack the psychological wherewithal to succeed. The health action model does however offer a conceptual framework that works around the intent-behaviour gap. It recognises the *dual* processing of cognition and emotion as part of the solution. Emotion and cognition can be seen to be working throughout the process, in parallel, across all three acts.

This leads us towards an understanding of the influence of both cognition and emotion, operating in parallel, and in conflict on 'transformation' or emergent behaviours in the third act. In our terms, a participant's or a protagonist's performance through Acts 2 and 3 might be considered at any one point in these terms. The three-act structure allows us to see at both the micro level and the macro level how those behaviours emerged; even if we can't relate intent to behaviour causally. It allows us to see how behaviours emerge from complex systems with different types and levels of organisation over time.

Character, story and story structure are fundamental components in this framework. We can see how much work is needed to avoid reducing the complexity of a protagonist, interacting with her environment, objects and others to single narrow notes such as 'intent', 'attitude' etc. It becomes clear that without accommodating that complexity (or indeed adding further complexity in its absence) the relation between intended behaviours and change is likely to be forever a loose one. Perhaps established approaches might consider the problem in a different way: rather than looking to see a specific and desired behaviour as the outcome (the desire to change usually belongs to the sponsor's rather than the participant's story) we might look to emergent emotions or behaviours that might result in a *transformed* sense of self over time.

ii) Social Marketing borrows the strategies of commerce: So too the proposed framework

In terms of its use of the strategies of commerce, the framework is in part uniquely influenced by professional insights into commercial digital storytelling strategies. Digital media here replaces *what* Stead et al, (2007) call '*the marketing mix'* to *'motivate the target market'*. In this framework, digital media (the medium in this case) *is* the marketing mix insofar as the stakeholder identifies, segments and targets the market prior to the intervention through data mining and analytics exactly as commerce would. This is a view supported by Cairns, (2013) in the context of digital food marketing. In this framework then digital media becomes an integrated '*marketing mix'* within, and by which, the target is identified, their emotional predisposition established and digital storytelling then structures emotions over time, place and platform.

iii) The goal of Social Marketing must be voluntary behaviour change.

In terms of Andreasen's third principle, that the goal of Social Marketing must be voluntary behaviour change, the degree to which we believe digital storytelling has the power to improve public health through voluntary engagement depends upon who 'the storyteller is' and what their what their objectives may be ultimately, public health or profit. The pleasure inherent in experiencing the consequences of our actions vicariously through exposure to and participation with digital storytelling will also likely be optimised according to who we are and how we are predisposed emotionally. If our emotional predispositions are known and mapped by (the 'storyteller', software developer/stakeholder/brand) they will likely be used to optimise individual digital experiences. The greater the distance between what we actually do (mechanically) and what is represented audiovisually thereafter may influence how we *feel* about participating thereafter. The greater the control over digital storytelling, the greater that illusion of control and its potential to influence or manipulate, for good or for bad.

Whether it is acceptable to manipulate emotions, as proposed, is perhaps contingent upon whether the stakeholder seeks to engage and bring about behaviour change *voluntarily.* As we have seen the potential of digital storytelling to influence human emotions *non-consciously* makes this notion contentious. If digital storytelling does operate on that level, and neuroscience suggests that it does (Chapters One and Two) then the use of the framework in Social Marketing interventions breaches Andreasen's third principle (above). It appears that the framework does not therefore stand up to all of the key principles of social marketing. Either the framework needs to change or the core principles of social marketing are in need of further revision for the digital age.

Public health appears to adopt the arguably out of date ideology that the mind remains distinct from the body; so we *either* appeal to emotions or cognition. The solution appears again to lie in relatively recent developments in Neuroscience (Chapter One) upon which this research and the proposed framework draws.

> *'We have to stop thinking in dualistic terms that asset the conscious logical rational mind in opposition against gut reactions. The body, brain and conscious mind are partners in permanent exchange'* (Keyser 2012:105)

Social Marketing might then take some comfort from the same Neuroscientists from whom we have learned in Chapter One. We are *still* involved in exchange; but we now have recourse to a wider and richer array of approaches to appealing to emotion *and* cognition. The developing digital storytelling framework assimilates both approaches towards behaviour change; but it argues that a greater emphasis on appealing to, and structuring human emotions over time is needed to redress the balance. As we shall see below, the article that was there at the genesis of Social Marketing reported an exemplary case; it used the storytelling elements of change proffered here to bring about social change by structuring human emotions over time, non-consciously. Could it be that the appeal of commercial engagement strategies for Social Marketers has always been their power to engage under the radar of cognition?

5.3 The Framework in the light of an exemplary case of Social Marketing Practice.

This section considers the framework against an exemplary and formative 'case' of Social Marketing practice. It shows how the framework can be used to analyse a linear mass media behaviour campaign that was based on fundamental Social Marketing principles; except one: it relies on *involuntary* behaviour change and appeals to emotions *non-consciously.*

In his seminal and much cited *Merchandising Commodities and Citizenship on Television* (1951-52) Wiebe, then a research psychologist working for CBS television argued that by using the strategies of the commercial marketer 'brotherhood' could be sold 'like soap'. Wiebe was writing of course not about the use of digital technologies by commercial marketers but what must be seen as a distinctly pre-digital, linear audiovisual media channel - television. Wiebe was enthused about the potential for mass media to bring about specific changes in behaviour at a population level and he analysed four campaigns designed to elicit 'pro-social' outcomes. He concluded that the closer the campaigns incorporated commercial marketing strategies the more successful they appeared to be. Social Marketing has since co-opted the strategies of commercial marketers. By using one of Wiebe's examples as a case study we can see how the developing framework has analytical power; firstly at the level of advertising as promotion and secondly at the level of the intervention itself. Wiebe (op cit) cites the example of CBS's War Bonds broadcast; a public information campaign that was operationally complex but whose behaviour change goal was simple: to sell war bonds. Wiebe borrows from Morton's (1946) *Mass Persuasion* and cites the War Bonds broadcast as an example of a highly successful campaign. *'All the elements of good merchandising appear to have been present and in good order.'* (Wiebe 1951-2:682)

For Wiebe, the function of a mass media campaign was *promotional* - to move participants towards a 'social mechanism'. *'Advertising does not move people to unilateral action. It moves them into interaction with social mechanisms'*. If this mechanism were not in place a participant would be unable to move towards the '*specific unit of overt behaviour*'. That is to say, the 'social mechanism' is necessary but not sufficient if the desired behavioural outcome is to be achieved. In our terms, a participant cannot consummate her *desire* to transform by purchasing a product without it. Storytelling was used in this case to transmit the behaviour change message by television and thereby to prompt the desired behaviour and direct it *towards* the social mechanism. Public officials had tried to sell war bonds to the public previously by informing them that they should support the war effort financially and to reduce inflation: but this approach had failed. For Wiebe:

> *'The very idea that buying bonds aided the prosecution of the war by reducing inflation…seemed remote and abstract…'* (Wiebe op cit)

A more effective way of *influencing* householders was needed that engaged emotionally rather than rationally. Wiebe recognised the need to gain consumer insight one of the key principles of Social Marketing. He noted that *'those who stayed at home had difficulty in finding a feeling of adequate partnership with their men in the armed forces.'* And that *'…the hazard of inflation was passed*

over in favour of another truth: namely that individuals felt a strong need to experience their bond buying as direct aid to their fighting men'. If the campaign was to work it would need to appeal to householders' emotions - their desire to be close to their loved ones and to *belong to* the war effort. We should note the use of the storytelling element of change – the theme of belonging (to family and state in this case) to appeal to the human desire to belong. The desire to belong to family members could be consummated in this case by granting the participants 'power' to buy war bonds. The role of the media and storytelling thus became to provide information directing the public to the social mechanism at which that *desire* could be satisfied.

Kate Smith, a TV personality, broadcast the following spoken message repeatedly during the evening of September 21st 1943

KATE SMITH:

'We've worked it out to make it the easiest thing in the world for every one of you to buy a war bond today. (She gives the telephone number of one of 134 CBS radio stations) That's all there is to it. Listen for the phone number, jot it down, call that number and order that bond.'

The purpose of the *message* was simple: To point the participant in the direction of the 'social mechanism', a telephone exchange where many '*Clerks were mobilised and trained to process the orders'*. The campaign made it easy for householders to part with their money. Participants were able to purchase their bonds over the telephone. The sum total of $39 million dollars was collected in '18 consecutive hours' and the campaign was deemed a success.

Audiovisual storytelling was used in this case to convey a message that was designed purely to drive participants towards the 'social mechanism' a telephone exchange which enabled participants to buy war bonds. But the emotional 'content' was carried through character and characterisation. Kate Bond was a popular character well known for her patriotism (Morton op cit). She was enlisted to appeal to female householders. We might usefully compare the casting of a male presenter well known for his factual knowledge about the need to avoid inflation. The message was carried in the emotional content of the story and the characterisation of the TV personality.

5.4 The Framework Revisited in the light of Social Marketing Theory and Practice

Wiebe's scenario is now considered by way of exploring how the proposed digital storytelling framework might contribute as an analytical tool and provide a deeper understanding as to how the campaign influenced its audience, by structuring the participants' emotions over time. The value of

such a framework appears to be limited by the extent to which it can analyse the use of the media to direct behaviour towards a social mechanism. It appears at one level, at least, to have the analytical power to show how the characterisation of a presenter as patriotic helped to deliver a patriotic message during linear media episodes. But the use of a storytelling framework also works at the intervention level. We have already seen how participants' desires were 'satisfied' over time, the role of the message to allow that consummation to happen and the use of character and characterisation to engage emotionally. The following section now considers further the role of the storytelling elements of change at the core of the developing framework. It considers in particular the use of setting, (time and place), character, story, story structure, theme and tone in the light of Wiebe's case study; and it demonstrates how the proposed framework allows us to analyse the perspectives of the behaviour change practitioner (the storyteller), the use of storytelling *and* the story participant within the same analytical framework. This is critical if we are to use non-conscious appeals in the context of health responsibly and transparently.

***Use of Setting**:* Wiebe's case study is valuable in its simplicity. There were just two 'nodes' at which participants engaged. They participated with the media mix, the linear audiovisual television broadcast and they participated when they used their telephones to buy War Bonds. But events also took place in participants' homes; there was a real world setting.

Use of Interactivity and Feedback: The potential levels of interactivity and feedback were, by current standards limited. The nature of participation was limited to two 'episodes' in time and place and the *depth* of participants' engagement was limited by the media technology. From the current digital storytelling framework both the television *and* the telephone are seen as emerging interactive technologies critical to the behaviour change process over time. Using the key elements of change at the core of the developing framework we can now see how the story 'beats' of Wiebe's story played out *across* these media platforms. Participants' emotions were thereby structured over time, place and platform resulting in the desired behaviours in spite of low levels of feedback and interactivity.

Participants were unable to tell their own story or interact with the form or the content of the technology in a very limited way. There was no two-way conversation. They were however able to participate in a physical and real world sense by paying for war bonds. As we shall see in Part Two, although the depth of participation appears to have deepened, little has changed in terms of the degree to which the participant has any control of the medium.

Use of Character and Story: We might consider a member of the public in this case as our 'participant' and the U.S. Govt. as 'the sponsor'. Two 'characters' then emerge as units of analysis and their respective stories can be 'told' in parallel within the same analytical framework. This allows direct comparisons between each 'character's' function and relative power in the 'storytelling' process.

The Sponsor's Story: We might choose first to identify with sponsor's story, for example.

Setting: Time (1943) Place (USA).
Act 1: Sponsor wants funds for war effort: he decides to sell War Bonds.
Act 2: Sponsor forms a relationship and engages with members of the public.
Act 3: Public buys War Bonds and Sponsor gets funds for war effort.

Represented schematically this framework allows the complex process of behaviour change to be reduced further. The three acts become:

1. Thesis – Condition A exists
2. Antithesis – Condition B exists
3. Synthesis – Condition C exists as a consequence of A followed by B.

Or, in the terms of reference proposed by the framework (Chapter Four).

1. Desire: a desire exists (to change behaviour)
2. Power: the sponsor has the relative power to act on that desire and can afford to deploy mass media to communicate a message.
3. Destiny: behaviour is changed as a consequence of 1 followed by 2.

It was argued in the previous chapter that the framework is scalable because the three-act structure is scalable. This allows the level of resolution to be increased and allows us to 'zoom into' key scenes of the sponsor's story at any one point, time and place to see more detail. Here's how we might increase the resolution of act two by way of example.

Act 2, Scene 1: Sponsor approaches participant appealing to 'rationality': 'Buy War Bonds and help to reduce inflation'.
Act 2, Scene 2: Participant refuses to buy War Bonds.
Act 2, Scene 3: Sponsor realizes he has a problem and needs to act.

The point at which the sponsor took control of their *destiny,* in this case, hinged on the benefits of consumer orientation and insights into the target group. They learned that members of the public wanted to feel closer to their loved ones fighting abroad and to belong to the war effort. And so in Act Three in greater resolution:

Act 3, Scene 1: Sponsor takes control and appeals to the emotions: 'Buy war bonds to get feeling of closeness with your men in the armed forces'.
Act 3, Scene 2: Participant buys war bonds.
Act 3, Scene 3: Sponsor succeeds.

The sponsor made the participant's journey easy by reducing obstacles and avoiding 'progressive complications' (the barriers to change). The psychological and physical distance between the participant and their ability to buy bonds were reduced. As Wiebe wrote, *'Inhibiting, impeding and counteracting forces were at a minimum'.* In storytelling terms, the obstacles were removed and the sponsor's desire, to reduce inflation, was thereby secured.

The Participant's Story: We might similarly choose to identify with, and see the story from the participant's perspective.

Setting: Time (1943) Place (USA).
Act 1, Scene 1: It's wartime: Our participant's 'men' are at war and she misses them. She sees advertisements for War Bonds, 'Buy war bonds and reduce inflation'. She has no money and so she refuses to buy War Bonds.

Act 1, Scene 2: Participant sees Kate Smith's 'Buy War Bonds' messages. It appears to be a way to be closer to her loved ones and her country (the state).

Act 2, Scene 1: Participant has a rational dilemma: buy War Bond or save what little money there is?

Act 3, Participant takes control of 'her' destiny and buys War Bonds. She now feels closer to her loved ones and feels she belongs to her country's war effort.

The three-act structure then allows us to see, analyze and evaluate each stakeholder's perspective in turn, in the same intervention and from the same theoretical framework.

Use of Tone and Theme: The concept of tone is a central 'element of change' in the developing framework. It can be applied to 'the marketing mix' insofar as the tone of the sponsors' broadcast was concerned. In Wiebe's case short linear messages were communicated uni-directionally to the participant. Without any analysis of the original recordings it can only be conjectured that the tone of the communication was upbeat, authoritarian and positive reflecting the tonal qualities of the sponsor's overall story as one of success and, perhaps, of mutual and collective benefit. The concept of tone in this framework can furthermore be applied to the intervention as a whole.

The Sponsor's story was one of success because it structured participants' emotions over time *successfully*. The power of storytelling to influence here lay in its ability to communicate the setting (time and place) of a social mechanism that appealed to and consummated those emotions; and the result was the desired behaviour change. The same storytelling process influenced both the sponsors and the participant's outcomes, their destinies albeit in quite different ways. The sponsor's goal and rewards were fiduciary. The participant's rewards were *emotional* and secured at a fiduciary cost that presented no impediment to the behaviour desired. The sponsor's story in which he appeals emotionally was a success. It was dramatic insofar as its first appeal to rationality 'buy bonds because it will reduce inflation failed. But the story is tonally uplifting overall. By associating the purchase of buying War Bonds with an emotional need the sponsor succeeded. *'Perhaps the only one that was generally present was the usual reluctance to spend money',* (Wiebe, op cit). The sponsor did not need to remove the fiscal obstacle as, given the insight, any rational dissonance was overridden by an emotional desire. The analytical power of the framework and its understanding of how tone elicits emotion en route to behaviour change is demonstrated further in Chapters Eight and Nine.

Use of Theme*:* The concept of *theme* is a central element of change in the developing framework. It can be applied to what social marketers call the *'media mix'* insofar as the theme of the sponsors' broadcast was concerned with the theme of belonging. The concept of theme in this framework can furthermore be applied to the intervention as a whole. It provides a way of illuminating the participant's emotional journey through time. Participants *felt* a need to help their loved ones fighting abroad; they may have felt isolated before the intervention. Perhaps they felt a genuine need to belong to the war effort and wider society more closely. It suggests that the sponsor's story influenced by *resolving* the participant's emotions over time so that a feeling of *isolation* was replaced, however lasting, by a feeling of *integration.* We would need evidence from the actual sample to corroborate this, as it is unknown whether the physical distance between the participant and her family reduced; but we can conjecture that the satisfaction of her psychological desire to be

with them was perhaps only fleetingly consummated. The analytical power of the framework and its understanding of how theme and tone elicit emotion *en route* to behaviour change, is demonstrated further in Chapters Eight and Nine.

The key storytelling 'elements of change' identified at the base of the framework (*light and sound, character, story, setting, story structure, theme* and *tone)* then prove instrumental to the analysis of how human emotion was structured over time, place and platform en route to a *specific unit* of behaviour, in this case the purchase of war bonds. The participant's *desire* was consummated and she succeeded emotionally, however fleetingly. Her fiduciary cost was inversely proportional to that of the sponsor's benefit. The sponsor, as protagonist, held the balance of power. He had the capital to communicate, and *bias* how the media were used to manipulate on a mass scale. His desire was clear and he got what he wanted: population level behaviour change; and he achieved it through involuntary, non-conscious means.

5.5 Chapter Five Summary and Conclusion

This chapter has 'tested' the theoretical feasibility of the proposed digital storytelling framework against the central tenets of Social Marketing theory and an exemplary and formative 'case' of social marketing practice; the framework was then reconsidered in that light.

The proposed digital storytelling framework stands up against Social Marketing theory. It is about behaviour change; and it borrows the strategies from commerce. It proves to be robust practically and analytically making it useful in both practical and critical marketing contexts at both individual and population levels. Moreover, it contributes by presenting a framework that updates the discipline in a digital age. It is not, however, about involuntary behaviour change. It illustrates that rather than resisting the power of digital storytelling to influence non-consciously we might embrace it, if we are prepared to lose an arguably out of date dualist mind-body distinction. The framework appears to be flexible, scalable, and allows the perspectives of the participant and the behaviour change practitioner to be considered and evaluated alongside one another. This is valuable since if public health is to use the hidden methods of persuasion discussed here, it must do so responsibly and transparently (Spottswood et al, 2011).

This chapter concludes Part One of the thesis. Its findings and the main propositions drawn from them are now presented in summary form (Table 2). Part Two then explores the research questions further in the light of primary research.

Part One - Summary of Main Findings

Table 2: Main Findings in Relation to the Main Research Questions
RQ1: Does digital storytelling have the power to influence human behaviour?
• Storytelling has influenced human behaviour for millennia, for good and for bad. • Storytelling has influenced behaviour owing to the presence of recurrent elements. • The power of those storytelling elements to influence has neurological underpinnings. • Like storytelling interactivity has the power to influence *non-consciously.* • Like storytelling interactivity has the power to influence, for good or for bad. • Therefore storytelling *merged* with interactivity (Digital Storytelling) has more power to influence human behaviour - for good and for bad.
RQ2: If digital storytelling can influence human behaviour then how might it do so?
• Specific digital storytelling 'elements of change' can be identified that appear to have power to influence *emotionally* and *non-consciously*. • Commerce appears to be advanced in its understanding and use of *interactivity* to influence consumer behaviours emotionally and non-consciously. • Public health is beginning to use digital storytelling. But the emphasis is on *cognitive* approaches to behaviour change. This imbalance presents a threat to public health.
RQ3: Is a 'digital storytelling framework' feasible as an approach to behaviour change?

- The lack of research into the use of digital storytelling in public health contexts suggests that a coherent approach is desired.

- The digital storytelling framework stands up to most of the central tenets and the practice of Social Marketing.

- The framework is scalable and can assimilate and evaluate various stakeholders' perspectives simultaneously.

- The framework has creative, analytical and critical power and can be used to structure emotions over time, place and platform. But its use to influence *non-consciously* appears to be at odds with 'text book' notions of *voluntary* behaviour change.

- A shift in emphasis is needed in public health away from cognitive, message led approaches and towards the use of storytelling to structure emotions over time.

- The proposed digital storytelling framework (based on secondary research and professional insight) merges interactivity and storytelling in practical and critical scenarios and appears to be feasible and desirable.

Part One Concludes that:

Theory suggests that digital storytelling has the power to influence human behaviour and *how* it might do so. But few studies merge *storytelling* and *interactivity* in public health: a gap exists in research and practice. Commerce understands *interactivity* and how it can be '*biased'* to influence a range of human conditions: This presents threats as well as opportunities to public health. A coherent digital storytelling framework is therefore needed that addresses practical *and* critical concerns. The proffered Digital Storytelling Framework appears in theory to have creative, analytical and critical potential in behaviour change contexts. Primary research is now needed to test that theory.

Part Two

Theory Testing

Chapter Six

Methods

6.1 Chapter Overview

This chapter considers the methods used to address the three main research questions. It outlines the key methodological decisions made, justifies the choice of each method in relation to its distinct advantages and disadvantages and then outlines the limitations overall. The chapter comprises:

6.2 The key decisions as to how the research questions were to be addressed.
6.3 The choice of qualitative research methods
6.4 The methodology of each study in detail
6.5 The limitations of the research methodology overall

The chapter concludes that given the nature of *participatory* media technologies in order to understand whether, and if so *how* digital stories influence behaviour we need to move beyond content analysis. Innovative approaches, combinations of methods of data acquisition and analysis are needed. Table 7 at the end of the chapter shows the primary research methods 'at a glance'.

6.2 The Key Decisions made in approaching the Research Questions

This section outlines the key decisions made during the planning, approach and execution of this research. The decision to adopt an exploratory, ethnographic approach was made on pragmatic grounds as the introduction to this thesis makes clear. The final choice as to exactly what methods were used however was determined by the nature of the research questions. The three main questions were:

RQ1: Does digital storytelling have the power to influence human behaviour?
RQ2: If digital storytelling can influence human behaviour then *how* might it do so?
RQ3: Is a 'digital storytelling framework' feasible as a behaviour change approach?

The research questions were based on professional observation and insight. That had the potential to *bias* how the questions were framed, the data collected, analysed and the findings written up as the introduction outlines. It was decided, therefore, that the source and nature of that knowledge would be made '*explicit*' as part of the overall approach (Strauss and Corbin, 1990); and that these

research questions would be explored first using *secondary* rather than *primary* forms of data collection. It appeared reasonable to consider what was already 'out there' and what was 'known' about what was already 'out there'.

Historic, narrative and scoping reviews were conducted then to explore other sources of secondary data (Chapters One, Two and Three respectively). The historic review (Chapter One) examined the writings of the Ancient Greeks and their beliefs about storytelling as instrumental to influencing citizens' behaviours. But the demarcation between primary and secondary data can be 'fuzzy' and more easily stated than accomplished (Tuchman, 1994). It was accepted that the first phase of research theory development would use secondary research; but that this would necessarily involve some primary as well as secondary data. An analysis of a small sample of creation myths disseminated by the world's most powerful religions shows *how* storytelling appears to have influenced behaviour. These were *primary* data and were treated critically. The author's ability to approach these texts in this way, and the lexicon introduced may have introduced a further bias. Further research might afford secondary researchers to validate this approach. That historical review began, nevertheless, to produce '*a meaningful montage'* that built on prior professional insight and can 'speak to us today' (Denzin and Lincloln,1994).

It followed from those findings that if storytelling can influence human emotions over time then so might *digital* storytelling; a more contemporary narrative review (Pawson, 2002) was needed, focusing on the specific influence of *interactivity* as it pertains to *digital* media (Chapter Two). This review was conducted and suggested that digital (interactive) storytelling may also be potent and influence at deeper non-conscious levels. It was likely therefore that digital storytelling, as it was defined in the introduction would have been used as a behaviour change approach. The decision was made to conduct a scoping review to 'map' the range of research in the field, identify what behaviours had been influenced and better understand how storytelling and interactivity had been conceptualised there. Arskey and O'Malley's (2005) scoping review framework was adapted. That study design is discussed below and the findings are reported in Chapter Three.

That scoping review showed that a wide range of human physical, cognitive and emotional conditions had been influenced by digital media use, for good and for bad. *Interactivit*y appeared to be a potent element, analysed in some depth in the field of commerce. But few studies had explored the use of commercial storytelling and interactivity together in the context of public health; there was a gap in the literature; and the lack of any coherent digital storytelling framework suggested that one was desirable. A 'digital storytelling framework' was then outlined based on the findings from Chapters One, Two and Three *and* prior professional insight. The existence of prior

knowledge may have introduced a bias but this was considered to be acceptable given that no framework existed currently, the objective was to develop theory and all propositions were grounded theoretically (Chapter Four).

If the proffered framework were to have any analytical value it would at least align with the established behavior change literature. The framework was then tested against the central tenets of Social Marketing theory and an exemplary and formative case of Social Marketing practice using an analytical approach (Chapter Five). The discipline of Social Marketing was chosen because it borrows *'knowledge, concepts, and techniques'* from commerce (Lazer & Kelley, 1973). Since the overall research objective was to explore the use of commercial storytelling in health behaviour change contexts this made sense. Social marketing, like the current research is also concerned with behaviour change (Andreasen 1994). That study concluded the theory development phase of the research. The theory had been 'grounded' (Strauss and Corbin, op cit) in professional observation, History, Neuroscience, Evolutionary Psychology and Social Marketing theory and exemplary practice.

But secondary research revealed unexpected findings: The use of digital storytelling, as defined, appeared to be in its infancy in commerce *and* public health; and commerce appeared to be advanced in its understanding, use and control of *interactivity* to influence consumer behaviours non-consciously. This appeared to present threats to public health as well as opportunities. Primary research was needed to test the theory any further.

But by qualitative or quantitative methods?

If digital storytelling influenced human behaviour, as secondary research suggested it might, then a better understanding as to *how* it influenced needed to be reached. That meant ascertaining the *qualitative* aspects of the storytelling process. A deeper understanding as to *how* texts were consumed and whether their *quality* influenced behaviour was needed; insights into the *quality* of the storyteller's intent and approach was also needed. The research questions were not asking *how often* participation with digital storytelling influenced *how much* behaviour; and they did *not* therefore require '*statistical procedures or other means of quantifying'* (Strauss and Corbin, op cit). The objective was to explore and develop theory from which hypotheses could be drawn (these are presented in Chapter Ten). A *qualitative* approach was adopted for those reasons. For alternative reasons why a qualitative approach might have been undertaken please see, Strauss and Corbin, (op cit). But what qualitative methods should be used?

6.3 The Choice of Qualitative Research Methods

There are numerous qualitative methods (Kumar et al, 1999)

- Individual in-depth interviews
- Focus group discussions
- Ethnography
- Direct observation
- Content analysis

The following qualitative methods were chosen:

1. In-depth interviews were chosen to elicit the perspectives of 'digital storytellers' about the nature and quality of their approach to digital storytelling and behaviour change. The sample comprised behaviour change professionals, all of whom used digital media to change behaviour in commerce and public health. This approach is analysed below and the findings are reported in Chapter Seven.

2. A case study approach was used to frame and analyse two cases of 'digital storytelling designed to change specific behaviours in the contexts of commerce and public health. Content analyses were supplemented with online observation, framework analysis and secondary document analysis. This approach is analysed below and the findings are reported in Chapter
Eight.

3. Focus Groups were conducted to elicit the perspectives of 'digital story participants' – adolescents, all of whom were exposed to, and participate with, digital media. The framework needed to be tested in the context of a specific population and behavioural outcome. This approach is analysed below and the findings are reported in Chapter Nine.

The three main primary studies were conducted in the following order (Fig 1).

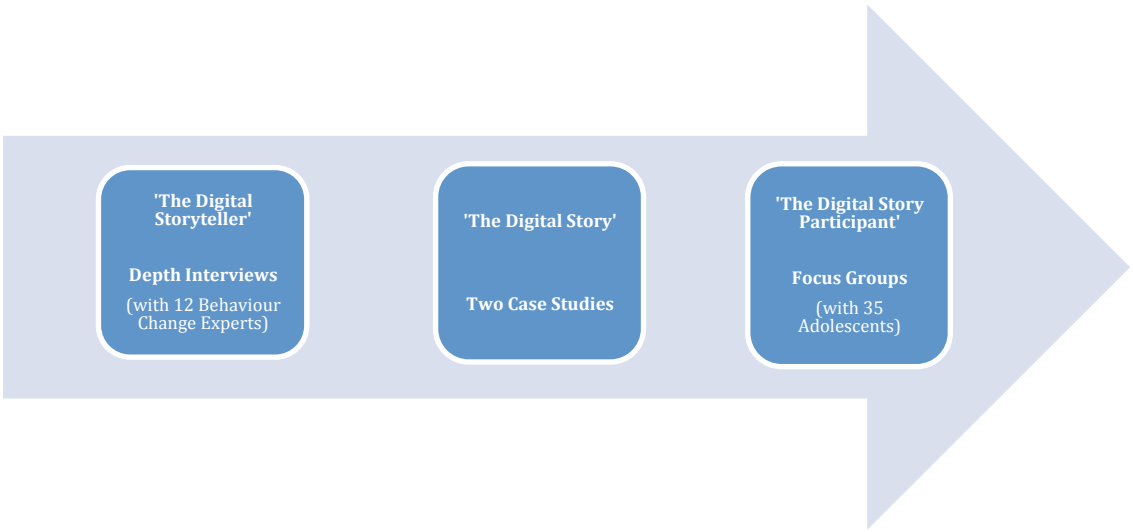

Fig 4. The order in which the three qualitative studies were conducted.

6.4 The Methodology of each Study

The findings of each study fed into and informed the design of the next study in an iterative manner (Bryman, 2004). This section now considers each study, the methods used and the advantages and disadvantages of each method in turn.

Study 1: The Power of Storytelling & Interactivity to Influence Human Behaviour: A Scoping Review

The Choice to Conduct a Scoping Review

A scoping review was conducted to:

- Explore what human behaviours digital storytelling has influenced and how.
- Map the range of research activity in the field and identify any gaps in the literature.
- Consider how 'interactivity' and 'storytelling' had been conceptualised.

Williams (2008) writes, *'This breadth of topic and associated searching permitted within scoping reviews and associated narratives means that…it is possible to 'map' out the range of key contemporary issues on a given topic and the linkages between them';* a view also expressed by Mays et al (2001). The scoping review allows the researcher to *'…map rapidly the key concepts underpinning a research area and the main sources and types of evidence available…especially where an area is complex or has not been reviewed comprehensively before'.* As this was a relatively unexplored field (at the time) this approach was appropriate. Of particular interest were

the range of behavioural outcomes that been influenced by digital storytelling and *how* they had been influenced. The rapid scoping review process was deemed to be adequate for that purpose.

Arksey and Malley (2005) argue that there are many types of literature review and the boundaries between them remain unclear. So why for instance was a full systematic review not conducted? The purpose of a systematic review is to address '*well defined questions',* assess the quality or rigour of evidence in the '*included studies',* synthesise evidence from different studies and determine whether particular studies provide robust or generalisable findings. That was not the aim of this study which was designed to explore and move towards specific study designs rather than identify and appraise individual study designs. A scoping study tends to '*address broader topics',* Arksey and O'Malley (op cit). A full systematic review was therefore ruled out. One of the main findings of the scoping review, it transpired, was that a full systematic review would *not* have been feasible since a peer-reviewed digital storytelling and health behaviour change literature was only beginning to emerge. A full systematic review with specific research questions based on the current findings is now recommended, as Chapter Ten argues.

Data Collection

Arksey and O'Malley argue that *'there is no definitive procedure for scoping the literature'.* However, greater reliability can be increased if the methods are conducted and reported in a rigorous and transparent way (Mays *et al*. op cit). Table 3 represents the main steps of the scoping review process 'at a glance' and each stage of the review process is now detailed to that end.

Table 3: The Scoping Review Process – Key Stages and Findings	
Scoping Review – Key Stages	**Key Findings**
Step 1: Test Search 1: Search Terms: 'Interactive Media' (Hardware and Software) & 'Behaviour Change' DATABASE: Medline (via Ovid) Results = 2,517	Geographical spread of research is predominately western, and U.S. Reading all abstracts show that there is a broad 'excitement' over positive digital media use but 'concerns' over negative 'pathological' influence of digital media use. 1 abstract refers to digital storytelling and

	behaviour change specifically (Baranowski 2008).
Step 2: Test Search 2 Search Terms: As above DATABASES: PsychInfo, CinAHL, Greenfile, Behavioural Science, Collection Results = 2,575	A broad 'excitement' was apparent over positive digital media use but 'concerns' over negative 'pathological' influence of digital media use evident. 0 digital storytelling and behaviour change articles appear.
Step 3: Core Search Search Terms are Revised; 'Digital Media' & 'Storytelling' 'Interactive Narrative' etc. DATABASES: Business Source Premier, PsychInfo, SCCI, AHCI. Results = 318 Abstracts	318 abstracts were retrieved and read but few appeared directly relevant. Four articles refer to storytelling and behaviour change.
Step 4: Filter: 318 abstracts filtered Filter Terms: Storytelling, Emotions, Behaviour Change and Interactivity. Results = 103 Abstracts	103 abstracts only broadly relevant. Four articles refer to storytelling and behaviour change. In commerce (Gorry and Westbrook, 2011) and environmental management (Garcı́a-Barrios' 2008). But only two refer to storytelling and behaviour change in public health (Baranowski 2008) and (Gamberini et al, 2009)
Step 5: 40 articles read in full. Narrative review of 4 relevant articles conducted.	While storytelling and interactivity are combined in public health the research is embryonic. Character and three-act structure used. But the emphasis appears to be on the potential of digital

	storytelling to attract and maintain attention so that rational messages can be delivered rather than emotions engaged. Further work on 3 act structure is needed.
Step 6: Thematic analysis carried out on 318 abstracts produced at step 3.	Digital media use influences and can be used to read a range of human physical, cognitive and emotional conditions.

Arksey and O'Malley (op cit) advise that '*including a consultation exercise in this sort of study may enhance the results, making them more useful to policy makers, practitioners and service users'*, a view shared by Oliver (2001). Privileged support was secured in this regard, first from an experienced Health Sociologist (University of Dundee) and second, a Social Marketer at the Institute of Social Marketing (University of Stirling). Both were experienced and published reviewers in their fields and were consulted throughout the study design. This approach informed the first search protocols and the choice of databases interrogated. The initial search terms were discussed and agreed with the first consultant in respect of the research questions. It was advised that terms should be bracketed according to the digital media channels and the outcome. Thus the terms selected became 'Interactive Media' (Channel) and 'Behaviour Change' (Outcome).

Scoping Review Step 1: Test Search 1: Search terms related to both interactive media software such as Facebook, Social Media etc. and interactive media hardware platforms such as computer games consoles (Wii, PlayStation, Kinect etc.) and PCs, smartphones and tablets. A trial search was run (January 2012) using the Medline database via the Ovid portal. A total of 2,517 references were found. The reference manager software 'Refworks' was used to organise the references. This helped to remove duplicates and make the study more easily replicable.

'Charting' the data (Ritchie and Spencer, 1994) meant sorting the wide range of articles into their geographical source. This showed how the research was distributed graphically and demonstrated that digital media research appears to have a Western and US bias. This could reflect a bias in the databases used and the editorial policy of contributing journals. It was decided not to include this data in the interests of space. Reading all of these abstracts provided a sense that a broad range of human 'conditions' had been influenced by digital media use, for good and for bad. But only one article referred to the use of interactivity and commercial storytelling in the context of health behaviour change (Baranowski, 2008).

Scoping Review Step 2: Test Search 2: Another trial was run, 17th January 2012 via the EBSCO portal using the same search terms but translated for the PsycINFO; CinAHL; Psychology, Greenfile and Behavioural Sciences Collection databases. Of 2,675 entries retrieved, although many were interesting, no articles referred to the use of interactivity *and* commercial storytelling in the context of health behaviour change. It was felt that approaching these databases with search terms that referred only to interactive media hardware and software and behaviour change, as advised, did not reflect the research question as well as it might.

Scoping Review Step 3: Core Search: The search terms were refined yet again. The concept of storytelling was broken down and expanded further to subsume terms such as 'interactivity', 'storytelling', 'interactive storytelling', 'interactive narrative', 'interactive fiction', etc. Business Source Premier, PsycINFO and Medline databases were accessed via the EBSCO portal. The Social Science Citations Index, the Science Citations Index and the Arts and Humanities citations index were searched through the World of Knowledge portal. Together these provided records from commerce, public health and the social and psychological sciences. 318 abstracts were retrieved and read but appeared only remotely relevant. This was disappointing, but revealing. There appeared to be a gap in the literature.

Scoping Review Step 4: Filter: The 318 abstracts were then filtered leaving 103 broadly relevant references. But although abstracts are not representative of the full article (Badger *et al*, 2000) this was too many articles to retrieve, read and summarise within the resources available.

Scoping Review Step 5: Read: 40 articles were read in full. A narrative review of the four directly relevant articles was conducted (Pawson, 2002).

Scoping Review Step 6: Thematic Analysis: The lack of breadth was seen to be problematic. To compensate, the researcher conducted a thematic analysis on the 318 abstracts produced during the core search (Step 3 above). This process mapped the range of positive and negative conditions that appeared to be influenced by interactivity as it pertains to digital media. The findings are presented in Chapter Three where Figs 1 & 2 illustrate the range of positive and negative influences of digital media use. The number of papers reporting on each specific influence is expressed as a percentage of the 318 abstracts. These abstracts were selected because they reported an influence of digital media use. (Statistics were used for descriptive purposes only). The range of negative and positive influences of digital media use was presented using a narrative review (Chapter Three).

A point had been reached and a general *and* a specific 'map' of the literature had emerged. As Arksey and O'Mally, (op cit) advise, a scoping review can achieve in-depth and broad results depending upon how and what literature is selected. By mapping the field the researcher was able to identify peer-reviewed articles that were *directly* relevant. By analysing these in depth, and in addition, analysing less directly relevant data it was possible to better understand how storytelling and interactivity had been conceptualised. The lack of meta-reviews in this field meant that the concepts and elements discussed so far had not been related each to the other in any coherent manner and where 'storytelling' was used in the context of health it was defined narrowly. But did this iterative approach introduce an unnecessary bias?

For Arskey and O'Malley (op cit) the scoping study process is not linear but iterative. This approach was time consuming but permitted a finer recalibration of the search terms. '*It is likely that as familiarity with the literature is increased, researchers will want to redefine search terms and undertake more sensitive searches of the literature'* (Arskey and O'Malley op cit). It also provided a sense that the data felt 'saturated'. Many articles had been written about the influence of digital media use, for good and bad: but a peer-reviewed literature concerning the use of digital *storytelling* to change health behaviours remained clearly embryonic. The lack of a frame of reference was disappointing; but it meant that a coherent approach to the use of digital storytelling in behaviour change contexts was desirable. The current research could contribute by addressing that lacuna.

Limitations of the Scoping Review Process

The scoping process was documented throughout to enable the study to be replicated, thereby increasing the reliability of the findings. The budget did not afford translations. Only studies in the English language were included. This presents a bias in favour of Western research literature. Because digital media evolve on a global scale, with little sensitivity to geographical, political and national boundaries there was a need to frame the work in an international context. The data were mapped geographically to help mitigate this but it represents a shortfall that should be addressed in subsequent studies.

The search timespan (date of publication) was limited to peer-reviewed academic journals written over the last 10 years (2002-2012). Time and budget constraints meant the search timespan had to be limited even though potentially relevant material might be missed. After consultation this was considered to be a limitation and a wider timespan is recommended for future studies. References found in articles within these search terms were also consulted as an attempt to counter this limitation.

There was a constant tension between how balanced the analysis of the available material should be in regards to its breadth and depth. Since a large number of data were generated, subjective decisions had to be made. This selection process introduces an unavoidable bias that could have been a direct result of the *a priori* approach taken and the emphasis on *commercial* storytelling approaches. It was felt that this was appropriate and adhered to the research objectives and the working definitions set up at the start of the research. Further research might be validated by more researchers, without prior knowledge and experience of commercial digital storytelling, to minimise that potential for bias. As more research is done in this field further, detailed analyses of a smaller number of directly relevant studies will become possible.

The review was carried out between January and March 2012. It is now August 2014. The speed and pace at which digital technologies have been embraced to influence behaviours in commerce and public health has increased dramatically and the potential for storytelling in this context has now become 'mainstream'. It is advised that a systematic review is now conducted and the results mapped against these original findings.

The key findings of the scoping review are reported and discussed in Chapter Three. Further detail on the scoping review process is included in Appendix A

Primary Research Study 2: 'The Storytellers': Depth Interviews with Behaviour Change Experts

The Choice to Conduct Unstructured In-Depth Interviews

Highly structured, standardised and positivist quantitative interviews were ruled out on the basis that data were not being acquired to *measure* but to gather insights into the nature and *quality* of the storyteller's perspectives, intent and approach to digital storytelling. The research was also to be explorative and iterative. As Herbert (1990) argues, '*Unstructured interview schedules are usually relevant to exploratory research'*. It was also recognised that rich data from qualitative in-depth interviews would supplement the other methods of data collection (focus groups, content analyses and online ethnography). The aim of the study was, then, to elicit the points of view of those involved in social processes (digital storytelling), by using social processes *actively* (Green and Thorogood, 2004; Holstein and Gubrium, 2004).

The researcher wanted to explore professionals' perspectives actively; but without their being influenced by the opinions of other professional respondents (Boyce & Neale, 2006); focus groups with other professionals were therefore ruled out. But as with focus groups, the researcher cannot remove herself from the interview situation and extract sterile and 'uncontaminated' data in the process of knowledge production (Miller and Glassner, 2004). The interview structure alone can influence the data collected (Boyce & Neale, op cit); but since the research overall sought data to develop and test theoretical propositions, rather than hypotheses, depth interviews were chosen because they emphasised validity over reliability. Reliability could be increased by reporting how the research has been conducted and how the concepts were grounded at each stage (Strauss and Corbin, op cit). The following section describes how the interviewees were selected and the data were collected and analysed. The advantages and disadvantages of structured in-depth interviews are compared with those of structured in-depth interviews in Table 4.

Table 4: Advantages and Disadvantages of Structured and In-Depth Interviews

	Structured Depth Interviews	**Unstructured Depth Interviews**
Advantages	Greater *reliability* since respondents' views can be compared directly. Potentially large sample size so results more *generalisabl*e to wider populations. Can collect a lot of quantifiable data but with less detail. Data collection less time consuming and costly: many can be conducted. Formal approach means respondents likely to be 'honest' and reveal rather than conceal. Data Analysis can be 'streamlined' and less-time consuming. Data analysis less 'interpretive':	Greater *validity:* Each interviewee is a unique 'case'. Views, attitudes and beliefs can be explored in depth and reveal 'real' views. Smaller sample size so can interviewer can develop rapport with interviewee. Can collect a lot of detailed qualitative data. Interview format allows probing: emergent ideas, anecdotes and issues can be explored in detail. Informal approach means respondents likely to reveal rather than conceal. Data analysis more 'interpretive': greater *validity.*

	greater *reliability*.	
Disadvantages	Less *validity:* views, attitudes and beliefs cannot be explored in depth. Larger sample size: interviewer unable to develop rapport with interviewee. Prevents probing: emergent ideas, anecdotes and issues cannot be explored in detail. May restrict respondents' views. Formal 'self report' approach means respondents likely to conceal rather than reveal. Data analysis less 'interpretive': less *validity*.	Each interviewee is a unique 'case' so less *reliable.* Potentially small sample size so results less *generalisabl*e to wider populations. Data collection time intensive and costly: Fewer interviews can be conducted. Data analysis time intensive and costly. Data analysis more 'interpretive': less *reliable.* Less formal atmosphere means respondents likely to conceal rather than reveal.
	Table adapted from Compass Port (2014) and Boyce and Neale (op cit).	

***Governance*:** The study was approved by Stirling University Ethics Committee (School of Management).

The Sample: It was decided at the outset that the sample would include only those who used digital media to change behaviours. It was logical that the perspectives of those who were engaged professionally in the use of digital media to change behaviours would be better than the perspectives of those who were not. Analysis of the data elicited would therefore likely inform the research questions asking whether digital storytelling can influence human behaviour and if so how? It could also inform the debate as to whether a digital storytelling framework was feasible and desirable. It was clear, partly from common sense, partly from professional and personal observation and partly from literature that digital marketing executives from commerce were perhaps well placed to provide valuable insights. It was similarly evident that participants working in public health – behavioural scientists - might provide valuable data. It was decided then that the

sample would include those who used digital media to change behaviours working in commerce *and* public health.

The theoretical distinction between these sectors or milieus (I use these terms interchangeably) was simply this: 'Commercial' professionals operate solely for the purpose of maximising profits for company owners and shareholders. 'Public Health' professionals operate on a charitable basis accessing public funds for the purpose of improving public health. It was of course recognised that as with any theoretical distinction, that between 'commerce' and 'public health' is easily blurred. Commercial marketers access public sector clients and funds (for the purpose of maximising profits for company owners and shareholders). 'Public Health' professionals can appear to operate on a charitable basis accessing public funds for the purpose of improving public health – but may do so in the interests of maximising their own personal and financial status. These nuances were not the subject or focus of this thesis. But the distinction between the uses of digital storytelling to influence human behaviour in the pursuit of profit as opposed to the pursuit of public health was; and it informed directly the choice of respondents. Further research might usefully interrogate the motives of professionals in each sector who use digital storytelling to influence the behaviours of others.

The sample included participants, all of whom used digital media to influence human behaviours professionally. These participants were drawn from milieus where - it could be reasonably assumed – specific behavioural objectives existed. In commerce digital marketing executives who influence consumers' behaviours for the purpose of maximising profits for company owners and shareholders. In public health, behavioural scientists operating for the purpose of improving public health. These participants are identified hereon in using the simple identifiers 'Commerce' and 'Public Health'. The abbreviated identifiers 'C' and 'PH' are used in the ensuing chapters to denote participants from these two milieus. This allows us to see how representative the quotes and data extracts are and how different populations represent differing viewpoints.

Representatives from a third sub-sector – the computer games industry – were also included and interviewed. The rationale was that these participants used digital media to influence human behaviours professionally. They represented a sub-sector of 'commerce' since they all ran companies whose objective was to maximise profits for shareholders. Data from these interviews were however omitted as the following section now outlines.

Sampling and Recruitment: A small but specific sample of respondents was sought using theoretical and purposive sampling (Mason 1996); that is to say, the sample was selected on the

basis of its direct relevance to the research question and the developing theoretical propositions. The process of identifying who would be selected for interview was however recognised as a potential source of bias; but since generalisability was not the objective, theoretical rather than random sampling methods were used in a manner that would reduce bias as far as possible. Participants were selected to ensure that informant's responses could be framed and analysed within the context and focus of the study overall (Spencer et al, op cit). It was imperative therefore to elicit the views of those deploying digital media strategies in appropriate and relevant contexts and with relevant expertise. An international sample was sought because digital media is a global phenomenon that crosses national boundaries. But since a small sample was sought, it could not be truly 'international'. All respondents were selected on the basis that they: 1. Deployed digital media to change behaviour and 2. Were engaged at an executive level with on-going digital campaigns and strategies. This ensured that the perspectives captured most likely reflected current thinking that was relevant to the research topic.

Formal requests to interview were made by email. This ensured that the purpose of the interviews and the topic could be communicated consistently across all interviews. Of the 45 requests made 16 participants agreed to be interviewed. In-depth interviews with 16 professionals who met the inclusion criteria were conducted. All data were collected between June 2012 and January 2013. The data from the last five interviews were however later omitted for three reasons:

1. The first 11 participants interviewed were from the fields of commerce and public health. The original plan had been also to include computer games storytellers, representing a third milieu. Examination of the first 11 transcripts revealed clear themes relating to the research questions and findings that might usefully be compared between the two milieus of commerce and public health. As the research developed it became evident that the analysis of data from, and theoretical comparisons between, three sectors was in danger of becoming unmanageable and, therefore, unfocused. Or conversely, the analysis of data from just two milieus appeared to allow a sharper focus, particularly given the insights that were emerging from the comparison between these two milieus. Further research might usefully extend the comparisons made here to the findings of studies analysing the perspectives of computer games storytellers.

2. The last five interviews were conducted with computer games developers, all with whom the researcher had worked in a professional capacity. This was known from the outset, but during the familiarisation process, (Furber, 2009) it became apparent that the transcripts included assumed and shared knowledge, a short-hand that only an insider speaking to an insider might share, even

though the same topic guide was used. All data related to the research questions and developing theory, but they felt different qualitatively.

3. It had been clear from the outset (please see introduction) that there might be a danger of bias resulting from the researcher's prior professional experience. All 16 participants had been selected using theoretical sampling. But it had been more convenient to reach out to these last five. The first 11 participants were unknown to the researcher and from different fields. On reflection it became apparent that a slightly different sampling process had been used - convenience sampling.

Taken together these factors suggested that the data from these interviews should be omitted. Those data have since, however, been analysed and now form the basis of an innovative online digital storytelling for health initiative and industry monograph. These resources will be published subsequently (Interested parties should contact the author at mga@markgrindle.com). Table 5 shows the composition of the final sample. Participants' credentials are presented but all names have been removed as confidentiality was guaranteed.

Table 5 – Depth Interview Participants and Composition

Professional Role	**Milieu/Identifier**	**Gender**	**Territory**
Marketing Executive	Commerce (C1)	Male	Edinburgh, Scotland, UK
Marketing Executive	Commerce (C2)	Male	Montreal, Canada .
Marketing Executive	Commerce (C3)	Female	Melbourne, Australia
Marketing Executive	Commerce (C4)	Male	London, England, UK
Marketing Executive	Commerce (C5)	Female	London, England, UK
Marketing Executive	Commerce (C6)	Male	London, England, UK
Behavioural Scientist	Public Health (PH1)	Male	Houston, Texas, USA
Behavioural Scientist	Public Health (PH2)	Male	Houston, Texas, USA
Behavioural Scientist	Public Health (PH3)	Female	Houston, Texas, USA
Behavioural Scientist	Public Health (PH4)	Male	Houston, Texas, USA
Behavioural Scientist	Public Health (PH5)	Female	Houston, Texas, USA

An interview topic guide, based on the findings from secondary research was designed to ensure that the interview structure was as consistent as possible across the interviews and thus increases the reliability of the findings (Boyce & Neale, op cit). It also meant that all topics raised during interviews could be referred back to the research questions during analysis. This was complicated,

however, by the fact that as insight was gained, changes needed to be made iteratively throughout the interview schedule. There was also the danger that the topic guide would limit the potential for the respondent's 'voice' to emerge and the interviewee to probe. It was felt that this 'consistently inconsistent' approach was of benefit to the study and suited the iterative, explorative style overall.

All interviews were recorded digitally (subject to verbal permissions to record). Notes were taken when it felt appropriate, and instrumental, to do so. Interviews were carried out face-to-face (where and when possible). This allowed insights as to where and how interviewees operated and made it easier to probe. Interviews were carried out in the USA but it was not possible to afford to attend all international interviews in person e.g. those in Canada and Australia. Skype and telephone interviews were carried out where travel could not be afforded. This may have introduced a bias. Interviews lasted between 40 minutes (minimum) and two hours (maximum). The variance owed, in the main, to participants' busy schedules. All participants were executives and there was some nervousness on the part of the interviewee to distract them for too long from their busy schedules. This became easier however as more interviews were carried out and it became apparent that participants enjoyed telling their stories. Every effort was made thereafter to ensure the interviewee was as comfortable with the process as possible. As the researcher's comfort with the process increased, from the beginning to the end of the interview schedule, so did his rapport with interviewees; and so the attendant order bias that only a seasoned professional interviewer might avoid.

Interviewees were reminded at the start of the interview of the purpose and topic. They were told how long the interview would take (approximately). Permissions were sought to record the interview and respondents were reassured that the data would be confidential. All respondents were told that quotations used in the write up of the research would be anonymised and every effort would be taken not to reveal identities inadvertently. It is common practice to denote the name and gender of respondents after quotes were used; but given that samples were small, and participants were high profile and could easily be identified, this practice was avoided.

The researcher tried to keep his own professional perspectives, insights and personal opinions about the potential power of digital storytelling in check (Boyce & Neale, op cit). This was vital since the interviews were designed, in part to test theory. The most extreme bias would have been introduced if any element of the developing theory or framework were introduced by the researcher, as interviewee. It was important to avoid leading questions and to adopt appropriately 'neutral' body language, particularly when respondents were most 'on topic'. Interviews were carried out until no further themes, issues or topics appeared to be emerging from the interviewees,

the 'point of saturation' (Boyce & Neale, op cit; Ezzy, 2002). Field notes were written up to provide context throughout the interview process.

Two interviewees were interviewed at the same time rather than individually. This was owing to one interviewee, a senior figure, preferring to be interviewed with his colleague rather than separately, at the last minute. This may appear to have biased the findings. However, the intention was to explore the power of digital storytelling to influence human behaviour in commerce and public health and not to test hypotheses. The iterative approach secured valuable insights as to the nature of the very phenomena explored, and informed the research questions directly, as chapter seven demonstrates.

Data Analysis: All recorded interview data were transcribed verbatim in two batches. This allowed for interim analysis, familiarisation and reflection before the next set of interviews. Full analysis was conducted on the data after all interviews were complete. A framework analysis, '*a rigorous and methodical data analysis process that is suitable for analysing qualitative data'* (Furber, 2009) was carried out on all data. This method is used increasingly across public health where rigorous evidence from qualitative studies is used to inform and support policy. All data were analysed using the five stages recommended by Spencer and Ritchie (op cit) – '*Familiarisation, theoretical framework identification, indexing, charting and interpretation'*. This approach meant that large data sets from all interviews could be managed and analysed in a way that was rigorous and easily replicable. All data were indexed and charted using Microsoft Excel. A lot of time was taken during analysis and many drafts were produced. The researcher sought to identify recurrent patterns and themes across all interview data. Constant comparison methods were used as recommended by Glaser and Strauss (op cit). This allowed indexes and codes to be linked across interviews with professionals from different sectors and comparisons to be made between them. The researchers' diaries and notes were referred to throughout and used to provide as complete a picture as possible. Further detail on the data analysis process is included in Appendix B.

Limitations of the Depth Interviews

16 informants were interviewed but the analysis of only 11 interviews made the sample small. This is considered to be a limitation. Some might argue that the omission of experts from the gaming industry in a thesis which concerns interactivity is a considerable limitation. This would miss the points that: computer games developers are not the only professional group to use interactivity to engage; that the developing framework was already predicated upon insights from within the computer games industry; and that *all* experts interviewed were professionals who deployed interactive storytelling actively to change specific behaviours. That was true whether participants

were commercial marketers interested in deploying interactive media to profit or public health agents who deployed computer games to improve public health. By analysing the perspectives of a small sample of professionals from just two milieus what was lost in numbers was gained in a greater depth of focus

However, by redirecting resources to the administration of focus groups it became possible to triangulate the findings. It is advised, however, that future studies increase the number of participants in each group. The sample could be increased providing greater external validity using semi-structured interviews online; but with the attendant risk that the richness of detail and resolution is lost. Since the interview topic guide was based on the secondary research (Part One), the interviewer could guide respondents to key areas of interest with some confidence and probe there. This could have reduced the degree to which respondents could freely associate. But since interviews require a professional approach and keeping each interview moving was seen to be an important consideration some structure was needed.

In-depth interviews could reveal experts' beliefs and their perceptions might tell us *how* they might use digital storytelling to influence behaviour: but not what they do in their day to day storytelling practice. Observation had been ruled out on the grounds of resources available. The costs of interviewing commercial and behaviour change experts in the USA were limited and did not stretch to longer periods of observation. Further ethnographic research might be done. Being a professional of similar age helped develop rapport and mutual respect; but it may also have introduced a level of bias. The interviewee might want to 'prove' themselves in a competitive manner so responses might be biased; this was not however evident. The key findings of the depth interview are reported and discussed in Chapter Seven.

Primary Research - Study 2: 'The Digital Storytelling': Two Case Studies of Digital Stories Designed to Influence Human Behaviour

The Choice to use a Case Study Approach

Experts from commerce and public health *appeared* to agree strongly that digital storytelling can influence human behaviour. And experts from each sector appeared to disagree as to *how* that was achieved. But an interview is a social construct and what social actors *say* in an interview may reveal or conceal what they actually do on a daily basis. Further research was therefore needed. One approach would have been to supplement the depth interviews with observational methods (Gold, 1958); another would have been to identify and consider extant cases of the digital storytelling produced in each context using content analysis '*an accepted method of textual*

investigation, particularly in the field of mass communications (Silverman, 2001:123). The former was ruled out on the basis of time, cost and access constraints and the latter adopted.

Two cases were selected, one from commerce and one from public health. But how would we *know* if the behaviour change approach we had uncovered through content analysis was that which the storyteller had actually intended? Professionally speaking, texts are also socially constructed; and it is dangerous to make theoretical assumptions about intent on the part of the producer or storyteller from the findings of a content analysis. And how would we know if that storytelling approach influenced the story participant in any way? It is similarly a dangerous leap *forwards* from the findings from content analysis to assume any actual influence on the story recipient or participant. It became necessary then to analyse cases of specific stories designed to influence specific behaviours; but to keep their production and consumption contexts firmly in view.

Content analyses were then supplemented with data from other sources, as the case study approach permits. Yin (2003) writes that *'The unique strength of this approach is this ability to combine a variety of information sources including documentation, interviews, and artifacts (e.g., technology or tools)'* A case study approach would:

- Allow the findings of content analysis to be informed by data from primary *and* secondary data sources.

- Provide insight as to the influence of the storyteller's intent on the content.

- Suggest how that same storytelling 'content' likely influenced those who were exposed to and participated with it.

This approach appears to be increasingly important owing to the *participatory* nature of digital media; it allows us to move *beyond* content analysis as the following narrative describes.

The Case Study Selection Process: The Scoping Review (Chapter Three) revealed that few if any coherent digital storytelling frameworks existed by which to consider the use of digital storytelling in the contexts of commerce and public health. This made case study selection difficult. Since there was no coherent framework no 'normal' or 'extreme' case could be identified. But as the research was designed to generate theory, the richness of each unique case could therefore provide the theoretical and conceptual insights sought. Two case studies were selected: one from the field of

commerce and one from the field of public health. Each case was selected on the grounds that it provided an example of how 'interactivity' and 'storytelling' were *merged* to influence specific behaviours in those different contexts. *Belong* was designed to promote alcohol consumption in adults. *Belong,* the commerce case, permitted an exploration of what storytelling and interactive 'elements of change' were active when an audio-visual linear commercial becomes participatory online. *Escape* was designed to improve children's diet and increase their physical activity to avoid diabetes in later life. *Escape,* the public health case was selected because it similarly involved both linear and non-linear storytelling components in a PC environment. It was appropriate then to draw out some differences and similarities at the level of the 'elements of change', since both cases 'contained' some or more of those elements. Each case represented an attempt to influence human behaviour using digital storytelling in the context of their respective sectors so that comparisons might be drawn - but only in relation to and with reference to the developing *theoretical* framework.

Both cases were framed by peer-reviewed literature, permitting a degree of analysis, cross checking and validity that would not have been possible with a content analysis alone. The secondary contextual data meant that evidence of a storyteller's intent and approach to change behaviour could be triangulated with data from the content analyses. As Yin writes,

> '*A case study research methodology relies on multiple sources of evidence to add breadth and depth to data collection, to assist in bringing a richness of data together in an apex of understanding through triangulation and to contribute to the validity of the research'* (Yin, op cit).

The approach used in each case study is now considered in turn.

Case Study. Belong: a Commercial Marketing Alcohol Campaign

The Carling *'Belong'* commercial was produced as a 42 second linear audio-visual commercial aimed at television and online dissemination. It provided a case of a linear audio-visual commercial that became *participatory* online. Peer review articles about the commercial supplemented the content analysis. This allowed vital insight into the storytellers' intent and how that related to storytelling elements identified by the content analysis. The content analysis was also supplemented with online observation or Netnography (Kozinets, 2010). This allowed vital insights into the relationship between the storyteller's intent to influence, the storytelling itself and its subsequent influence on story participants online.

***Governance for Online Ethnography*:** Since the study involved online ethnography a detailed ethical application was made. The study was approved by Stirling University Ethics Committee (School of Management and Organisation).

***Data Collection**:* Access to the commercial was easily secured and the video was downloaded from You Tube. Peer reviewed, press articles and 'grey literature'[7] about the controversy that the commercial generated were found by searching online (Google). Peer reviewed literature (Hastings et al, 2009) provided unique insights into the alcohol marketers' intent to influence specific behaviours. The *Belong* commercial was posted online in 2006 and had, over a six-year period (2006-2012) received over 50,000 separate and independent views on You Tube. These 'archival posts' were accessed and recorded for the purpose of analysis. As Kozinets states '*Content analysis approaches take the observational stance of netnography to an extreme offering unobtrusive downloads without any social contact there'*. (Kozinets op cit). Standard screen capture technology (Mac OSX Leopard) was used to take snapshots of the You Tube comments and copied into Microsoft Excel. These primary data presented a unique opportunity to explore the link between the storyteller's intent to influence (with some strong insights as to *how* they went about it) and the content analysed.

The current research builds on the previous (Hastings et al, 2009) by supplementing findings from document and content analysis with online ethnographic observation. Online communities are an increasingly valuable source of research data; and participation in online groups is thought to influence wider patterns of behaviour. The research was designed to explore the influence of specific textual structures on behaviour; and so observing and analysing the influence of a specific text that was already analysed seemed to be an appropriate method. As Kozinets observes, *'These social groups have a 'real' existence for their participants and thus have consequential effects on many aspects of behaviour.'* (Kozinets op cit). A thematic analysis was conducted on those 'Archival posts'. But this was not without its problems.

Kozinets argues that this purely observational approach falls short of netnography as it doesn't involve interacting with people online and so cannot fully understand cultures online. It hereby '*runs the risk of gaining only a shallow and cursory cultural understanding'* (Kozinets op cit). This risk was acceptable because:

- The data provided a sense of how participants responded to specific storytelling elements.

[7] The term 'grey literature' is used here to describe material that is not published in an easily accessible form or listed in standard bibliographic databases, for example conference proceedings, internal reports, theses and some books. (CRD, 2009: 266).

- Interactions between participants were of interest in relation to their emergent response to the alcohol marketer's stimulus. Any deeper understanding of that particular culture over time was *not* the aim of the study.

- The frame from within which the data were collected had to be limited in the interests of resources.

Data Analysis: A content analysis of audio-visual digital footage identified and isolated salient digital storytelling elements or 'discernible and repeated structures' (Hawkes, 1977:69). Each shot was timed, and described according to established BBC film drama and documentary logging and shot naming procedures. This is reproduced in Appendix C. The soundtrack was analysed separately but similarly. The sound track and the image track were then brought together and 'mapped' chronologically along the 42-second timeline. A framework analysis (Furber, op cit) was conducted on the online data. Participants' responses were coded and indexed according to the themes that recurred.

The content analysis established what 'elements of change' storytelling participants might have responded to. It has been stated above that many content analyses stop there and conjecture as to the influence that same content may have on the story participant. Calls are even made for changes in alcohol marketing policy based on that conjecture e.g. (Hastings et al, 2009; Nichols, 2010). The framework analysis of online data helped to establish to what key elements of change participants responded to and how. It afforded a unique insight into *how* the storytelling analysed in the previous content analysis might have influenced participants' behaviours – which now included the participant's storytelling as a behaviour influenced by the commercial in and of itself. By triangulating those findings with a narrative review of peer reviewed articles about the storytellers' intent, the researcher was better able to theorise further as to the nature of the power of digital storytelling to influence human behaviour. By using the developing digital storytelling framework as a guide, together with the supplementary data, we get closer to understanding not just *that* digital storytelling appears to influence human behaviour but *how* it does so in the context of alcohol marketing practice.

This innovative approach made it possible to triangulate the findings of this and the previous study; to link the analyses of linear storytelling 'content' to *how* that content likely influenced behaviour when it became participatory online. That in turn led to insights about the different use of digital storytelling to influence behaviours in, respectively, commerce and public health. Whether or not either approach actually *leads* to behaviour change remained out with the scope of this study. *That* link was explored in the ensuing focus group study when the power of the same digital storytelling

elements to influence adolescents' initiation into alcohol was analyzed in depth. The key findings of Case Study 1: *Belong* are reported in Chapter Eight.

Case Study 2. Escape: A Public Health Intervention on Diet and Physical Activity

Escape represented a case where digital storytelling was used to influence specific human behaviours - children's diet and physical activity. Content analysis was supplemented with secondary data - the website used to launch the game, publicity materials, academic articles and news reports. Another datum available was the PC computer game itself (although full access was denied owing to the technical conditions under which the game was made available to its participants).

Data Collection: The final draft of the story outline, publicity materials and news reports and the computer game itself were made available to the researcher by its producers on request.

Data Analysis: A content analysis of the audio-visual digital footage within the game identified and isolated salient digital storytelling elements. The computer game was played, as far as was possible, to see how the story was told. The story as it appeared to the intervention participants was broken down into its main 'beats' (Appendix D) and considered against the conceptual framework developed during secondary research. But this approach only revealed the *linear* form of the story and its constituent elements. Further analysis was needed if the *interactive* and *participatory* nature of the story's telling was to be foregrounded in any meaningful way as the previous case (*Belong*) had.

The linear storytelling, interactive and behaviour change components were then identified and mapped across the intervention as a whole. Please see 'Escape: Intervention Timeline and Structure' (Appendix F). The linear storytelling, interactive and behaviour change components were then identified and mapped across each of the nine sessions. Please see 'Escape: Generic Session Structure' (Appendix E). This approach highlighted the small part played by linear storytelling and interactivity in the intervention as a whole. Secondary data allowed the findings of this content analysis to be related to the context in which the storytelling was produced and administered. Constant comparisons were made between the storytelling, as it was analysed here, to the descriptions of the intervention and its theoretical underpinnings as it appeared in peer-reviewed literature (Baranowski et al, 2010). This also created an accurate impression as to what behaviour change approaches had been used to inform the development of the content. The findings of Case Study 2: *Escape* are reported in Chapter Eight.

Limitations of the Case Studies Approach

Each case was disseminated on different digital channels, deployed in different contexts (commerce and public health) and told different stories to different populations to influence different behavioural outcomes. This introduced a bias. *Belong*, is a 42 second linear audio-visual commercial designed to influence the consumption of Carling Lager in adults. *Escape* is a story-led computer game designed to improve the diet and physical activity regimes of 9-13 year olds. *Belong* was distributed on *You Tube* (having already been disseminated on TV) and *Escape* was administered to children on PCs in their own homes in the context of a time-limited behaviour change intervention. Any comparison between the specific cases appears to be invalid. This was accepted on the grounds that any similarity or difference observed in the case studies (as to how interactivity and storytelling were used in each milieu) might triangulate with that evidenced by the depth interviews. This might then begin to tell a story about how interactivity and storytelling was used in each milieu; evidence that further research might seek to corroborate or refute. The findings were borne out in focus groups (Chapter Nine).

Since different digital platforms were used in each case, different methods had to be used and their data are therefore not directly comparable. Two attempts were made to rectify this issue as far as possible. Another case study was selected to mirror *Belong* exactly; a public health commercial raising awareness of the direct link between alcohol consumption and cancer (National Health and Medical Research Council, 2009). That case would have permitted an exact shot-by-shot content analysis as was executed in *Belong* and therefore a more precise comparison. That commercial was also distributed on You Tube. This meant that participants' comments and responses to the commercial could be similarly analysed. But the interventionists had disabled the facility to allow participants to comment online. It read 'Comments are disabled for this video.' A representative of the team was contacted and asked the reason why.

> *'It would have been too expensive. We would have had to employ someone to constantly monitor and manage what people were saying'.*

This provided anecdotal evidence that public health seeks to *control* what is said online rather than encourage participation and dialogue; but it still meant that the two cases were not directly comparable. Early analysis of the data, approached both cases comparatively; and a section was written in Chapter Eight that treated both comparatively. This was removed as it created an impression that a comparative content analysis was straightforward. The emphasis was placed instead on the milieu in which the storytelling content in each case originated; and the extent to

which the findings of *each* content analysis triangulated with the findings of the scoping review, the depth interviews and the focus groups in each sector.

Primary Research - Study 3: Focus Groups exploring the power of digital storytelling to influence adolescents' initiation into alcohol

The Choice to Conduct Focus Groups

The focus group method was chosen to: elicit the perspectives of adolescents who use digital media; better understand how *they* felt about their exposure to, and participation with the specific storytelling elements identified in the previous studies; and to gain insight as to how their exposure to and participation with digital storytelling might influence their alcohol behaviours, or conversely. As Hastings, (2010:186) writes, *'The best people to judge what a particular communication is saying are those in the target* audience'. So why were focus groups chosen over depth interviews and observations of adolescents? Given the potential sensitivity of the subject matter (the influence of digital storytelling on young people's illegal under-age drinking behaviours), survey research might have presented itself as appropriate and more confidential. But adolescents' exposure to alcohol storytelling was likely to occur within social media contexts, which are dynamic and participatory. Focus groups would provide an opportunity for participants to challenge or support one another's perceptions in a similarly social and dynamic situation. Resource constraints also ruled out the prospect of interviewing 36 adolescents, in depth, individually.

So why were observational methods avoided? There were two reasons, both concerned with access. 13-15 year olds participate with digital media on their smartphones, on their PCs and computer games consoles at home and in private, in their bedrooms and often away from teacher and parental guidance. The content they generate may be available socially, online: but they engage with the technology on an intimate 1:1 basis. In practical terms, it would be difficult to observe young people participating with digital media and unethical to do so. There were other reasons focus groups were chosen. Focus groups:

- Can offer a greater level of interactivity between the moderator and the participants and between participants.
- Are inexpensive and 'data rich'.
- Stimulating to respondents.

- Can aid recall and 'elaborations over and above individual responses' from interviews owing to group dynamics.
- Allow quick 'snapshots' to be taken providing a deep understanding about what young people were seeing, hearing and doing online and how they felt about it.

Adapted from Kitzinger, (1996)

Focus groups also have their disadvantages. Each focus group is a manufactured social situation in a designed setting that may have no bearing on the thoughts, beliefs or behaviours in their daily lives. The study's 'external validity' is therefore compromised. As this study did not set out to establish cause and effect but to develop and 'test' theory this was not considered to be a problem. 'Groupthink' can also be a problem; adolescents tend to do what their peers do. As this phenomenon was in part the subject of the study, the opportunity to observe how dyads, or pairs of dyads, for instance, rallied around each other's ideas and produce an 'interactive narrative' was valuable. Care was however taken to analyse that data within the context in which it was generated (Kendell et al, 2009); and to ensure that data from each individual was also treated as unique (Minichiello, 1990). Social desirability bias can also be problematic: participants might seek to impress an adult. But by actively managing and keeping adolescents entertained this bias was reduced (Tinson, 2009). The analysis of focus group data, like analysis of interview data can also introduce confirmation bias. Data can be 'cherry picked' to support hypotheses. By using a framework analysis where *all* of the data has to be included in the analysis, (Furber, oc cit) this bias was reduced as far as possible.

There are useful precedents that can help to steer focus group design and planning. Merton et al (1946) defines the focus group as '*a set of procedures for the collection and analysis of qualitative data that may help us gain an enlarged sociological and psychological understanding in whatsoever sphere of human experience'*. Writing about the emotional impact of film and radio propaganda they argue that focus group interviews can help to identify the *'aspects of the situational experience'* leading to the observed influences. They can help to generate hypotheses *'about the sources and character of the response'*. Merton's approach appeared relevant. For Merton et al, the true focus of the 'focused interview' is achieved when four key characteristics are present:

1. When participants are known to have been involved in a certain situation (having seen a film or heard a radio broadcast, for instance).

This was updated to include exposure to and participation with digital storytelling 'elements of change' identified during the first phase of research.

2. The investigator has '*provisionally analysed the situation and developed hypotheses regarding probable responses to it'*.

The previous primary studies had analysed 'the situation' and the developing theoretical framework anticipated possible responses to it.

3. The analysis in 2 should provide a basis for the interview topic guide and provide '*criteria of relevance'* for data derived from the interview. This analysis in 2 informed the focus group topic guide and the selection of the visual prompts or 'mood boards' (Appendices G-H).

4. The interview should then focus on participants' '*subjective experiences'* to define how they were involved in the situation.

All these criteria appeared to be in place as the following section attests.

Focus Group Governance: The study involved adolescents, a vulnerable group. Ethics approval was granted by the University of Stirling Ethics Committee (School of Management and Organisation). The study design was developed in close consultation with Alcohol Focus Scotland. The researcher (and facilitator) was Disclosure Certificated.

Sample Selection: A small but specific sample of respondents was sought using theoretical or purposive sampling (Mason 1996); that is to say, the sample was selected owing to its relevance to the research question and the developing theoretical propositions. The process of selecting focus group participants was however recognised as a potential source of bias. Generalisability was not the main objective and efforts were made to reduce bias as far as possible. The purpose was to explore adolescents' perspectives and generate rather than test hypotheses; and to enable an exploration of how a cohort of this age, gender, and socio-economic composition use digital media to consume stories, and how that use might influence their initiation into alcohol consumption.

The sample was modest and not intended to be representative of a wider population; and it was balanced so as to remain sensitive to gender or class issues. 35, 13-15 year old adolescents from different socio-economic groups, gender and drinking behaviour backgrounds were selected. All participants were selected from the South of Glasgow (G78), Scotland, UK and were of mixed

gender and age (16 males and 19 females) between 13-15 (10 were 13 years old, 12 were 14 and 13 were aged 15). 19 participants were from socio-economic groups ABC1 and 16 were from group C2DE. The professional recruiter approached participants by knocking on doors. Participants were told that the purpose of the study was to explore young people's digital media use. All participants were reassured that the focus groups would remain confidential. The composition of the focus groups is represented in table 6 below. The focus group/participant numbers are used to attribute exemplary data (quotations) to specific participants when the findings of this study are presented (Chapter Nine).

Table 6: Focus Group Composition

Focus Group/Participant Number	Socio-economic Group	Gender	Age
1.1	ABC1	M	15
1.2	C2DE	F	13
1.3	C2DE	M	13
1.4	ABC1	M	14
1.5	ABC1	F	14
1.6	C2DE	F	15
2.1	C2DE	F	14
2.2	ABC1	M	13
2.3	C2DE	F	14
2.4	C2DE	M	13
2.5	ABC1	F	15
2.6	ABC1	F	13
3.1	ABC1	M	15
3.2	ABC1	F	14
3.3	C2DE	F	15
3.4	ABC1	M	14
3.5	ABC1	M	14
3.6	ABC1	F	14
4.1	ABC1	M	15
4.2	ABC1	M	14
4.3	C2DE	F	15
4.4	ABC1	F	15
4.5	C2DE	M	14
4.6	C2DE	F	14
5.1	ABC1	F	13
5.2	ABC1	M	13
5.3	C2DE	F	13

5.4	C2DE	F	13
5.5	C2DE	M	13
5.6	C2DE	M	14
6.1	ABC1	M	15
6.2	ABC1	F	15
6.3	ABC1	M	15
6.4	C2DE	F	15
6.5	C2DE	F	15

A professional research recruiter conducted the recruitment process and administered the questionnaire. Young participants (and their parents/guardians) were provided with information about the study (Appendix G) and consent forms (Appendix H)**.** This formed part of their agreement to take part in the study and may have pre-empted their expectations and so introduce a bias. As each participant completed the same form this effect would have 'cancelled out' across the participants and was not considered to be detrimental to the study. All focus groups were conducted in the South of Glasgow during April 2013 in the large suburban home of the recruiter. For half of the group this middle class setting may have been uncomfortable and introduced a bias; but no evidence of this was manifest. The sessions took place in the recruiter's living room. She took great care to ensure that participants were made welcome and comfortable. Soft drinks and biscuits were offered to participants. An incentive of £15 was paid to each participant at the end of the sessions. All six focus groups lasted between 50 minutes and 90 minutes. All sessions were recorded digitally subject to written and recorded permissions.

A structured pre-interview questionnaire (Appendix I) was administered by the recruiter during recruitment. This established participants' digital media use, alcohol initiation status and exposure to alcohol marketing online. These data provided a 'baseline' against which focus group topics and participants' focus group responses could be analysed subsequently. This informed the focus group questions and approach. 'Knowing' the participants going in meant that topics could be explored within clearly mapped terrain and probed in a sensitive and focused manner. It was not meant to quantify: merely to describe so that questioning and probing during the focus groups could be, focused and self reported statements could be cross checked.

The researcher led the focus groups as 'moderator'. Participants were first shown images of specific objects, alcoholic products (Appendix J: Mood Board A) as prompts to facilitate discussion. These had been previously analysed by the researcher (Merton et al, op cit). The use of text and logos was avoided completely so that each image represented the visual content previously analysed and formed part of the framework (character, objects, setting, theme and tone. Participants

were then shown two further 'mood boards' or sets of images scenes of characters on a night out. The presence of this range of specific '*evocative elements'* allowed informal exploration of the messages, associations, memories and emotions that specific images induced. It permitted the analysis of participants' *affective, cognitive and evaluative'* responses (Merton et al, op cit). The first mood board was taken from Smirnoff's *Nightlife* campaign. It was designed to represent tonally *positive* stories and conveyed a theme of belonging (Appendix K: Mood Board B). No alcohol was represented in the pictures and, again, the brand name and logo were excluded deliberately. Images on the third mood board were taken from online campaigns to communicate the dangers of binge drinking. It was designed to represent tonally *negative* stories and conveyed a theme of isolation and illness (Appendix L: Mood Board C). Each set of images had been '*provisionally analysed by the researcher'* (Merton et al, op cit). Both sets of images include portrayals of characters and their alcohol related behaviours taking place in different settings. Each mood board characterised their protagonists as socially and sexually successful and unsuccessful respectively. The order in which the images were shown was swapped between sessions to remove any possible order effect. I.e. Mood board B preceded C for three sessions and followed C for three sessions. The source of both sets of images was withheld from participants until after the conversations took place and their responses had been elicited. That these images were analysed by the researcher alone introduced, perhaps, a bias. Further research might analyse, calibrate and validate this aspect of the representations more rigorously before the focus groups take place.

The focus groups then focused on participants' '*subjective experiences'* (Merton et al, op cit) to define how they responded to and felt about the prompts. The prompts were designed to elicit participants' feelings about visual representations of alcohol objects (products), settings and the characterisation of alcohol drinkers and their behaviours. This approach enabled an exploration of whether exposure to tonally negative and positive characters' stories was likely to influence participants' emotions en route to their initiation into alcohol. By asking young people to consider scenes - the setting, characters and products in and with which they might engage online, it becomes possible to consider whether they actually perceive and *feel* it to be influential on their drinking behaviours.

Data Analysis: All data were transcribed, coded and then analysed according to the protocols of a Framework Analysis (Furber, op cit). All transcripts were read three times to provide a familiarisation with the data. Constant checks were made to ensure that the ideas emerging related to the aim and objectives of the study (Spencer et al, op cit). Since all data were elicited in response to questions and topics informed by the developing storytelling framework, there was a danger that any emerging themes simply mirrored that framework. Care was therefore taken to ensure that the

emerging index came from the participants' own feelings, observations, perspectives and insights. Notes were made during this process and the ideas that recurred were grouped in the form of an emerging framework. Quotations were selected subsequently to evidence development in feelings, observations, perspectives and insights *between* participants where possible. Interactions were cited verbatim during presentation as far as space allowed. Further detail on the data analysis process is included in Appendix B where the detail of how all codes were grouped into themes is made explicit.

Limitations of the Focus Groups

Exactly what characterisations of alcohol drinks participants had *actually* seen online, when or where could not be established beforehand. Even though participants reported seeing Smirnoff's imagery, and they recognised it as such, the responses were elicited in another setting and context. But while the influence of that setting and context may have biased their responses, participants appeared to be bright, intelligent and confident young people with strongly held views. Further longitudinal research is needed to consider what, where, when and how participants are exposed to, when and how they *feel* about participating with it. Facebook and its commercial partners can access that data in real time and optimise adolescents' engagement with it accordingly; the independent researcher on a small budget cannot. By considering the perspectives and feelings of those most at risk, we can design studies where further data is interrogated in real time and *in situ*. The key findings of Study Four are reported and discussed in Chapter Nine.

6.5 The Research Methodology and its Limitations Overall

The limitations of the Scoping Review from which *secondary* data were acquired are outlined above. This section considers the limitations of the three primary methods overall.

The three qualitative studies were conducted to acquire *primary* data from three different sites of interest. These were conducted iteratively and in the order in which they are presented above. The overriding assumption was that an exploration at each of these three sites of interest could reveal something about the influence of the digital storytelling process. The logic underlying the process whereby a storyteller influences (or does not influence) the 'elements of change' at the storytelling level and so the 'mechanisms of change' at the participant level, *en route* to behavior change was the focus of this research at each of three study sites. The 'elements of change' considered at the storytelling or *textual* level could be better understood if also considered at the participant's level. That might reveal what 'mechanisms of change' (thoughts, emotions, memories or associations) that were perhaps influenced *en route* to behaviour change. The elements of change considered at the storytelling or textual level could also be better understood if considered at the storyteller's

level. But did that approach introduce an unnecessary breadth thereby limiting the depth of resolution and detail that each study might otherwise achieve?

If any one site was explored too deeply it was at the logical exclusion of exploring the other two in any great depth. A balance had to be struck between the practical requirements of the research questions and the limited resources available to a PhD. It appeared that an appropriate depth could be achieved if key questions were asked. By keeping the requirements of the research questions in mind, each part of that 'equation', and the digital storytelling process, remained in focus at each site visited. The decision to research these three key sites in turn was founded on the assumption that the data acquired from each could be analysed and then used to supplement the data and analysis from the next study at sufficient depth. That meant, however, limiting the number of interviewees, case studies, focus groups and focus group participants to manageable sizes and numbers. The result is that samples *are* small: but samples were taken from specific sites for clear theoretical reasons that serve the practical purposes of this exploratory research. This limitation can be addressed through further funded research where sample sizes are scaled up and the findings and hypotheses drawn from each site here tested empirically over time.

Multiple methods of qualitative data acquisition generate multiple and large data sets; and multiple and large data sets require various methods of qualitative data analysis. Silverman (2000) writes that *'mapping one set of data upon another is a more or less complicated task depending on your analytical framework'*. Fielding and Fielding (1996) suggest that the dangers of using multiple methods can be mitigated by ensuring that each method is housed within the same theoretical framework. The analytical framework proposed here has an underlying logic that sees the storyteller acting with intent to solve a behavioural issue using digital storytelling and specific storytelling elements: and those same storytelling elements might influence those who are exposed to and participate with that storytelling. It also recognises that other factors might influence the same participants equally. Without the benefit of such an analytical framework with a clear logic and theoretical approach, multiple methods might have been ill advised.

The purpose overall was then to explore the phenomenon of digital storytelling at three sites and to consider what was found there against a pre-existing map of the terrain (the developing theoretical framework). The decision to proffer an outline digital storytelling framework based on prior professional experience, observation and secondary research and then 'test' it against the evidence gleaned from fieldwork meant that the study was, in part, *deductive*. This decision also meant that the fieldwork data would be *inductively* according to the principles of 'grounded theory' (Glaser and Strauss, 1967). The resulting approach was overall, both inductive *and* deductive. This is what

Bryman (2004) calls an *iterative* approach. It might be considered to be problematic but was unavoidable given that prior knowledge was to be tested openly. Deviant cases were identified and analysed where they occurred to reduce any potential researcher bias. The researcher felt that what was found deductively 'met', complemented and reinforced what was found inductively Both approaches were merged in the final chapter in the form of a set of hypotheses by which subsequent research might be guided.

The aim was to establish some degree of generalisability to other cases within the wider 'universe' of 'digital storytelling used to influence specific behaviours'. But qualitative methods were used throughout and at no point were cases or populations selected randomly, or 'controls' set up. How might the findings be representative enough to allow any degree of extrapolation? This research was guided by a clear question and informed by clear *theoretical* priorities. Storytelling influences behaviour arguably because storytelling is fundamentally about, and is structured by how we understand and come to know change. In that sense, all cases were chosen because they involved or revealed aspects of agents, structures, 'elements' and/or 'mechanisms of change' conjectured to be part of the process under exploration. In that sense, and with reference to Mason's (1986) criteria, each of the cases selected were '*meaningful theoretically'* as *'certain characteristics or criteria which help to develop or test your theory or explanation'* were built in. The conclusions drawn from them can therefore be compared with, and extrapolated to, other cases in the universe of digital storytelling and the *theoretical* propositions by which we understand its power to influence human behaviour.

6.6 Chapter Six Summary and Conclusion

The research was conducted in two phases: the first adopted mainly secondary research methods and prior professional insight to build and test theory an outline digital storytelling framework. The second phase used primary methods to further inform, augment and 'test' that theory in the light of qualitative data and its analysis. The nature of the research questions, and the lack of any extant framework, suggested that an explorative, qualitative and iterative approach should be adopted. Four qualitative studies were conducted: a scoping review, in-depth interviews, case studies (supplementing primary with secondary data sources) and focus groups in that order. The chapter concludes that: a variety of different methods can prove invaluable when acquiring data from different sites, so long as there is a clear theoretical framework motivating why each location is visited and which directs the subject and focus of enquiry at each site. Furthermore, by combining traditional and new methods of enquiry, in innovative combinations, independent researchers can move beyond content analysis and begin fully to understand the nature of digital participatory

storytelling. As it stands, only commerce appears to afford the privileged access to the amount of data and economies of scale needed to make**s** quantitative analyses of qualitative data trustworthy.

Table 7: The Primary Research Methods 'At a Glance'

Primary Research	Data and Data Collection		Data Analysis	Sample Size, Composition and Approach
Study 1: In depth Interviews with Behaviour Change Experts in Commerce and Public Health	Depth Interviews		Framework Analysis (Furber, 2009)	N=11. Males=7 Females=4 Theoretical Sampling (Mason 1996)
Study 2: Two Case Studies of Digital Storytelling Designed to Influence Behaviour from Commerce and Public Health	Case Study 1: Commerce	Commercial Available Online	Content Analysis	N = 2 Theoretical Sampling (Mason 1996)
		Online Ethnography Participants Responses to Commercial Online (You Tube)	Framework Analysis of Participants Comments Online (Furber, op cit)	
		Peer reviewed articles	Narrative Review (Pawson, 2002)	
	Case Study 2: Public Health	Behaviour Change Game secured through Developers	Content Analysis (Silverman, 2001)	Convenience Sampling
		Peer reviewed articles	Narrative Review (Pawson, op cit)	
Study 3: Focus Groups with Adolescents who are exposed to and participate with Digital Media	Six Focus Groups		Framework Analysis (Furber, 2009)	N=35 13-15 years old (10 @13 years, 12 @ 14, 13 @ 15) Males=16 Females =19

Chapter 7

The Digital Storytellers:
Depth interviews with Behaviour Change Experts

7.1 Chapter Seven Overview

This chapter reports the findings of primary research undertaken with 12 behaviour change experts who deploy digital storytelling to influence human behaviour in commerce and public health. It then considers the developing theoretical framework the light of those findings.

Methods: Data were gathered using in-depth interviews and analysed using framework analysis. The use of in-depth interviews to gather data and the framework analysis to analyse them are discussed in Chapter Six.

Findings*:* The study found that:

a) Experts from commerce, public health – and political leaders - appear to agree that digital storytelling has the power to influence and *control* human behaviour

b) A difference in how experts from each sector see the *nature* of the power of digital storytelling to influence emerged.

c) It appears that a digital storytelling framework is wanted, needed and feasible.

The findings of this study are now presented and the digital storytelling framework is considered in the light of those findings. The chapter concludes that if public health is to co-opt the strategies from commerce it needs to embrace the *participatory* nature of interactive media. A shift away from cognitive, message-led approaches towards one that embraces the power of digital storytelling will deepen levels of immersion and may begin to counter any harmful influence of their adoption by commerce. The next chapter analyses extant cases of digital storytelling content designed in commerce and public health to influence specific human behaviours.

7.2 Findings from Depth Interviews

a) Experts from commerce and public health appear to agree that digital storytelling has the power to influence human behaviour

The Holy Grail for behaviour change experts in commerce appeared to be to make the participant believe that the brand's story was their own: similarly, in public health, experts sought to make the participant *'believe the message in the story is one of their own'* (PH1). That subtle distinction between a wholly message-led and a wholly story-led approach marks the difference in approach between those in commerce and public health, as we shall see. Respondents from both sectors agreed strongly, however, that digital storytelling could influence behaviour as Box 3 shows.

Box 3. Exemplary data evidencing commerce expert's beliefs in the power of digital storytelling to influence behaviour

'Absolutely it can influence behaviour... you can really infiltrate people'. (C2*) 'Oh massively, absolutely massively'.* (C6*) I think inevitably it can,* (C1) '*Very powerful'.* (C2) '*I think stories are something……we do as a species, so I think the question 'Can stories change behaviour? is intuitively obvious yes, absolutely'.* (C4) '*Technology enhances that...storytelling'.* (C3)

The power of digital media was also evidenced to have been observed by political leaders in the U.S too. One public health respondent spoke of how the potential of digital media to *control* behaviours had been recognised.

> '*I was invited to a White House meeting a month or two or something ago where in, one of the advisors, advisors to the President had convinced him that games were good, it was real not harmful and ought to be studied so she convened a panel for people and they were asking lots of questions. How to best advise the administration or how to*…(inaudible). (PH2)

The potency of digital media to control behaviour did not appear to be in doubt; neither did there appear to be any question as to whether they should be used to control behaviour. The issue appeared to be what language should be used to describe it. The respondent continued, *'I was talking about "behaviour change" and she said "stop saying behaviour change" that will not go over on… we cannot do that. It smacks of mind control'.* (PH2)

It is clear that respondents from commerce, public health and representatives of a political elite believe strongly in the power of digital storytelling to influence and control behaviour. But the new media landscape brought with it tensions. In commerce, the fact that interactivity facilitates communication in more than one direction was problematic. *'...the very definition* (of interactivity) *is that it's a two-way-street not just you selling it's about somebody kind of coming back to it, you know. So yeah, I mean, there's all kinds of watch-out! ha ha, yeah'.* (C4)

Fears were expressed because consumers could now tell their *own* stories and be critical about products and services in public, particularly on social media networks. This could impact how the brand, and/or their marketers, would be perceived by other consumers. '*There are (sic) still some reticence of bringing customer reviews…of bringing their stories in to the mix'.* (C2). '*You like to have control and process'.* (C1). '*It's just difficult to know what to do'.* (C3). *'It terrifies me'.* (C1). Respondents in public health also expressed a desire for order and control. '*We used to send out linear messages and just tell people what to think - but now that's all changed. We just don't know how to control it'.* (PH5). Informants from commerce spoke of an 'inherent conservatism' in their public sector clients to engage with digital media campaigns owing to the fear that consumers and citizens could speak back. Respondents from commerce referred to the desire for control witnessed in their public sector clients.

Box 4. Exemplary data evidencing a fear of losing control over messages in public sector clients

'...a lot of our clients' base is er public sector which tends to be quite conservative in terms of the way it markets'. (C1).

'*You've just different levels of acceptance of what they (public sector clients) are going to see out there'.* (C3).

'...particularly with it being Government work, they don't necessarily want to ...be the first people to put their toes in the water, and then get, get burned by it…' . (C1).

This evidence that fears appear to exist over a lack of control of the communication process within the fields of commerce *and* public health reinforces the findings of the Scoping Review reported in Chapter Three. We saw there how, for those writing in the field of political communications, the

lack of control over messages that interactivity brings results in 'nervousness'. For that reason 'weak' as opposed to 'strong' levels of interactivity was preferred by political parties (Lilleker et al, 2010). We also saw how for others interactivity was seen as politically democratic (Bimber,1998; Rheingold, 1993) because it allowed political parties and citizens to tell their story and thus 'leveled the playing field'. This latter view was shared by respondents in the current study working in commerce, perhaps notably, the two youngest. For them, the two-way conversational nature of interactive media *democratises* the communications process, *'It's given everybody, the common man, a voice'*. (C6). They made references to the use of social network sites, (*Facebook* and *Twitter*) in the context of the 'Arab Spring' uprisings. This participation, they argued, allowed consumers or '*the common man'* to *'upload content and data', 'share'*, *'communicate' 'organise'*, engage in *'mass participation'*, and *'bring down dynasties'*. (C5). Tensions exist *within* commerce then, between those who see participatory media as providing threats as well as opportunities. But commerce appears to have overcome the fear about the lack of control, and embraced the participatory power of digital media whilst public health has done less so, as the rest of this thesis demonstrates.

b) A difference in how experts from each sector see the nature of the power of digital storytelling to influence emerged.

Behaviour change experts working in the context of commerce and public health appear to believe strongly that digital storytelling has the power to influence human behaviour: but they appear to differ in their understanding and approach as to *how* it best influences behaviour. Commercial marketers appear to be adapting swiftly to the changing media environment. The solution to the tensions noted above appeared to be to use digital technology to engage with their consumers and listen to their stories. This confirms the findings of the scoping review that commerce listens to the consumer. There was also an excitement over 'messages', 'stories', 'brands' and their 'attributes' developing 'a life of their own'. *'You create something…a movement…an idea that lives beyond you'.* (C4). By deploying digital media you could give ideas, messages and brands *'a life of their own'*. (C4). And *'you start to bring the brand to life'*. (C2). '*You bring messages to life'*. (C1). And *'the best ideas in the whole social media really are ideas that actually have a life of their own'*. (C4).

The idea that interactive media allow the commercial marketer to create the story yet appear causally independent from it appeared to be an attractive one. The marketer initiates a process that then perpetuates without them, *'you create something, or a movement or you create an idea that lives beyond you'*. (C3). *'Ideas are passed around without, without the need … for somebody like*

myself…present to be involved in it'. (C4). The marketers' agency in this process was to actively *'immerse a person and then … bring to life the attributes of a brand'*. (C1).

The appeal of this new life whereby the idea, the brand, its attributes or the message is somehow cut adrift from the marketer, the corporation, and exists as an entity apparently unrelated to its source was strong. *'…for me the definition of a great idea is an idea that you can see brought to life in many ways across many channels'. '…it could be as simple as creating a viral idea that is so clever…so ultimately you feel very kind of cool passing that on, to people. And therefore it creates a life of its own'*. (C4). *'You start a conversation that sort of basically keeps going'*. (C2). The story and its message appear, thereafter, to have an independent existence. Once it has left the marketer's stable, the momentum of that conversation is maintained by the consumers who co-create, reshape, share and pass them on. It is clear that by facing up to the tensions interactivity brings, commerce had evolved an ever more potent form of marketing whereby as one participant from commerce said, '*they (the consumers) basically tell the stories we want them to tell'*. (C6). This strategy appears to influence in the context of alcohol marketing as Chapters Eight and Nine demonstrate.

The participatory nature of digital media created tensions for those in commerce as outlined above. These tensions appear to have been resolved by relinquishing power and allowing the consumer to participate. These tensions for public health appear to have been resolved by retaining power and discouraging participation. The potential to influence behaviours there appeared to reside in its ability to intervene *uni-directionally* and to have young people look, listen and learn.

> *'…if we can engage kids, in a way that helps them attain an adequate dose of an intervention that is well designed I mean, just look at what we might be able to do with this medium'*. (PH2)

One public health informant spoke of the value of interactive technology to facilitate audiovisual feedback and to issue punishments and rewards. This was done visually, '*with characters'* or '*like maybe a big X would pop up on the screen'* or aurally *'…some sound effect or something like that',* (PH5). But in each case *'If they didn't get something (right) they would get feedback',* (PH4). Whereas in the past, feedback and rewards might have been administered in face-to-face contexts, the value of digital technology appeared here to be that it stood in for the public health interventionists. If the participant failed to *'get something',* or got an answer wrong the technology (as opposed to the interventionist) would tell them *"that's not the right answer"'*. (PH5) It could tell them they had failed and *'they wouldn't get the points they needed to pass that level'* and so

'*they would have to try again'.* (PH5). The technology was perceived to have advanced behaviour change practice by administering and facilitating feedback - rewards and punishments - on behalf of the interventionist; as if acting *loco parentis.* As we shall see in Chapter Nine, this approach has perhaps the opposite influence as evidence from focus groups with adolescents suggests.

In commerce the power of digital storytelling lay in developing an 'Emotional Proposition'.

Experts working in commerce appeared to believe in the power of digital storytelling to influence human emotions *en route* to behaviour change, '*…the ultimate response is an emotional response'.* (C3). Their Holy Grail appeared to be to increase the *emotional* depth of participant's engagement. Emotional depth, they reported, could be achieved using traditional media. '*TV has always done emotion well', 'just look at the power of film', 'look at the power of music to affect emotion ... it can be done strongly'.* (C6). One respondent cited John Lewis' successful audiovisual campaigns as an example.

> *'...they had huge cut through to…mainstream British consumers because they have really pulled on the heartstrings of Joe Public - it's made mums cry and made people think about their kids in a way that they haven't ever done before by telling a really lovely story'.* (C5).

But for commerce, digital media appear to hold even greater potential '*…they (*digital media*) are more influential certainly as much as any other channel at the moment in terms of, in terms of how* ***deep*** *you can go with them, with people'.* (C4). For others in commerce, conventional linear media engaged emotionally but digital non-linear media still appeared to have some way to go in that regard.

> '*…the internet in the early years, maybe the first ten years or so, I think had difficulty either valuing that or figuring out ways to go ahead and, er, convey it'. 'I don't know we're all the way there yet'. 'it clearly remains a priority'.* (C2).

In commerce appeals to cognition and rationality were seen as distinct from, and less desirable than, appeals to the emotions: '*you can hit people over the head with a number of rational messages'* but you need to *'cloak rational messages in emotional language'.* (C4). *'You are far more likely to listen to a rational message if it is cloaked in an emotional language because that's the way we respond as human beings…we are pre-programmed to respond to emotions.'* (C3). This reinforces the evidence from the Historical review (Chapter One). Through emotion

consumers were seen to *'gain an organic knowledge of the product'* (C1). Or the *'knowledge and truth about a product'*. (C2). Messages were 'embedded' when consumers failed to notice the emotional 'cloak'. In terms of digital media *'the emotional…proposition is the way through now'*. (C4). It appears that the emotional proposition has been the way through for millennia: but commerce alone appears to be combining it with the new powers to deepen levels of participation facilitated by interactivity.

We have already seen how interactivity facilitates physical participation which engages human *proprioceptive* as well as *perceptive* faculties (Chapter Two). One participant from commerce mentioned how interactivity facilitated deeper learning and retention in memory through physical engagement. '*…if you create something where you are physically listening and seeing and doing at the same time, retention of messages increases quite considerably which is where concepts such as, erm, active learning come into play'*. (C1). This was understood as '*Kinaesthetic Learning'* which attaches meaning to products. '*It's a process of doing. So you learn by touching or moving or actually doing. 'Rather than just sitting telling somebody you can actually experience it'*. (C1). The power of storytelling alone had not gone unnoticed: it was seen as a vital part of learning. *'We seek out stories to learn the meaning of life to take home bits of information'*. (C3). And in online computer games environments,*'You can test the waters or learn vicariously in a safe environment'*. (C1). Again the emphasis was on *non-conscious* processes, reinforcing the findings reported in Chapter One. Storytelling has managed to influence over millennia by appealing to the emotions. Commerce is clearly in the process of working out how to do this in the context of participatory media.

Those in public health emphasised the importance of appeals to *cognition*. In Public Health the power of digital storytelling appeared to lie in a Cognitive Proposition.

One public health respondent spoke of the power of storytelling to engage human emotions. '*That's what stories do, they work your emotions'*. (PH2) For most respondents, however, the visceral aspects of storytelling were simply not enough to influence behaviour(s). Emphasis was placed on the role of knowledge, goal setting, problem solving, awareness and motivation.

> *'I can watch a show and see characters* ***do*** *some things* (informants emphasis)… is *that good enough?' 'I can be moved emotionally* (by a story) *but that's not good enough…in terms of the treatment context in chronic disease it's not good enough…****so*** *having the emotion, I'm motivated to do something, but we've got to be really specific about what'*. (PH3)

Another respondent spoke of the interventionist's role in a school food campaign and the need for knowledge to be acquired if behaviour is to be influenced. *'We were refining and reinforcing…reshaping their knowledge'*. (PH3). The idea that goals regulate behavioural performance also recurred.

> '*Certainly to change behaviour you need…some goal involved some goal setting and then along with goal setting how do you accomplish those goals and that's where problem solving comes in..All of our stuff has goal setting and problem solving together'*. (PH4).

The emphasis in public health on goal attainment was presented in sharp contrast to the benefits of story to elicit emotion '*…just arising an emotion in somebody, so what?'* (PH3).

> *'Where do you take that? Does it make them look at their own behaviour and decide wow, I want to, I am motivated to change my behaviour? I don't* ***think*** *so',* (informant's emphasis). (PH3).

Through goals, feedback, punishment and rewards knowledge was '*refined and reinforced'*. Neither goal setting nor problem solving were mentioned by those in commerce. For another respondent the emphasis should be on problem solving. *'If you have a problem and you don't know problem solving you have a problem*'. (PH4). The use of storytelling to engage emotionally was not enough. *'It gets you to where emotion is aroused but…you also have to have self advocacy, and how to problem solve and deal with whatever emotion was aroused'*. (PH4) .The power of storytelling to appeal emotionally was considered but as way of maintaining attention to messages.

Emotional arousal through storytelling was also equated, by one informant, with raising awareness through storytelling; but that *'just becoming aware of something in an emotional way may or may not lead to any change'*. (PH3). Emotional arousal through storytelling was seen as necessary, but not sufficient for behaviour change to take place; and there needs to be the requisite rational capital applied by the participant to turn this arousal into reasoned actions leading to the solution of the problems identified and thus, change. This tension might be characterised, broadly, as one between those who see the *rational* mind as instrumental to behaviour change, and those who see *emotion* as instrumental. The middle ground might be occupied by arguing that *both* are needed in equal measures and storytelling 'kick starts' the whole process by arousing emotions.

Some caution is needed when emphasising a need in public health to appeal to, and structure emotions instead of cognition over time; any campaign may involve appealing to both, albeit to varying degrees. Chapter Three, the scoping review suggested that commerce appeals to emotions while public health appeals to cognition: this perhaps oversimplifies the case. The analysis of depth interviews however revealed a tension between one respondent from commerce (a computer games developer) and a behaviour change scientist from public health. The former believed that the emphasis should be on appeals to emotions through storytelling and the latter believed that the emphasis should be on established cognitive approaches to behaviour change. The two informants were interviewed together and the tension between the two camps 'broke the surface' of what was otherwise an amicable and intelligent conversation between professionals as the following verbatim transcript shows.

PH1: *'When we work on games*, (P2) *has an idea and then we bring in professional writers and we talk to them and they ignore us and then write these stories'.* (PH1)

PH2: listens attentively. (PH2)

PH1: *'We criticise these stories because we don't think it's really addressing the issue; and they think we don't understand writing and emotions, and I'm sure we don't.*

PH2: listens attentively.

PH1: *'But they don't understand the (pause) there is this (pause) process'.*

PH2: '*We are still missing the power of storytelling'.*

PH2: then proceeded to characterise behavioural scientists as '*The Vampires of the Fun'.*

It is perhaps the conventional dualist ideology that brain and mind, emotion and reason are separate and distinct that keeps public health from using and appealing to emotions. Commerce meanwhile appears to know well that our habits and behaviours are formed according to how we *feel*, and from an early age not we *know* or are told we should know later in life.

c) A digital storytelling framework appears to be desirable

It became clear then that the power of digital storytelling to influence behaviour brought with it certain threats and opportunities. It became evident that we need to improve our understanding as

to how it influences and that a coherent digital storytelling framework was desirable. *'We need a mechanic's guidebook. Somebody that says 'you know if you want this effect you do this and this and if you want this effect do this and this'.* (PH2). Concerns were also expressed that such a manual or framework could be used, or misused, for the purposes of propaganda.

> *'There is…a very fine line between propaganda and story because the purpose of propaganda is to use story to change attitudes, intentions and beliefs. The role of the propagandist is to use story to change what people think and also what they do. So the question has been on the table for a long time…this is a much bigger story than just videos and health behaviour'.* (PH2)

Knowledge could fall into 'the wrong hands'.

> *'The other dangerous aspect is that you don't know…who is going to get access to your recipe book.* (PH1)

The solution to this problem appeared, again, to involve the use of language and semantics.

> *'You have to use words like "we want to motivate"...that it's all "free will"...otherwise you are going to get everybody on that side of the aisle, you know, screaming "brain washing" you know'.* (PH2)

It was unclear as why a change in language could remove the ethical problems or to what side of what aisle the respondent spoke of. But the tensions were clear:

> *'So if anyone did find the magic elixir and the right recipe to do this it could be as dangerous as it could be helpful'.* (PH2)

The financial power of commerce relative to that of public health was raised as an attendant concern.

> *'So if the companies get it, they have more money. So would they push it more than the public health people?'* (PH2)

These last quotations from experts who deploy digital storytelling to influence human behaviour are particularly telling. They lead logically to the conclusion that public health has a need to

balance its understanding of, and investment in, digital *participatory* storytelling if it is to counter the possible negative health impacts of its wholesale and widespread adoption by commerce. This is an issue to which we return in the final chapter.

7.3 The framework considered in the light of evidence from depth interviews

The developing digital storytelling framework and its key concepts appear to have some validity in the context of commerce and public health. Respondents in public health and commerce referred to some of the commercial storytelling elements at its core. These were:

Story and Storytelling: The use of story and storytelling appears to have been understood, by those in public health, as a process whereby attention can be maintained. While digital storytelling was used to tell the authority's story, the participant's role was to listen and learn from it. Few if any storytelling 'elements of change' were referred to manifestly by those in commerce. 'Storytelling' was the process whereby '*an emotional proposition'* (C4) was created and secured *'emotional engagement'*. (C3). The commercial marketer's role, participants reported, was to *'convey'* and '*affect emotion'* and to '*figure out ways to establish feelings, senses'*. (C2). Through non-conscious association, meaning and memories were thereby attached to products. The process of 'storytelling' appeared to be synonymous with the process whereby messages were imbued with emotion over time and conversely.

***Character and Characterisation*:** For those in public health, a command over character and characterisation appeared to be important if behaviours were to be influenced through storytelling. The role of character and characterisation was to promote identification and 'model' the desired behaviours. '*We always have characters'*. (PH3). This supports the findings of the scoping review and the centrality of character in the proposed framework. Characterisation was perceived to be an '*extremely critical'* (PH4) component of modeling theory where a character stands in, as if for, the participant and models the desired behaviours. '*I mean, observational learning and role modeling is critical'* (sic), '*…role models are good'*. (PH3).

We might recall the processes of mirroring and imitating the behaviours of significant others outlined in Chapter One. We saw how for neuroscientists, mirror neurons allow humans to infer the actions, emotional states, and intent of others and also to mimic those behaviours and to *feel* them internally. It was argued that these processes are critical 'mechanisms of change' underlying the developing framework. We could argue then that the function of character and characterisation 'works' to model desired behaviours. For that to happen, the public health respondents here argued that the characters represented have to be 'culturally relevant' and alike the target audience. One

informant spoke, for instance, of the use of formative studies to guide the characterisation process in a health intervention targeting 8-10 year old African Americans. *'...the characters were really important as their goal was to serve as role models…to model the behaviours'*. (PH5). One-to-one depth interviews and self-report studies using '*Immersion Scales'* and questionnaires were administered online. Participants' views about the characters were sought after they had seen similar characters on the internet. There were asked *'Did they identify with the characters and with the story'? 'Is this something that you like? That your friends might like? Do you accept it? Did you connect with the characters? Which were your favourites?'* (PH5).

Cultural relevance and appropriateness were seen to be necessary if the modeling of a character's behaviour was to influence behaviour. Observational learning, modelling, identification and cultural resonance could be achieved through character, characterisation and storytelling. But the behaviour change elements did not appear to be intrinsic to the storytelling process or necessary for the characters and their stories to have cultural resonance. On the basis of that formative work a professional playwright was hired to write a story based on those insights and a trailer was made but '*without the behaviour change components attached to it',* (PH5). It appeared that the mechanisms of change could be somehow 'detached from' the storytelling elements of change. This is an important finding as it suggests that storytelling can be used to influence in behaviour change contexts without the burden of a plethora of behaviour change components. As the next two chapters point out, the desire for cultural resonance where ethnic groups are the target might mean representing a character's skin colour, movement and phenotype; and that might not always be appropriate.

The story's cultural resonance and acceptedness to the participants' gender, family and community was deemed important to the storytelling process. But ensuring cultural relevance is only part of the picture. It was also argued in Chapters One and Four that it is through the representation of characters' actions, emotions and intentions over time and how they are structured over time that brings about emotional catharsis, and thus changes, in the participant. If this were to be the case then we would expect participants to respond emotionally to characters that were *not* culturally relevant to and alike the target participants. This is *exactly* what was found, as the commerce case study in Chapter Eight demonstrates.

***Setting (Time and Place)*:** The concepts of 'Setting' and 'Place' were used in different ways; to refer to 'where the story takes place', (diegetically, in the story world); but also to refer to where the storytelling takes place in 'the real world' i.e. where it is consumed. This reinforces the need for a distinction between real world 'physical' space and digital space as argued in Chapters Two

and Four. But a third meaning of place emerged: one public health expert said, *'I am a firm believer, if you want to change behaviour you have to go where people are'*. (PH1). When the researcher probed further this did not mean the real world space such as the playground, the classroom, the home etc. it was used to denote where people were *'at'*; i.e. what it is they like to *do. 'We know that kids are playing video games'*. (PH1). Rather than pointing to an influential storytelling 'element of change' this appeared to speak to the public health approach. This observation about setting is reinforced by the public health case study reported in Chapter Eight.

The concept of setting arose in the context of commerce to explain how behaviours influenced in a digital story world setting carried over into the real world by the process of association.

> *'...you can do that in a virtual world through natural association, for example, in a game you drink Lucozade and your character runs faster you can start to carry across sort of brand messages from a virtual world, into a, into a sort of a physical world'*. (C1).

The sense was of the participant moving and transporting behaviours from the digital story world to the real. Immersion in a digital world could be used to create and attribute meaning to products that resonate in the real world. The need to recognise the distinction between real and digital world places at the core of the developing framework was borne out by this study. It was evidenced in Part One as part of the developing theoretical framework and is reinforced further in the context of alcohol marketing and its influence on adolescents' alcohol consumption in Chapter Nine.

Interactivity and Feedback*:* As we have seen above, interactivity was used in public health to deliver uni-directional messages *feedback*, punishment and rewards. Participants remain, therefore, subject to the intervention's elements. This approach contrasted sharply with that used in commerce. In the context of commerce, as we have seen above, initial concerns over the omni-directional nature of digital media and the ability of the participants to speak out and back, appeared to be resolved in the confidence that the *presence* and consumer's perceptions of an organisation can be managed. This created the impression that the stories have 'a life of their own' and 'tell the stories we want them to tell'.

In public health, feedback was seen to flow in one direction, from the intervening authority to the participant. It was not about dialogue or conversation. This may result from a selection bias and owing to the fact that the public health informants favoured computer games as a channel of change while those in commerce favoured online and social media. Either way it appeared that

interactivity was used to 'stand in for' public health and to manage its *presence* (and the consumer's perception of it) rather than to develop a dialogue with participant.

Story Structure: It was clear from the interviews that those in public health use the three act structure. Public health interviewees argued that participants expect a three-act structure because '*We are conditioned, we are pre-conditioned to expect a three-act structure'.* (PH2). It was not however considered to be a universal form. '*Different cultures have different expectations in their story structure',* and '*an Indian story or play has 12 acts, you know'.* (PH1). Indeed, it was argued (over dinner and not recorded) that participants could or would not learn the *moral* of a story without the use of the act structure specific to their culture. The picture below was taken in the games development office where two of the interviews took place and represents the importance of the three-act approach to these informants. This detail suggests that the elements the interviewees say they use are actually deployed by them in practice.

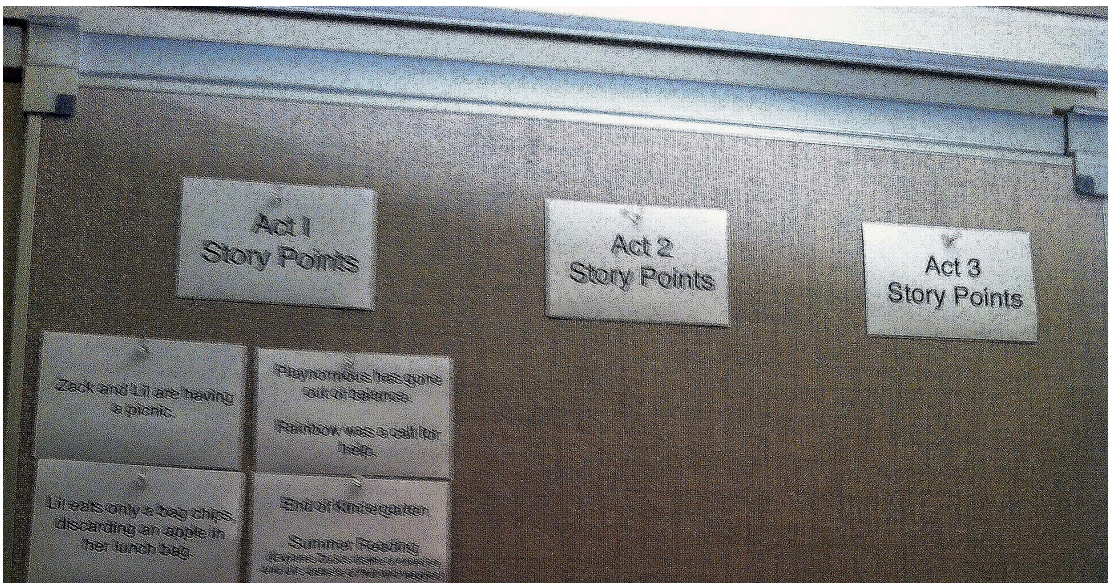

Fig 5: Image evidencing use of three-act structure in public health practice

This supports the argument in Chapter Four that the three-act structure has the power to combine, encapsulate, represent and communicate *non-consciously* notions of power, desire and destiny; the three elements that recur in stories that have influenced behaviours for millennia (Chapter One). Chapter Three showed how the three-act structure was increasingly important to those who were beginning to use storytelling as an approach to behaviour change. And the commerce case study in the next chapter fully demonstrates its unspoken power. Story structure then clearly earns in place in the developing framework as an approach to behaviour change.

Tone: Command over 'tone' was seen to be important in public health: but '*tone* was used in a manner not entirely consistent with its use outlined in the framework where the emphasis was on the structuring of emotionally positive and negative tones over time. Tone was used here to refer to the 'tone of voice' of authority. For one informant, story should not be about '*telling or about being boring'*. (PH3). The objective appeared to be to avoid appearing '*judgmental'* particularly with 'kids'. *'Kids don't like to be preached at and some of it becomes preachy'*. (PH3). The goal appeared to be to use storytelling to present '*supportive kinds of things', 'but no preachy stuff'*, '*not preachy or message'*. (PH3). A positive tone was seen as important*.' We never say don't, don't, don't: We try and say do, do, do'*. (PH3). This was seen to be particularly important with children and adolescents. '*If you say don't drink and don't smoke… it's like whatever you tell me <u>not</u> to do, I'm going to do'*. (PH3). So while the objectives remained the same e.g. to reduce tobacco and alcohol harm, the tone of the message had to avoid the negative. *'You have to try and figure out a positive way to do that'* (PH5)*,* to influence by using a positive tone and not appearing to tell, judge, or preach. The tone of voice of authority and its messages were modulated so as not to alienate participants. The findings therefore augment our concept of tone. This was reinforced by the focus groups in Chapter Nine.

Theme: The concept of theme was not mentioned by any respondents in this study from either commerce or public health. This represents a deviant case and suggests that 'theme' has no part to play in the developing digital storytelling framework. We also saw in Chapter Three that the use of theme did not appear in the literature reviewed. It might also be argued that the use of theme, as it pertains to commercial storytelling has yet to be fully realised in behaviour change contexts. The next chapter shows how the use of commercial storytelling elements (character, setting, three-act structure and tone) influenced participants; but that it was the use of *theme* that bound these other elements together and structured participants' emotions over time *non-consciously*. As we shall see, it was the unspoken use of theme that led consumers to 'tell the story the brand wanted them to tell' online; a finding that was further reinforced by focus groups (Chapter Nine).

The Participant as Protagonist*:* In neither commerce nor public health did the merging of interactivity and storytelling to immerse the participant at the level of 'protagonist' appear to be either a priority or an option. This has to be viewed as a deviant case. Either the approach is not valued or has failed yet to be realised. The evidence from focus group data in Chapter Nine suggests that it is a potent approach with great potential yet to be exploited even by commerce. But as Chapter Ten makes clear, the field has moved on since this research was conducted.

The recurrence of these 'elements of change' adds some weight to the analytical and practical power of the developing framework demonstrated in Chapters Three, Four and Five. This suggests that it is feasible as well as desirable.

7.4 Chapter Seven Summary and Conclusion

This chapter has reported the findings of depth interviews designed to elicit the perspectives of experts who deploy digital media to influence human behaviour in the contexts of commerce and public health. Experts from both sectors appeared to agree that digital storytelling has the power to influence human behaviour; but they appear to differ as to *how* it should best be used to do so. An analysis of these differences suggests that commerce understands how best to control the digital storytelling process to get the consumer to tell the story they want to tell. This finding updates and reinforces the findings of the scoping review (Chapter Three). It suggests that public health might shift the emphasis away from cognitive, message-led approaches and towards participatory storytelling that structures emotions over time. It becomes imperative then that we understand further how digital storytelling likely influences; and that we arrive at a coherent theoretical framework by which its deployment can be analysed consistently across social marketing interventions, critical social marketing and research. The developing digital storytelling framework appears to be feasible and desirable and thus has a contribution to make towards that end. The next chapter analyses extant cases of digital storytelling content designed in commerce and public health to influence specific human behaviours.

Chapter 8

The Digital Storytelling: Two Case Studies of Digital Stories Designed to Influence Human Behaviour

8.1 Chapter Overview

The previous chapter considered the power of digital storytelling to influence human behaviour from the storytellers' perspective. Experts who use digital media in the fields of commerce, public health and politics appear to see digital storytelling as a form of individual and social control. This presents opportunities and threats to public health: it is imperative therefore that we better understand *how* digital storytelling might influence behaviour. This chapter reports the findings of primary research undertaken to explore the power of digital storytelling to influence human behaviour in commerce and public health.

Methods: A case study approach was used, which included online observation and a narrative review of secondary documents. Data were analysed using content analysis, framework analysis and the developing digital storytelling framework. The case study approach is discussed in Chapter Six.

Findings: This study found overall that, in relation to the main research questions:

RQ1: In commerce, digital storytelling appears to influence behaviour. In public health, although the results were encouraging, any influence did not appear to derive from digital storytelling alone.

RQ2: Digital storytelling appears to influence in commerce through *participation* with consumers. By embracing participation commerce appears to encourage consumers to *'tell the story it wants them to tell'.* This supports the findings of the previous study which showed how public health was more conservative in its approach to participatory media use and highlighted its reliance on established approaches to behaviour change.

RQ3: Digital storytelling elements at the core of the developing framework recurred in commerce and public health: but in neither case was interactivity and storytelling *merged* as proposed by the developing framework. This suggests that the field is still in its infancy; and the real power of digital storytelling has yet to be fully realised. This reinforces the findings of the scoping review and suggests the need for a coherent digital storytelling framework.

Each case and its findings are presented and the digital storytelling framework is revisited in the light of each distinct study in turn. The chapter concludes that there is an imbalance in the way digital storytelling is deployed between commerce and public health. Commerce is making headway and a shift away from uni-directional, cognitive, message-led approaches and towards emotional engagement and participation is needed in public health. The developing framework provides a robust analytical approach when addressing both the opportunities *and* the threats that the power of digital storytelling presents to public health.

8.2 Findings: Case Study 1: *Belong:* A Commercial Marketing Alcohol Campaign

The findings of this case study show that commerce, by using key digital storytelling 'elements of change' to appeal emotionally and non-consciously influence consumers to 'tell the story commerce wants them to tell' - possible *en route* to behaviour change. It shows how the elements of change at the core of the developing framework structure the positive human emotions associated with belonging and social success over time – and spread them through emotional contagion - to that end.

Findings from Secondary Data

Belong is a 42 second TV Carling commercial released in 2006. It was, thereafter, disseminated online (You Tube) where it remains today having attracted over 50,000 unique viewings. New visitors to the site are met with positive comments, in the main, about the commercial and, by extension, the brand. The commercial's television transmission was the subject of some controversy. Complaints that the commercial associated alcohol with overcoming loneliness were rejected by the ASA on the grounds that the alcohol company, Diageo, '*did not imply alcohol contributed to the popularity of an individual…*' (Hastings et al, 2009:186). Secondary data reveal the extent to which the brand was prepared to go, creatively, in order to circumvent industry guidelines. Hastings et al, (op cit) following a thematic analysis of leading alcohol brand's internal documents demonstrate how Carling used conventional media to associate alcohol consumption with social and sexual success, a strategy discouraged by alcohol marketing regulation.

> *'Advertising must not link drinking to the social acceptance or success of individuals, events or occasions, or imply that it can enhance an individual's popularity, confidence, mood, physical performance, personal qualities, attractiveness or* ***social success'****.* (Hastings et al, op cit:185).

Internal documents revealed that marketers wanted consumers to view the Carling brand, (amongst others) as '*social glue*' and that Carling '*…overtly seeks to "own sociability"*. Appeals to positive emotions associated with belonging and transformation underpin the brand's marketing strategies. The brief states that '*Carling celebrates, initiates and promotes the togetherness of the pack…because Carling understand that things are better together'*. Hastings, et al report how the brand breaks the concept of belonging down into three '*Aspects of Belonging*': '*Initiation – Expressions of the moment when an individual joins a group and finds a happy home in the pack – The moment of Belonging'*. '*Celebration, an expression of the sheer joy of belonging'*. *And* '*Contagion: An expression of the magnetic power of the group – the power of belonging'* (Hastings op cit:23). As we shall see this mirrors the three-act structure underlying the commercial and its ability to deliver its message non-consciously.

This secondary evidence is invaluable: it demonstrates the storyteller's manifest intent to associate the Carling brand with the positive emotions associated with belonging and social success. In addition, it highlights the brand's desire to associate its products with the ability to *transform.* That intent informed the development and production of *Belong*. A content analysis now shows *exactly* what commercial storytelling 'elements of change' enabled the commercial's message, and the brand's intent to bypass the consumer's *and* the regulator's rational and critical minds.

Findings from Content Analysis

An initial viewing of the Carling commercial shows '*a flock of starlings that gradually come together to reveal the world "belong" in the Carling logo'*. Closer content analysis of the image track alone shows that key storytelling 'elements of change' were used to appeal to positive emotions associated with belonging: story, character, story structure, theme and tone. The transmission version lasts 42 seconds and is made up of 23 individual shots lasting an average of two seconds each. The commercial comprises almost entirely documentary footage, excepting a three-second, computer-generated graphic at its conclusion. A breakdown of all shots is presented in Appendix C.

The Story: The commercial tells the story of two agitated, nervous characters that 'want to' belong to a murmeration of starlings gathering in the twilight. They overcome their emotional needs by conforming to the behaviour of the wider group and becoming integrated. Their initiation is complete when they *transform* into the *Belong* logo in the final shot.

Use of Setting (Time and Place): Shots 1 and 2 establish the setting - non-specific English countryside - in wide shots. It is early twilight. The sky is pinking and empty. Shot 2 'suggests' human habitation towards the horizon.

Use of Character and Characterisation*:* Shots 3-10 introduce the protagonists. In shot 3, the camera establishes two individual starlings in medium close-up. They are characterised as agitated and nervous as they glance at the darkening skies around them. The birds appear to 'communicate' to one another what they see, but we cannot. The shot communicates their desire and *intent*. Shot 4 reveals what they see: a group of six starlings sit *together* in a tree. Shot 5 shows 5 starlings in another tree in medium close up. They too appear anxious and look towards something happening in the darkening skies around them. They too appear to 'communicate' *desire* and *intent* to one another about what they, but we cannot see. Shots 6-7 reveal what they see: a medium sized murmeration of starlings travels through the darkening evening sky. The main 'characters' appear to have joined and become subsumed by the medium sized groups. Shots 8-10 shows the two medium sized murmerations going into a 'spin' as they join one another coalesce and, finally, expand. Shots 11 to 16 see the murmeration split into two, spin, tumble towards the trees and then reassemble as if one large unit or group making its way as if towards the conurbation on the horizon.

***Use of the Three-Act Structure*:** The image track alone structures the story across three acts.

ACT ONE: Two isolated and agitated characters look around them. This sets up a tension that pivots around their emotional need (as individuals) to belong to the wider group.

ACT TWO: The contagion escalates to another group of 15 individual starlings that also appear agitated and tense at not belonging. Once these individuals merge into two packs, the packs themselves seek to merge and belong to larger murmerations as they learn to choreograph their movements and travel in the same direction together.

ACT THREE: All individuals have become subsumed by the murmeration. The individual birds are literally out of focus (shot 20). The pack now becomes the protagonist as it travels effortlessly through the evening sky in one clear direction. These three movements or acts culminate (shots 21-23) during which the pack travels together and then *transforms* into the word 'Belong' in the Carling typeface.

It has been argued in Part One of this thesis that the three-act structure is scalable: this is evident here as a new story is nested within each act, each with its own three acts.

ACT ONE: i) 2 agitated starlings join other individual starlings and ii) 'transform' into 2 murmerations and iii) learn to belong in their new form.

ACT TWO: i) 2 murmerations travel in conflicting directions ii) They transform into a much larger murmeration iii) learn to belong in their new form.

ACT THREE: i) The 'mother' murmeration appears unsure of its direction ii) it travels in a single unified direction and iii) transforms into its new form – the Carling logo.

Use of Theme: The image track alone tells a story and characterises its protagonists according to their desire to *belong*. They are represented in individual shots as isolated and anxious. They are represented by the storytelling as anxious *because* they are isolated and don't yet belong. The commercial moves them from isolation (which causes anxiety) to integration which is celebrated. The theme of transformation and belonging is reinforced three times, underlined and punctuated by the three-act structure. It culminates in the birds getting what they want and what they need, affirmation and belonging at the price of conformity and being branded. The three-act structure repeats the movement from isolation to integration and thus, arguably, escalates and reinforces three times the theme associated with belonging and conformity.

Use of Tone: The commercial has a dramatic, progressive and positive tone. It is dramatic because the stakes appear high. But there is no real antagonist, nothing indomitable preventing the isolated individuals from achieving their goal as the 'contagion' grows. The only *power* working against the protagonists is gravity and the ability of individuals to fly in a choreographed manner. Only by doing so can they survive in the group. At this point we lose focus, quite literally, of the protagonists as individuals as they are subsumed and conform to the sensorimotor co-ordinates of the wider flock. The starlings have *power*. They can defy gravity, fly and are easily able to join the group. To join the murmeration, all they need to do is learn the movements, the physical behaviours of the pack as they travel towards a shared destiny. The 'mood' improves with each act until the end when all isolated characters are successfully integrated and transformed. The tone sets up, and then escalates the expectation that the protagonists *will* succeed. The tone is *positive* delivering *positive* emotions associated with social success.

Use of Music and Soundtrack: An analysis of the sound track shows how it enhances the theme of belonging. The commercial uses diegetic sound (an 'atmos track') throughout the first 13 seconds only. We hear the sound of the 'empty' countryside during establishing shots 1 and 2 and then the sounds of an increasing numbers of starlings in shots 3-7, the first act. It reinforces, arguably, the sense of anxiety at being 'an outsider' in the first act. This 'atmos' track then disappears from the mix. The sound does not thereafter represent the natural environment depicted by the image track.

Hard If's popular track *'Living For The Weekend',* is used throughout the commercial. In the first act the music is mixed at low volume with its high frequencies removed so as to resemble the sound of music playing in a pub (but heard from *outside of* a pub). This reinforces arguably the idea of 'yet to belong'. The high frequencies are reinstated during shot 7 as the music is increased to maximum level. When the natural sounds of the starlings are removed from the mix, the high frequencies replaced and the music is modulated to full there is a sense that there is a movement towards the source of the music 'the pub'. The music plays as the murmerations merge, spin and 'dance' in a uniform direction *together*. At which point the lyrics begin: '*Going out tonight, Going out tonight, yea, yea, You and I, Going Out tonight'*.

The idea that '*we'* are going out tonight reinforces the idea of belonging and a common *destiny*. The lyrics repeat twice as the murmerations move together, *en masse*. The idea that 'we are going *out* tonight' also anchors the direction of the starlings travel with a sense of direction and purpose. The lyrics then establish and maintain the expectations that the protagonists will succeed socially there. The music fades abruptly leaving the *Belong* logo to be viewed in silence. Juxtaposed, and parallel, the music and image track tell the same 'story', follows the same act structure and uses the same theme – the desire to belong. The tone of the music is positive and suggests that our protagonist's destiny will be one of success. The soundtrack reinforces the story of belonging and social success told by the image track.

The emotions of belonging and social success are elicited and 'attached' to the Carling brand in the final shot when the murmeration of starlings dissolves into the word *Belong*. It is at this point only that the meanings delivered by the sound and image track converge, allowing the viewer/listener to make sense of what they have just seen and heard by associating it with something familiar, in this case the typeface of the Carling brand. The message conveyed is that personal transformation leads to social success: that positive valenced destiny is made possible by belonging to the Carling brand. The image track alone appears to reinforce, the idea of belonging, togetherness and a sense of a common destiny. The 'moral' of the story – the message is clearly 'belonging and conforming to the Carling Brand allays fears of isolation'. This appears to counter the ruling of the regulator that

the commercial '…*did not imply alcohol contributed to the popularity of an individual'* (Hastings et al, op cit).

This content analysis demonstrates how salient storytelling elements, at the core of the developing framework were deployed to target the *non-conscious* mind. It shows how the image, sound and music tracks are juxtaposed to communicate setting, character, characterisation, story, theme and tone. It points up how those elements are structured over time using a clearly defined three-act structure; and how the idea of transformation and belonging is reinforced by further nested storytelling with their own three-act structures. The following section shows what happened when the same linear commercial designed to influence specific emotions became interactive and the stimulus for participation online.

Findings from Online Ethnography

The previous study showed that commerce, by overcoming the fears of dynamic conversations with consumers and embracing participation, encourages consumers to '*tell the story it wants them to tell'*. Of the 50,000 participants who viewed the *Belong* commercial online, the majority of responses were from males in Ireland, Australia and the U.K. They were of average age, 45-54 (UK), 35-44 (Ireland) and 25-34 years (Australia). What did these participants do in response to what they saw and heard? How did they feel about the content? 71 'liked' it and 5 'disliked' it (insofar as the evidence of them having clicked 'like or dislike can reveal their feelings). 67 participants responded in the form of written comments. 39 (58%) were considered to be positive, *'I really like it'*, '*this ad is awesome!'*. 25 (37%) were neutral insofar as no clear feelings were expressed one way or another by the comments[8]. Please see Table 5 where the subject matter and amount of participants' comments are shown. Participants were numbered 1-76. Responses are attributed to individual participants using these numerical identifiers in the text below. Since gender is difficult to ascertain online, even when stated, gender information has been omitted uniformly.

[8] The sample was not intended to be representative of a wider population as it was not a priority to establish statistical significance. These statistics are for descriptive purposes only.

Table 8: The Subject Matter of Participant's Comments in Response to Brand Storytelling Online	
Subject of Comment	**Amount**
The commercial (in general terms)	22
The music and soundtrack	21
The characterisation of the birds behaviour	14
The commercial's producer and production	12
The characterisation of Carling Consumers' behaviour	3
The commercial's powerful influence	2
Where or when the respondent first saw ad	2

Participants' responses to character and characterisation*:* Participants' responded positively to the characterisation of the birds' behaviour and with curiosity about the natural phenomenon of the numeration. *'Wow! Is this real?!'* (50) And *'yeah it's real'*. (32) *'i seen the birds do this shit live with my own eyes the other night it was incredible'*. (27). Others expressed disbelief that the image track represented a natural phenomenon and was not the product of 'TV magic'. *'Geez, this must have taken ages to get right...*'. (56) Other participants asked questions as to the purpose of the birds' behaviour. *'I've heard theories about safety in numbers and birds of prey being warned off, but as they fly off in small groups after that doesn't seem to make sense'*. (54) *'Anyone know why the birds do that?'* (53) How the bird's movement and intent was characterised is telling, *'maybe they're just dancing?'* (54) And, '*I think it's what they do to mate'*. (3) Participants characterised the birds' behaviours in terms of dancing and mating behaviours. This may have been triggered by the theme of social and sexual success. It becomes important therefore to distinguish between the characters and their characterisation as represented by the linear content as the trigger for conversation and characterisations as they *emerge* in participants' conversations that recapitulate the original. This finding was reinforced further.

The emergent characterisation of Carling consumers' behaviour: The starlings' behaviour triggered new characters and characterisations, not entirely in the brand's favour. '*People that drink Carling (and other mainstream lagers) are unimaginative and just do what their mates do.*' (10). These negative comments were perhaps not what the brand might seek. But only three comments were negative; and they appear to have been triggered by the theme of conformity. *'Think of the same advert, but with sheep wandering around a field',* (10) '*These men (in general) like to do what all their mates are doing, Belong'*. (14) The theme of belonging to the pack, as intended by the brand had certainly influenced, albeit with some 'collateral damage'. Emergent characterisations, whether from experience, memory or the imagination appear still to have been

triggered by the theme of belonging. This contradicts Diageo's own research which found that consumers felt the ad was not about conformity.

Participants' responses to tone: The tone of the online conversation appears to have been established by the act of viewing the commercial online and perhaps seeing other participants' positive comments online. The main subject of conversation was, overall, the commercial's positive success and the tone of conversations between participants was, overall, humorous. It becomes important therefore to distinguish between the tone of the linear commercial as the trigger for the conversation, the tone of participants' conversations stimulated by it, and the tone of the emergent stories in the new brand-owned and authored story world online.

Participants' responses to theme: Participants appear to have responded to the theme, indirectly. As one might be impressed by the representation of a magic trick, and not know how it was done so these respondents were impressed by the unspoken power of the commercial. *'it (the ad) knows exactly what is important to most guys in their teens and early twenties'*. (23). Like the regulators, few participants were able to rationalise *how* the commercial worked. *'It knows exactly which buttons to press and it does it so obviously and brilliantly'*. (24) But exactly what 'buttons' were 'pressed' and *how* remains unstated. There was a tangible sense nevertheless that the commercial was manipulative. *'This advert is ****** brilliant'*. Participants spoke in moral terms. '*…and totally evil for exactly that reason'*. (23) *'Evil, manipulative, brilliant advert'*. (6)

Participants' responses to setting: The commercial appears to have signaled clear ideas of 'place or setting established by the commercial. This was triggered by the image track and was communicated by the music. '*I ABSOLUTLEY LOVE THIS AD*!!!!!!!!!!!!! *going out tonight, going out tonight'*. (9). The music, unsurprisingly, triggered ideas of 'going out'. A second participant picks up on the irony that the starlings are actually preparing to roost and are not in fact 'going out' anywhere as the song suggests. '*Though the song absolutely rocks, the starlings are actually going home!*' (9) The interchange represented and reinforced the idea of going from one place to another as communicated to the recipients by the storytelling. But going to where?

> *'No, no.... if you look closely, you'll see that all the male starlings are actually flying over to the "pub" tree. The smaller tree beside it's the doner kebab place'*. (38)

The only *place* we see represented in the commercial is non-specific countryside in the early evening, with a conurbation in the distance. Where did this idea of a pub and a '*doner kebab place'* come from? As well as being humorous, this comment conjures a specific place in this participant's

memory or *imagination*. This is perhaps an obvious reading and what we might expect: but this fictional place, or perhaps it's a real place that this particular participant is familiar with, is now represented online, subtly, but no less indelibly augmenting the brand's story world online with new humorous content. Participants visiting that space anew can react to this participant's work in the interests of the brand. It becomes important therefore to distinguish between the places represented by the linear commercial, as the trigger for the conversation, and the idea of place as it is signaled to participants and emerges in participants' perceptions, internal representations and external conversations. This emergent and *nested* storytelling signals their own social integration and conformity; and it appears to recapitulate the original story and its constituent parts.

***Participants' responses to the music and soundtrack**:* Comments about the music were positive. *'i love it!!'* (45) Other participants asked who performed the song while others responded simply to confirm that it was '*Hard Fi - Living For The Weekend'*. (2). It was evident that the music contributed to the positive response to and positive feelings about the commercial. No comments suggested that the use and orchestration of natural diegetic sound has influenced responses in either a positive or a negative direction. This may be that it influenced subtly as it is barely audible or that it did not influence at all.

Participants' responses to the commercial's production and its form: Most comments comprised statements of facts or questions about the commercial, mostly about the name of the music track used. Conversations developed between participants about the commercial's production, who made it, and where documentary footage of the starlings could be downloaded and shared. These 'meta' comments were not about the storytelling but they are positive and adulatory and triggered *by* the storytelling. This suggests a need to distinguish between the tone, theme, setting characters and characterisations, music etc. – the content - and its potential to influence and the 'meta commentary' about and triggered by its form. Even if this commercial can be shown to influence respondents emotionally or otherwise, favourably or otherwise, we have no evidence that this in turn leads to the desired behaviour change – the consumption of Carling Lager. Or do we? The last comment about the commercial is revealing, even in its isolation.

> *This* (ad) *is class - it always used to come on adverts in-between hary hills TV burp - wot a way to start ur nite - gets u in the mood 4 a jar or 2 lol (sic*). (14)

8.3 The Framework Considered in the light of a Commerce Case Study

This case study shows then that commerce appears to understand that appeals to the emotions change behaviour *non-consciously*. It builds constructively on previous research that demonstrates

clear intent on the part of commercial marketers to manipulate viewers' emotions, thereby influencing them to associate the brand with sociability. It shows how the power of storytelling, although it is *felt* strongly defies rational analysis. Moreover, the study shows that the manifest intent governing the authorship of linear content was sustained even when the content became non-linear, participatory, and arguably, out with the control of the storytellers. It shows that commerce appears to understand that, by relinquishing control and embracing participatory storytelling, it gains control and manipulates. It confirms evidence from depth interviews that storytelling develops 'a life all of its own'. New stories are spawned that recapitulate the subject matter, tone and theme of the original. This study further augments the developing framework as an approach to behaviour change in the context of commerce.

Key storytelling 'elements of change' have been identified in *Belong* are consistent with those at the core of the developing framework: story, character, setting, three-act structure theme and tone were all used during 42 seconds of film to appeal to and *structure* the emotional desire to belong and transform: and to associate those emotions with the Carling brand *non-consciously*. Interactivity allowed the campaign to engage at a deeper level. The degree to which participants could interact with the content was limited. They could stop, start, view the commercial; they could 'like' the content, share it with others and comment about it, and express their opinions. But at no one point could they change or alter the audiovisual content. The degree to which consumers could comment was limited only by You Tube's decency rules. It is not therefore interactive storytelling as we have outlined (Chapter Four) but a step towards it as it allowed participants to tell their 'own' stories; they became *'participants as storytellers'*.

That strategy encouraged participants to comment and tell their own stories online; in that process it inspired memories of when the commercial was first seen and associations with going out to a pub, drinking alcohol, dancing and mating. It encouraged participants to engage in emergent social activities and group behaviours online, sharing information about the commercial and its characters. The use of elements of change at the core the framework encouraged participants to re-represent and recapitulate the original. It would be a leap from there to suggest that real world alcohol behaviours were influenced as a result and further research is needed: Participants' exposure to other factors may or may not have likely influenced the same thoughts, feelings and, perhaps real world drinking behaviours. But these factors appear to work in the same direction as digital storytelling and reinforce pro-alcohol norms, as Chapter Nine demonstrates.

The framework can be used to 'test' alternative perspectives

We saw in Chapters Four and Five how the framework proves useful in Social Marketing contexts as the same story can be considered from different perspectives and scales. It is worth considering *Belong* from the story participant's perspective and using the three-act structure. By altering its scale to the moment of participation and its perspective to that of the participant we can make further sense of our findings.

ACT ONE: Participant wants to belong
ACT TWO: Participant watches 'Belong' online. Comments and clicks to 'post' comment
ACT THREE: Participant sees others respond and feels she belongs.

The concepts of power, desire and destiny also prove useful analytically.

Power: The participant has the power to act (to go online and to write comments).

Desire: The participant has a desire to belong. The *Belong* commercial suggests that if you join the larger group, adopt its habits, behaviours and *transform*, leaving the individual self behind, social success and the positive emotions associated with it can be yours. You can *transform* your sense of self.

Destiny: By representing and re-representing their own image online, the individual can feel different about themselves and their destiny anew. The participant may never consume Carling beers: But part of his story, his life experience will always to have belonged; to participate in and belong in Carling's story world. They have therefore *transforme*d into something more personally ideal simply by following the brand's lead towards satisfaction and happiness. Only one behaviour change theory is applied: That human beings will act on the evolutionary desire to belong and can 'better' their emotional lot. Once the association between the positive emotions of belonging and Carling is set up it will likely resonate in the physical world; the presence and availability of the brand may allow that participant to feel that same sense of belonging.

The Framework is thus augmented

This study augments the framework with the concepts of 'emergent' and 'nested' storytelling. The findings show how linear audiovisual content appears to 'frame' the content of consumers' own storytelling. Participants' comments appeared to recapitulate the storytelling elements of change identified at the core of the developing framework. Those elements appear to influence recipient's responses via the emotions. This *emergent* storytelling appears to recapitulate the qualities of the

brand-authored content over time; thus further triggering new stories and structuring the emotions of new recruits to the same space over time. The developing framework is thus augmented by the concept of 'emergent storytelling'.

This study shows how interactivity appears to blur representations of real, imagined and digital space. The commercial brings participants into the brand's space; they create an emergent story world there and in that process come to 'belong' and are initiated there. The positive tone of their conversations that the brand triggers with their content (Belong) provides the wherewithal for participants to appear 'socially successful' and tell that story of success to their peers in a brand-authored space. They get to *feel* socially successful, disseminating that same story of social success to others just like them. We have seen in Part One how the discrepancy between who a person wants to be and who they really are can influence how they behave online and how they feel about it. Participants' own goals of belonging and the emotional rewards of participating are fulfilled; if only incrementally. The developing framework is thus augmented by the concept of 'nested emergent storytelling'.

Consumers in this case move from seeing the commercial online, '*the participant as recipient'*, to telling their own story online: they become '*participants as storytellers'*. But participants tend to respond and tell their stories in the brand's favour; they appear to imitate the original because they get to belong. The brand's stories are thus replicated, develop a life of their own and emerge, nested in the brands space online. Because they appear to have a life of their own, these new stories, characters, places and the emotions they elicit appear independent as if cut adrift from the brand's evidenced intent to influence. The original linear commercial format, its content and intent spill over into online spaces, stimulating new conversations in its own image. New stories emerge that appear to recapitulate the original and its constituent parts. Even when dissent is expressed, consumers still tell the stories the brand wants them to tell, in the main. Moreover, dissent makes emergent narratives *appear* authentic and democratic. It is *as if* both parties have equal power. But the brand manipulates the participant's desires to belong and transform *not* the converse. The developing framework is thus augmented by the concepts of the participant as recipient and the participant as storyteller. The level of engagement appears to increase from the former to the latter. Two new levels of participation have thus been identified: but commerce does not appear to exploit the power of 'The Participant as Protagonist.

8.4 Findings from Case Study 2. *Escape*: A Public Health Intervention on Diet

This case study shows how in public health both interactivity *and* storytelling have been used to influence health behaviours; but the emphasis appears to be was on their power to maintain attention, convey health messages uni-directionally, set goals and reinforce rewards and punishment schedules. This appears to mitigate against its potential to influence positive emotions. The results of the intervention were encouraging but the influence did not appear to derive from the digital storytelling alone.

Findings from Secondary Data

Escape from Diab is a PC-based computer game, designed by a games development studio (Archimage Inc.) and behavioural scientists at Baylor College of Medicine, Houston, Texas. Baylor College forms part of the U.S. Government's Department of Agriculture and Food, USA. The game was developed to reduce the risk of '*Type Two diabetes and obesity amongst youth'* (Baranowski et al 2011). The population was 133, 10-12 year old, urban Hispanic and Afro American children. The intervention took place in Houston in 2008. Playing *Escape* increased fruit and vegetable consumption by 0.67 servings per day ($p=<0.018$). There was no change in water consumption, moderate to vigorous physical activity or body composition. For a full exposition please see Baranowski et al (2011). *Escape* was a complex intervention and each 10-12-year-old child was involved with it for a maximum of two months. All participants engaged in nine one-to-one sessions with the technology. All nine sessions were conducted in the participants' homes where apple computers were provided with the computer game pre-installed. Each session lasted typically 40 minutes and had a clear internal structure that repeats. It was during these sessions that *all* of the storytelling took place.

The Use of Established Behaviour Change Theories

Analysis of secondary data showed that numerous established and cognitive-based behaviour change theories were applied during *Escape* at various levels; Green and Brock's (2000) Transportation Theory (TT), Bandura's (1986) Social Cognitive Theory (SCT), Ryan and Deci's (2000) Social Determination Theory (SDT), Petty and Cacioppo's (1986) Elaboration Likelihood Model (ELM) and McGuire's (1961) Behavioural Inoculation Theory (BIC). These theories were applied at the storytelling level, the level of interactivity and the intervention level. Space precludes a full description of each behaviour change theory. Table 8 shows at what level each theory was applied. This reinforces evidence from the previous study that behaviour change experts in public health adhere to an established behaviour change process (which created a tension with the commercial storytelling process). It also serves to reinforce the observation (below) that the influence on children's diet did not appear to derive from the digital storytelling alone but how

young people were subject to the intervention as a whole. For a full exposition of each theory and how and why they were used in *Escape* please see Baranowski (2010).

Table 9: The Behaviour Change Theories applied to *Escape*	
Behaviour Change Theory Applied	**Level at which Theory Applied**
Social Cognitive Theory (Bandura,1986)	Storytelling Level: Story (Goal setting and Review); Character (modelling, goal and implementation intentions) Level of Interactivity: Mini-games, voice-overs, drop down menus (Knowledge; Goal setting and Review) Intervention Level (Goal setting and Review; Punishment and Rewards)
Behavioural Inoculation Theory (McGuire, 1961)	Level of Interactivity: Mini-games, voice -overs, drop down menus
Self Determination Theory (Ryan and Deci, 2000)	Storytelling (socio-economic, cultural and phenotypic relatedness). Level of Interactivity:: Mini-games, voice-overs, drop down menus
Elaboration Likelihood Model (Petty and Cacioppo, 1986)	Storytelling Level: (Trustworthiness of protagonist and secondary characters
Transportation Theory (Green and Brock, 2000).	Storytelling Level

Findings from Content Analysis

Participants encountered two modes of participation during each forty minute session: *Linear audiovisual storytelling (watch and listen)* and *Non-linear interactive audiovisual storytelling (watch, listen and interact).* Each mode is now considered in turn.

***Use of Linear audiovisual storytelling (watch and listen)*:** Content analysis of the data showed that the story was structured as an episodic serial drama. The story is told across 53 episodes, each about eight minutes long. Each episode includes the recaps of previous episodes and the standard 'cliff hanger' resolution scenes at the beginning of each session. Participants watched and listened to these 'episodes'. All storytelling was linear, audiovisual and *uni-directional*. As in the case of *Belong,* the following commercial storytelling elements were identified:

Use of Setting (Time and Place): The story was set in an inner city in the contemporary United States.

Use of Story: The story features Deejay, an athletic inner city youth of mixed race who falls accidentally when playing football into the dystopian Kingdom of Etes. He meets people his age, socio-economic group and ethnicity. The story parodies the 'barriers to health' found in contemporary inner cities. Deejay and his new friends survive on a diet of 'sugar water' and fast foods from a vast array of vending machines. They are kept unfit and indolent by the Evil King Etes. Deejay helps his new friends escape Etes' Kingdom by helping them overcome the barriers to health and improve their diet and physical activity. And so Deejay is able to return home.

Use of Character and Characterisation*:* The story's protagonist and secondary characters are all defined by their age, ethnicity, and socio-economic status. They were characterised to resonate with the target population *culturally*. If the target population were to *model* behaviours, public health experts believe that characters must be 'culturally relevant'; and if characters are alike the participants, the appropriate behaviours are more likely to be copied. The characters in this story were also defined by their relative health status. Deejay, the protagonist, is of mixed race, young, physically fit and a health 'expert'. All of the 'Diabites' are unfit. Delinda is of Caucasian descent, Bearspaw and Mayza are of mixed race. The antagonists, King Etes and his henchmen are also defined by their relative health status and are unfit. The idea appears to be that participants will identify with certain characters and mimic their behaviours accordingly.

Use of The Three-Act Structure: Like *Belong,* the *Escape* story has an identifiable three-act structure.

ACT ONE: The protagonist falls into the dystopian Kingdom of Diab. He wants to return home.

ACT TWO: He overcomes increasing obstacles to that desire, including threats from the antagonist King Etes and his henchmen. The protagonist's new friends' poor health represents the main obstacle to his escape. He helps them face the common barriers to good health.

ACT THREE: Deejay's new friends overcome the barriers to good health, improve their diet and increase their physical exercise. Deejay returns home.

Chapters Three and Seven showed that the three-act structure was used in public health to deliver the message or *moral* of the story. The 'moral' here was that by overcoming the common barriers to good health and improving diet and physical exercise good health can be achieved. This might be viewed as 'the message' of this story. It is a message that relies on logical and cognitive assimilation rather than emotional engagement. 'If I too overcome the barriers to good health and

improve my diet and exercise I too will enjoy better health in the future'. It is a message that relies, arguably, on the participant *feeling* that that outcome is valuable as well as just thinking it.

Use of Interactivity and Feedback: The storytelling was carried by linear episodes and was separate from the gameplay or 'interactive components'. After viewing each episode participants were asked to switch mode and engage with non-linear audiovisual sessions where they were asked to watch, listen and *interact with* 'behavioural modification' mini games. Participants answered questions, learned about the balance between energy gained through fruit and vegetable consumption and energy exhumed through exercise, set and reviewed goals, received feedback on their performance and verbal rewards for doing well. If they answered correctly they were permitted to watch the cut scenes again or play more mini games, again. Their reward was to play the mini games again and learn how to improve their diet and increase their amount of daily exercise.

Interactivity and feedback were then used to set and review participants' goals, and to issue positive and negative feedback. Participants could however influence the ending of the series, to a small degree. Participants who failed to meet their diet and exercise goals on time were 'punished' by being presented with a 54th 'bad' ending. Those who performed well were rewarded with the final and 'good' ending. This approach to behaviour change relies clearly on the reinforcement and cognitive appreciation of rewards and punishments. At no point were participants able to interact with the characters or the story world in a way that altered the representation of the characters, settings or objects or allowed participants to represent their own 'story'. The intervention did not merge storytelling and interactivity thereby denying the participant space to interact and change the characters, environment or objects in it or express their own voice.

Between each of the nine sessions participants were expected to attempt the diet and exercise goals set for them during each session. Participants' performances were emailed automatically to behavioural scientists for evaluation purposes. These data were used to set the participants diet and exercise goals in the following session. Participants were forbidden to take part in the next session or 'level of the game' until they had completed successfully the goals set. This was presented to participants as a punishment for their failure.

The Behavioural Outcomes did not appear to derive from the digital storytelling alone

Participants engaged with a total of approximately seven hours watching the linear audiovisual episodes and six hours playing the 'interactive components'. This amounted to a total of 13 hours exposure to and participation with digital 'storytelling' over the course of the intervention. This

represents less than one day over two months. The rest of the time participants were engaged with the interventionists in the physical rather than the digital world. It is argued here that it was perhaps this exposure to and participation with the scientists that led to the interventions outcomes rather than the storytelling. It is worth considering what the children were subject to in the physical as opposed to the digital world.

The intervention's outcome measures took place at baseline, immediately after playing all nine sessions of the game and two months after playing the game. At each point of assessment 10-12 year old participants were also subject to three non-consecutive days of 24 hour dietary recalls, during which their intake of fruit vegetables and water was monitored; five consecutive days of physical activity using accelerometers to establish how their efficacy in carrying out moderate to vigorous physical activity had improved; and assessment of height, weight, waist circumference and triceps skinfold measurement to establish any change in body composition. Participants' involvement with the interventionists during which their physical assessments (Baranowksi, 2011) took place was arguably as influential on how participants *felt* about themselves as their participation with digital storytelling.

This case study did not aim to establish whether the participants' exposure to, and participation with, the digital world led to the success of this intervention or whether it was their engagement with the interventionists in their physical world. It merely points up the importance of the distinction between the physical and digital world participation as earlier chapters have done. Each mode of participation has the potential to influence how participants felt about themselves and others and, therefore, how they interpret how they should, could or would behave accordingly. It is likely that what the participants were subject to here may have influenced their attitudes, beliefs and behaviours. Some caution needs then to be applied when speaking about the influence of digital storytelling as an approach to behaviour change without reference to how it was interpreted, defined, operationalised and applied by the storyteller.

8.5 The Framework considered in the light of a Public Health Case Study on Diet

The framework appears to provide a useful set of analytical tools for use in Public Health practice. The following section shows how the framework can be used as a critical tool for appraising the *potential* of a story-led intervention to influence by structuring emotions over time.

The character of Deejay was designed to resonate with the target group demographically, ethnically and phenotypically so that his behaviours might be modelled. But in *thematic* terms he *desires* nothing in order to grow and transform. We are unlikely to empathise with him as much as if we

might if he had a clear emotional need that we *feel.* We understand his desire to escape Diab *cognitively*. This motivates the use of his power to teach the Diabites to overcome the common barriers to diet change. In that sense, Deejay acts *loco parentis,* or in this case, *loco interventionist.* This supports the findings of the previous study (Chapter Seven), where public experts use digital technology to go to where the target population is at (i.e. children like playing video games) and deliver health messages there based on established cognitive theories. The interventionist steps into the fictional protagonists' shoes in order to pass on their messages rather than engaging in two way participation at any depth.

As in the commerce case the concepts of Power, Desire and Destiny prove useful analytically

Power: Deejay already has what he needs at the beginning of the story. He has the power, the elixir, the grail of good health and the knowledge of how to sustain it. He also has considerable power relative to that of the antagonists. King Etes' Henchmen make poor antagonists because they are characterised as unfit. They therefore present little or no real threat to Deejay. The ratio of power between the protagonist and the antagonist operates often in Deejay's favour. Meanwhile, the Diabites who increase their own powers in order to overcome the relative power of their antagonist – the common obstacles to good health – and change as a result are *not* rewarded by the story's structure. Unlike Deejay, they still belong and remain subject to a repressive commercial regime.

Desire: Deejay wants to go home and he gets what he wants. His destiny is to escape the city of Dab. But *he* doesn't change his behaviour in order to get it. He encourages others, the Diabites, to change their diet and become physically active. But their destiny is to stay in the dystopia where Deejay found them. *They* don't get to escape.

Destiny: The mythical Golden City is introduced, a world in which they too will enjoy health and happiness if they fulfill the required objectives set by Deejay. But it remains mythical, illusory and unrelated to the characters or the participants' objectives throughout. This sense of destiny presents the *message* or moral of the story: 'if you live a healthy life you too can end up there and enjoy eternal healthiness'. The idea of eternal healthiness represented by the mythical Golden City presents itself as relatively less tangible than the real place that Deejay, the protagonist gets to escape to. But like the interventionists, Deejay does not belong to their world and he enters it on the messenger's behalf and proxy. The result appears to be that the story is less engaging *emotionally* and we appear unable to learn vicariously and viscerally, by identifying with and empathising with a character that *transforms* however much like us he might appear to be.

The role of 'Participant as Protagonist' appears not to have been realised in Public Health. Participants only appear to have engaged at a low level of participation. The participant may have identified with the third person representation of characters on the screen, find them culturally relevant and they may even model their behaviours and been rewarded accordingly. There appeared to be no comfortable elision between the protagonist and the player. There was little room for the participant either to tell their own story, or to forget who they are and 'become' the protagonist. In that sense, it might be argued, Escape's power to *transform* participants emotionally over the duration was perhaps not realised as fully as it might have been.

Had the experience placed the participant in the role of protagonist, any number of possible routes through the intervention may have been represented. We might, for instance play Delinda, help her defeat the evil King Etes, give the elixir back to her people, return the throne to my family and secure the love of the handsome stranger (who sadly has to return home). Or we might chose to play Bearspaw who, facing the need to improve his health, takes on his family mores and their love of fast food risking being ostracised. But his commitment to the battle against Etes', earns him Deejay's approbation and his father's respect. The behaviour change knowledge and procedures could still be built in to the protagonist's journey but incidental to the participant's real world journey. We might control a third person representation of a character; Bearspaw onscreen but I generate hope and the positive emotions of success through my own actions. In the case of *Escape*, at no point during the interactive components is the participant permitted to escape the bounds of the 'I' and become the protagonist as proposed.

If participants had been able to participate without having his or her overweight or relative performance being highlighted, the use of digital storytelling may have been perhaps been more memorable, impactful and perhaps resulted in longer term behaviour change. Indeed, as we have seen when the framework was outlined, (Chapter Four), by highlighting any discrepancy between an individual's ideal and actual self, the participant's sense of immersion and emotional impact is likely reduced. It is unlikely that digital storytelling influenced here by structuring human emotions over time, en route to behaviour change as the developing digital storytelling framework proposes. It represents therefore a deviant case; and a deviant case analysis now follows.

The central argument is that when *linear* commercial storytelling is merged with *participatory* storytelling (using interactivity as it pertains to digital media technologies) a more potent form emerges whose potential influences human behaviour. The storytelling (above) was certainly told digitally, on computers, but in a *linear* fashion throughout the intervention. It was, *not* therefore

participatory storytelling as described by the developing model. But since the intervention was considered a success the *value* of the proposed framework might be diminished as a behaviour change approach. Indeed, the participatory storytelling framework needs to be revised accordingly. But because the storytelling was *not* interactive *and* participatory *and* the intervention was successful, it might also be argued that it was not participatory storytelling that led to its success but some other factor or component. As we have seen, participants' exposure to the interventionists in the physical world may have been a likely factor. The small amount of time allocated to *all* of the digital storytelling, interactive components included, relative to the physical world participation would have likely mitigated against deeper emotional engagement, even if it had been designed according to the parameters of the framework proposed above.

This case study then demonstrates that the full potential of digital storytelling to influence behaviour appears yet to have been unrealised. Using the developing framework as an analytical tool however, reveals how the *potential* for participatory storytelling to influence specific behaviours might *become* optimised as an opportunity for public health. That balance arguably requires further emphasis on the structuring of emotions over time, place and platform; and the ability for participants to witness and *feel* their own transformation vicariously. As the previous case study and the penultimate chapter demonstrate, commerce appears to understand this only too well.

8.6 Chapter Eight Summary and Conclusion

This chapter has analysed two case studies where digital storytelling was used in the contexts of commerce and public health to influence specific behaviors. In terms of the research questions the study suggested that:

RQ1: In commerce, digital storytelling appears to influence behaviour. In public health, although the results were encouraging, any influence did not appear to derive from digital storytelling alone.

RQ2: Digital storytelling appears to influence in commerce through *participation* with consumers. By embracing participation commerce encourages consumers to *'tell the story it wants them to tell'*. This supports the findings of the previous study which showed how public health appears more conservative in their approach to participatory media use. Commerce deploys storytelling strategies used by religious and political leaders for millennia and engage *non-consciously*. In public health interactivity *and* storytelling were used to influence health behaviours but the emphasis was on uni-directional, cognitive based approaches. This reinforces and updates the findings of the scoping review (Chapter Three) and the depth interviews (Chapter Seven).

RQ3: In both case studies, digital storytelling elements at the core of the developing framework recurred: but in neither were interactivity and storytelling *merged* as proposed by the developing framework; this suggests that the real power of digital storytelling is perhaps in its infancy. This reinforces the findings of the scoping review and the need for a coherent digital storytelling framework. Again, and in both cases, the developing digital storytelling framework proves useful as an analytical and critical toolset. And it begins to explain what happens when linear storytelling becomes non-linear and participatory.

This chapter concludes that public health may learn from commerce. The real power of digital storytelling appears yet to have been realised but commerce is making considerable headway. A shift in emphasis is needed towards appeals to the emotions if public health is to borrow from commerce as Social Marketing suggests it might. Since the framework remains robust and consistent when applied to commerce *and* public health, it contributes a valuable mechanism for approaching and evaluating health behaviour change initiatives and analysis in the digital age.

Chapter Nine now tests these conclusions and the developing framework further in the context of a specific behavioural outcome and a specific population. The findings of focus groups with adolescent digital storytelling participants suggest that they tell the story alcohol marketers want them to tell; and that this likely leads to their initiation into alcohol.

Chapter Nine

Focus Groups Exploring the Power of Digital Storytelling to Influence Adolescents' Initiation into Alcohol

9.1 Chapter Nine Overview

The previous two chapters have demonstrated that behaviour change experts in commerce and public health believe that digital storytelling has the power to influence and control human behaviour. This supports the conclusions of Chapters One, Two and Three. Experts in commerce embrace the *participatory* nature of digital media to influence consumers *emotionally* and *non-consciously*. Experts in public health appear to use digital storytelling to administer uni-directional, knowledge-based cognitive approaches to behaviour change. This supports the findings of the Scoping Review (Chapter Three). The developing digital storytelling framework provides a robust and flexible approach to analysing and appraising digital storytelling as an approach to human behaviour change. It might usefully inform the theory, practice and evaluation of story-led digital media campaigns designed to improve public health. This reinforces the conclusions of Chapters Four and Five.

The previous two studies have focused on the perspectives of digital 'storytellers' and cases of digital 'storytelling' respectively. We saw how the manifest *intention* of commercial digital storytellers was to influence alcohol consumption behaviours by appealing to the positive emotions associated with belonging, social success and transformation. Key storytelling 'elements of change' were identified. A framework analysis of participants' responses to those same storytelling elements online suggested that they are potent. Through a process of exposure to, and participation with those storytelling elements, participants appeared to recapitulate the brand's story, message and theme online: consumers told the story the brand wanted them to, in the main. It appears then that the *participatory* nature of digital media has the power to influence and *manipulate* consumers *non-consciously*. By relinquishing the power to tell stories, commerce appears to have evolved a more potent form. But further research was needed. If it was the case that digital storytelling had the power to influence behaviour we would expect it to influence specific behavioural outcomes in specific populations. This chapter now explores how adolescents' exposure to and participation with digital alcohol storytelling might influence their alcohol consumption behaviours.

***Study Aims and Objectives**:* The aim of this study was to explore whether digital storytelling has the power to influence a specific behaviour in a specific population. The propositions that follow from the previous two studies might be 'tested' empirically.1. If the 'storytellers' intent is to influence alcohol consumption by associating alcohol with the positive emotions connected with belonging, social success and transformation and 2. The digital storytelling 'elements of change' identified here are deployed as part of digital alcohol marketing strategies to elicit those emotions then 3. Exposure to, and participation with that digital alcohol marketing will likely influence real world alcohol behaviours.

Methods: Focus groups were used to elicit adolescents' perspectives (n=35). The rationale for and limitations of that approach are discussed in Chapter Six.

Findings: The study found that three levels of exposure to, and participation with, digital storytelling appeared to appeal to adolescents and likely leads to their under-aged initiation into alcohol.

a) Level 1: Linear digital storytelling appears to appeal to 'The Participant as Recipient' and likely influences their initiation into alcohol.

b) Level 2: The 'Participant as Storyteller' retells the alcohol myth which likely reinforces their own and their peers' initiation into alcohol

c) Level 3: 'The Participant As Protagonist' transforms and gets to be who *they* want to be.

The findings are presented and discussed below. Exemplary data (quotations) are attributed to specific participants. Please see 'Focus Group Composition' table in Chapter 6 for identifiers. The chapter concludes that digital storytelling derives its power from its participatory nature; and it appears that the deeper the level of engagement, the greater the power to influence non-consciously. The implications of this are discussed in the final chapter.

9.2 Focus Group Findings

Three Levels of Exposure to, and Participation with, Digital Storytelling were identified and appeal to adolescents

Level 1: The Participant as Recipient (of the alcohol myth). [9]

Commerce's approach to the use of character, setting, tone and theme *attracts* and appeals to positive emotions associated with health, belonging and social success.

Level 2: The Participant as Storyteller (recapitulating the alcohol myth)

Adolescents recapitulate the alcohol myth: they '*tell the story the brands want them to tell'* to their friends and peers.

Level 3: The Participant as Protagonist (potentially the hero in the alcohol myth).

Participants reported enjoying this level most: it allows them to collaborate, compete, create, socialise, define insiders and outsiders, alleviated boredom and be who ***they*** want to *be.*

These levels are now considered in detail in turn.

a) Level 1: Linear digital storytelling appears to appeal to 'The Participant as Recipient' and likely influences their initiation into alcohol.

13-15 year olds reported being exposed to alcohol marketing online: They *received* alcohol promotions frequently during their activity online. 28 out of 35 reported seeing alcohol products 'a few times' online. Five participants reported seeing alcohol products 'many times' online. Only two participants, a 13 year old and 15 year-old male reported never having seen alcohol products online: and neither participant had started to drink alcohol. The five participants who reported seeing alcohol products 'many times' online were 15 year old females and regular drinkers. This suggests that adolescents may actively seek out and *engage* with alcohol promotions online *because* they drink rather than they drink because they actively seek out and *engage* with alcohol promotions. The attribution of any causal direction becomes therefore problematic. Further research might usefully investigate the direction of any influence. It became clear though that most participants did not actively engage but simply *received* promotions.

[9] The term 'alcohol myth' is used hereon in to refer to the myth, falsehood or fiction that alcohol improves health as opposed to the fact that there is a direct link between alcohol consumption and the development of various cancers (WHO 1988).

Fig 5. Image from Mood Board A – The Alcohol Story (Objects)

Participants reported being exposed to still images, photographs, photographs in sequences (slideshows) and 5-30 linear audiovisual commercials (the *Belong* commercial analysed in the previous study would fall into this category and we saw there how its viewing alone appealed emotionally). The participants of the current study received promotions that were mainly alcohol brand related objects and logos *'for Blue Wicked it's a picture of the bottle'*, (5.5). Participants easily recalled specific brands '*Bacardi Breezer'*, (3.3) *'Carlsberg'*, (5.1) *'Jagermeister'*, (2.6) *'Baileys'*, (6.4) *'Coors Light' (6.2) and 'Budweiser'* (3.2). Smirnoff was singled out as prominent. *'Smirnoff does it a lot'*, (3.2) *'that's the one you always kind of notice'*, (4.3). Others reported seeing characters, *'happy people'* (5.2) '*dancing to music'* (3.6) '*at night clubs'* (3.1) and '*festivals'* (4.1).

The term 'participant as recipient' was used to describe this level of participation since representations of alcohol objects, scenes and characters were received *non-solicited*; they were 'pushed at' participants during their digital activity, as far as the evidence of self report studies are externally valid.

Table 10: Activities during which adolescents received alcohol promotions

Adolescents' Digital Activity	Branded Alcohol Promotions Received
Communicating with friends on Facebook	'*Facebook, they come up at the side, sometimes as a pop up'*, (6.4) *'a slide show at the side'*, (4.1) '*Yea it just comes up on your news feed automatically'* (6.3) *'...even if you have not liked the page or anything, it will come up'* (3.1)
Consuming film and music entertainment	'*…on You Tube, just before you watch like a video, sometimes an advert comes up'*, (6.2) '*…trailers pop up like a Strongbow tool popped up to me on You Tube when I was watching videos'*. (3.5)

	'Sometimes you can skip it and sometimes you can't'. (6.4).
Playing computer games	*'...say there is an update for a game, beside that there will be a wee advert and if you scroll over it will start playing'.* (6.3) *'Sometimes you don't even look, it's just there'.* (5.2)

Some participants reported seeing content with invitations to click through to alcohol brand's websites and Facebook pages: but few expressed interest in interacting with alcohol promotions. '*I've never tried clicking on it',* (4.3) *'No I've never tried it'.* (4.4) For those who did participate age limits did not appear to be a barrier to accessing alcohol brands' sites. '*Yeah, like Smirnoff vodka…it will say click here or something…and then if you go onto the actual page it tells you loads of stuff about it'* (4.4). One female participated to find cocktail recipes online. '*I've heard about websites and then just like looked it up and seen how you can do it, but it's always really complicated…. different types of fruit juice and different alcohol'.* It appealed, *'Because you couldn't do that yourself normally….you would want to try it out'*, (2.5). It represented a challenge to her. What we see here is a move from the participant as recipient of alcohol storytelling to the participant engaging to pursue her own goals. The participant as passive recipient then quickly becomes participant as active recipient; and the alcohol marketer has no longer to *push* if he appeals to her goals and emotional *desires* over time: she will simply *pull* over time.

Participation at this first level appeared to appeal to adolescents. Participants appeared to find the objects represented in Mood Board A attractive (Appendix J) because they triggered memories and associations of health and happiness. The colours '*kind of attract you to drinking them',* (5.2). '*Kind of hot colours like reds and pinks and oranges'*, (2.3) *'the brighter colours like pink, reds and yellows',* (1.5) *'sweet colours',* (4.3) and *'fruity colours'*, (2.1). The colours, the fruit and the ice evoked positive and pleasurable feelings associated with quenching thirst (and health). And images of citrus fruit, limes and lemons *'look appealing'* (6.1) *because 'they look healthy'*, (3.1). The ice because *'it looks dead cold you just want to drink it',* (5.1) *and* '*It makes you thirsty'* (5.2). There was a sense that these images were somehow magical and 'otherworldly', *'They are all like attractive to the eye like they are kind of perfect',* (3.3) *'Exotic',* (4.4). We might usefully recall the storyteller's power to adjust the technical parameters, such as increase the vividness and thus *bias* how those visual representations appeal to specific receivers (Chapters 2, 3 and 4) in order to understand just how potent they can be. We might recall further the evolutionary significance of vivid signals designed to manipulate another animal's sense organs (Chapter One).

Memories of and associations with family holidays were induced. *'If you are on holiday like that's what the drinks look like that you get all the time, just like non-alcoholic',* (1.3) and '*If you were on holiday that's exactly what you would want',* (1.6) Fresh fruit, ice and condensation on the glasses appealed to a desire to drink. Some put it down to the ice *'Because there is loads of ice as well like that reminds you of like being on holiday',* (2.2) others, stimulated by the colours, '*they all look summery just because they are bright like they have colour'* (3.3) others to the pool and the beach, '*They are cold and stuff and refreshing, like if you are at the pool and stuff',* (1.5). *'Sex on the Beach, that's what it's called'* (1.2) and bars '*You think of bars',* (2.5). For others the sense that these drinks were cocktails and therefore contained alcohol appealed in itself. '*The alcoholic factor would like also like potentially attract more people'*, (3.5) and '*…some people our age…they feel like they maybe want to try so it might attract them more if they find out it's alcoholic, which these are'*, (4.2).

- **Participant 5.2:** *'... if you were in a restaurant or something and you got like coke and you seen one of them you would be like "oh they are cool I want to drink that"'.*
- **Participant 5.1:** *'You would think you were cooler'.*

This level of participation induced associations of alcohol consumption with the power to appear 'cool'. Such exposure clearly appears to reinforce the alcohol myth that alcohol is not harmful, or harmless, but good for you. But does this representation of alcohol-related objects likely influence adolescents' initiation into alcohol?

Participants felt that exposure to alcohol objects represented online would make *them* want to drink the drinks represented. '*All of them look nice so obviously it's going to make you want to try it at some point'*. (4.2) They also felt that these images would likely influence *others* their age to start drinking too. '*Because they would just see it as an ordinary drink, they would think it was harmless',* (6.4). This participant's response encapsulates the power of digital storytelling and the alcohol myth to influence *non-consciously* in spite of what the subject thinks and therefore knows rationally.

It is clear that objects represented as part of the alcohol myth appealed and appeared to influence. The characters represented also appealed. The characters in mood board B (Appendix K) triggered emotions and associations of belonging, health, happiness and wellbeing. Participants considered the vivid and colourful images of characters portrayed to be '*happy'* people because they *'they look like they are having fun',* (2.2) *and* '*enjoying themselves'*, (2.5). This characterisation appeared to

appeal because it made characters '*look sociable and outgoing',* (3.1). Participants responded to the non-verbal visual representation of character such as facial expressions *'they are all like smiling and laughing'* (2.3) and their movement '*everyone is dancing'*, (6.4). We have seen in Chapter One, how we respond to and process non-consciously others' facial expressions and movements and feel them as if they were our own. That appears to be supported by the current study.

The Alcohol Story (Characters)

Fig 6: Image from Mood Board B

Repeated references also were made to the fact that the characters are '*all listening to music'*, (in spite of the fact that no music could be heard as it was a still image). This points perhaps to the appeal of the characters' energetic physical performances. The appeal of the characters' physical and energetic *performance* and their characterisation appears to be that they evoke positive emotions associated with health, vitality, happiness and social success. The characters appear to evoke associations with *pleasure*. But does this representation of characters and their characterisation likely influence adolescents' initiation into alcohol?

Participants reported that these characters and their characterisation would make them want to start drinking, '*Because they look like they are having a really good time',* (6.5). This appeared to be because they associated alcohol consumption with positive emotions. '*They will be drinking: but they will still enjoy it'*, (4.4). *'They look happy',* (4.2). Others disagreed that this story and how it was told would influence them to start drinking. One ABC1 male said that it would not influence him. '*I don't think seeing a picture of it makes you start drinking'*, (6.1) *and 'I wouldn't really just go out and buy it just after seeing those photos',* (6.1). For others some qualification was needed. '*It depends on what kind of person it is to be honest',* (5.5). Others pointed to how the individual wanted to present himself or herself socially, '*It would depend on whether you wanted like to not stick out or not',* (5.2). These deviant cases suggest that such stories don't influence uniformly and some care is needed in the interpretation of these data. But these comments also point up these

adolescents' desire to conform and belong - or to be cool and present oneself as the kind of person who can't be influenced. We can at best say that these adolescents were exposed to this storytelling and it appeals in some cases because it appears to elicit positive emotions and associations. We must also note the power of adolescents' desire to '*stick out or not'*. The interplay between the storytelling 'elements of change' and these emotions might influence adolescents' initiation into alcohol.

The settings represented appeared to appeal to adolescents because the atmosphere represented was positive. This was ascribed, in part, to the presence of music, '*when there is music on it's just a good atmosphere and stuff',* (1.1) dancing and being with '*lots of people'*, (3.3) '*being with your friends'*, (5.3), *'it would be a good atmosphere and if you feel like listening to music then you would just have a good time',* (2.2). The following image was particularly popular across all groups.

Fig 7: Image from Mood Board B – The Alcohol Story

'It's very alive; it's all very kind of jumpy, colourful', (4.3) *'It looks like they are at a concert and everyone is like dancing like jumping about and there is lights and stuff',* (1.5). Subtle gender differences appeared. For females the ability '*to meet new people*' appeared to appeal. '*Because you are always meeting new people.* (3.3). *Well, if you meet more people you can do more stuff*'. '*It's like loads of new people you could speak to, and like there is so many people',* (2.3). For the males the appeal was more about a sense of camaraderie. The presence of lots of people *'...brings like an atmosphere as well. Like if you were at a football match',* (5.5). *'Because everyone sings along and everything',* (6.3). The desire for a sense of community and belonging was palpable. This chimes with research that demonstrates that neo-tribal concepts and the power of the desire to belong explain the drive towards excessive alcohol consumption (Spotswood & Tapp, 2011). Like this research it concludes therefore that cognitive appeals become therefore ineffective. The point

stands that an adolescent, participating even at the level of recipient can be influenced so profoundly and *non-consciously*.

It was unclear as to whether the representations of such settings would lead to participants' initiation into alcohol; but the places represented by alcohol marketers appealed as places adolescents appear to want to belong to. This stimulation of the desire to belong to the crowd ties back to, and reinforces the findings of the previous study. Digital storytelling can work if it appeals to the positive emotions associated with belonging and social success. That these objects, characters and settings appeared to appeal to positively valenced emotions was clear. But an unexpected finding emerged that required deeper analysis. Participants reported that these images appealed to them also because of what was ***not*** represented. *'There is no fights' (sic*) (2.2) and *'No one is like unconscious'*, (2.3). The alcohol myth appeared to appeal because it occluded *negative* emotions associated with pain as well as stimulated *positive* emotions associated with pleasure. The converse appeared to be true when adolescents considered representations used to tell the public health story in Mood Board C (Appendix H).

The images from public health promotions did not appeal to these participants, *'they don't look very appealing',* (3.6). Images of characters heavily under the influence of alcohol and scenes representing the negative consequences of alcohol consumption conjured associations with the emotions of embarrassment, humiliation, sadness, loneliness, social isolation, boredom and being out of control. '*It's not very attractive',* (5.4) *'It looks humiliating',* (3.1) *'weird'* (1.1) *'...like embarrassing'* (3.3). They appeared to repel by occluding or eclipsing positive emotions associated with health and belonging.

There was a sense that the characters did not appeal because there was something inherently wrong with them '*they look like they are ill',* (3.1) '*…people associate pictures like that with like people that can't handle themselves and take drugs and stuff like people who are just kind of not very well'* (2.2) that they were out of control, *'they would like fall about',* (1.2) *'make a fool of themselves',* (1.1) *'out of control of your body'*, (1.5), *'Like they would be doing like shots and stuff and then they would just get too drunk and they would like fall about',* (1.1) and aggressive *'you get fighting with people'*, (1.1). The sense of their illness and unhappiness appeared mainly to result from how the characters were characterised, their static rather than active physical performances and their isolation. *'Well there is no one around him and he is continuing to drink by himself'* (3.4) and bored *'...he just looks bored',* (3.3). *'He looks like an alcoholic',* (3.6). *'He looks depressed',* (3.2).

Fig 8: Images from Mood Board C. The Public Health Story

Comparison might usefully be made with the alcohol myth where characters' energetic movement and apparent belonging evoked associations with health and happiness. This dichotomy was captured in one response '*if you see the pictures with them* (Mood Board B**)** *like jumping about having a good time that's going to make you like you will drink and it looks fun, go and have a good time. But these pictures* (Mood Board C) *obviously look less appealing'*, (4.2). The imagery appears ***not*** to represent what these adolescents maybe desire non-consciously. But if these storytelling elements induced negative emotions and associations with illness, might that influence adolescents to avoid initiation into alcohol?

But participants felt, overall, that exposure to public health stories of tonally negative behaviours would stop them drinking alcohol or make them not want to start. '*Because like you wouldn't like to end up like that yourself',* (3.5). But the *source* of the images and their messages was seen by these participants to be equally important in whether they would avoid excessive alcohol consumption. Participants spoke about receiving alcohol related public health messages from authorities such as parents, teachers and the police. *'Like the way that they send the message…makes you feel like they are telling you not to no matter what just don't do it'*, (1.5). It was apparent that they do not want to be told what to do. The presence and representation of authority as a storytelling element appears to be critical; it reaches the emotions. Adolescents *feel* judged. *'I would just assume that they are judging you like',* (1.5). It appeared these participants would rather exercise their own agency and *feel* they were trusted to find out for themselves.. *'...but you want to see if what they are saying is right don't you like, I am not saying you are going to try and kill yourself with drinking and stuff but I don't know*. *'It would make you more aware',* (1.5). The source and emotional tone of representations appear to be critical components to be observed in the context of public health. And that is just at the low level of 'the participant as recipient'.

b) Level 2: The 'Participant as Storyteller' retells the alcohol myth which likely reinforces their own and their peers' initiation into alcohol

We have seen how adolescents are exposed to the alcohol myth and that key elements at the core of the digital storytelling appeal to them and likely influence their initiation into alcohol. It became apparent that in order to understand *how* digital storytelling might influence adolescents' initiation into alcohol there was a need to move the focus from the influence of a brand's stimulus on the adolescent, to the influence of the adolescent's storytelling on their peers. We have already seen in the previous chapter just how powerful an influence alcohol marketing can have on the 'participant's storytelling'. So what alcohol related stories do adolescents tell, to whom and how do they appear to influence their own and their peers' initiation into alcohol?

Participants were clear as to who made up the 'audience' for their stories: '*Only friends'*, (2.2) '*Friends',* (1.2), (2.1), (3.5), (4.2), (5.3), (6.3). *Not just like complete random people, people you know through someone'*, (5.1) *'...If you are a friend that liked your friend's friend like somebody you are talking to you will talk to them',* (5.2). *'You know who they are but you don't really know them',* (6.4). '*You just start talking to them and you become friends',* (6.4). Only three of these 35 participants communicated with their parents online. *'Because they can see like what you are doing and it's a bit awkward like',* (3.1). Participants were keen to emphasise that neither do they communicate with teachers online because *'you don't want your teachers seeing stuff*' (1.3) and because, *'We are not allowed to be friends with our teachers. It's illegal',* (1.2). Authorities such as parents, teachers or guardians were excluded as audience members. This meant that they were also unlikely to know how adolescents were exposed to and participated with alcohol marketing online. Alcohol brands are then present where what might in the past have been countervailing influences are now absent. This suggests perhaps that if the stories digital marketers tell influence adolescents' initiation into alcohol, it is unlikely to be countered. This presents a clear opportunity and space in which public health might operate *affectively.*

Adolescents are inclined to forge identities in social contexts away from the family home (Dobbs, 2011). Participants appeared to view their Facebook presence, their news feeds and status updates as if it were an open window onto the lives of their peers. To see '*…what's happening in the world',* (3.4) '*…what people are doing socially,* (1.5). They need to fill that world with their own content. '*…people put their life on it'*, (1.2) and *'You know what they are doing because they update all the time', (2.5).* Seeing what is going on and posting also appears to feel compulsory, '*you feel you need to be on it all of the time',* (4.1). Observing what their peers were doing at any one time appeared to be a critical aspect of their own participation; as if it were part of a social

contract. You can see (constantly) how I'm dressing my window if you let me see how you are dressing yours (constantly). And commerce appears to be providing the tools to help adolescents create that content, tell their stories and display, in commercial spaces.

Participants appeared to enjoy telling their stories in pictures. The arrival of *Instagram*[10] into the *Facebook* suite and *Vine* into the Twitter suite was welcomed by these participants. The ability to tell one another stories *visually* appealed. *'Just the fact that it's all pictures'*, (2.3). *'It's more useful than Facebook',* (1.2). As one participant put it '*You can talk to people…with like pictures',* (5.2). And the ability to edit the pictures and make the subjects appear as if professionally photographed '*you can edit your own pictures'* (1.5) '*you can take them and edit them on any app on your phone and then post them to Instagram'* (5.2) also appealed. '*It makes them look nicer',* (1.5). The use appeared to be familiar. '*Just to see what people are doing',* (1.1) *'to see what they are doing in their house'*, (4.6). And the audience was familiar too. *'I just like sharing photos with people, with friends,'* (3.2). This tendency of adolescents to 'flaunt it on Facebook', and its exploitation by alcohol marketers, concurs with that observed by subsequent research (Lyons et al 2014).

The developing framework proves as useful when it comes to analysing consumer generated content as well as alcohol brand authored content. The elements of change used in adolescents' stories appear to parallel those used by marketers - and they appear to have familiar emotional underpinnings too. Participants expressed their preference to be photographed or to photograph their peers at specific social settings, such as restaurants, the cinema, shopping, at a friend's house, '*Unders*' (1.5) (Under 18's clubs) '*at parties'* (4.6) *'Anywhere that is empty'* (5.5) (i.e. no parents). This chimed with the location of their preferred social activities. Participants liked *'Just getting out the house'* (3.6) and to a place *away* from the family home. But being with lots of people, meeting and talking to new people was apparently not enough. There was a need for evidence - photographic evidence - of their *presence* there. Participants reported that '*the park'* and '*parties and stuff'* were the sites of their initiation into alcohol. It is likely therefore that adolescents will photograph and tell the story of their initiation into alcohol to their peers. The use of filters, provided by commerce, allows the user to further enhance their presence there. It gives them tools to present more vivid and therefore potent visual signals as part of their storytelling and display.

[10] Facebook purchased Instagram in December 2012 to leverage access to the mobile market. Twitter responded with the purchase of the video enabled Vine. Facebook responded by making Instagram video enabled. Each is now (September 2014) used regularly by adolescents.

Taking, editing and posting photographs at parties and evenings out was equally popular: '*Just everyone loves it'*, (6.4). Again, the story of that party had to be told in images. '*Loads of pictures'*, (6.3). The two main reasons why are already familiar. The tone: '*It's just funny to look back on, like the next morning',* (6.4). And its ability to bond members of groups though common memories, '*It brings back the memory'*, (6.5). Capturing one's presence and participation visually appeals to an apparent need to form a memory of the event and to form a humorous memory of the event. '*You will still remember a good night…even if it's a bad party',* (6.3). This chimes with the power of storytelling to stimulate 'emotional contagion' (Chapter One) and, again, marks commerce's' ability to tap into and exploit its non-conscious influence.

Photographs of self and others (peers) were popular. *'Just because you are usually dressed up',* (6.4). *'If you have been to a party…and you've got pictures of a party with some of your you can just go "oh, that's me and my mate"',* (3.1). Participants reported that seeing such stories on Facebook or Instagram was emotionally significant to them. '*It would make you jealous'*, (2.3) '*You'd want to be there'*, (2.5) '*Because your friends are doing it',* (1.5). But simply displaying pictures representing self and peers at parties was not enough. There are clear emotional and competitive reasons for wanting to photograph and tell the story of alcohol consumption to peers. '*…it's a way of capturing the memories',* (3.3) *'it's all about like outdoing each other'*, (2.3), *'It's all about …not making people jealous but showing people that you are having like a really good time',* (2.5). It became clear that these new storytelling tools provided opportunities to represent and characterise the self in a positive light; participants became 'participants as storytellers'. Again, it appealed to emotions associated with belonging, and provides the tools for display and competition between rivals.

There appeared to be clear tonal protocols and emotions governing how stories were told and to whom. Participants felt strongly about others posting photographs of themselves if the stories were negatively valenced alcohol stories. '*Because the friend who was drinking too much wouldn't like it'*, (2.1) '*because it's their private life'*, (2.3) '*I'd be quite angry'*, (3.5). This was for emotional reasons. '*Because it's kind of embarrassing',* (3.3). Part of this response appeared to be about the content of the images. '*If it was just a picture of them like fell asleep or something I would put it up but not if they had like been sick or peed themselves'*, (1.5). *'If you are being sick and stuff nobody would like it',* (4.4).

Whether excessive alcohol-related content was embarrassing or just plain funny appeared to be connected with whom it was shared online. This is entirely consistent with emotional contagion theory, and how humour mediates insiders and outsiders (Chapter One) *'...you don't want all of*

your friends on Facebook to see it, but your close friends I am sure you can show', (6.2) '*You would want the good ones up and the bad ones up...just to see how bad you got'* (3.3). *'But taking the picture, it would be funny to look at the next morning as well',* (6.2). Furthermore, participants appeared to feel that the same negatively valenced content was acceptable if, and only if, it could be seen by their immediate friends as humorous *'...say like a person peed herself, you could look back on that and say oh, you peed yourself that night or like, that's funny. Because like peeing yourself is like embarrassing and you would just like your pals to know, like look back and laugh at it',* (1.5). If the content could be used to capture and forge memories, and thereby reinforce in-group bonds, help define insiders and outsiders it was seen as humorous, not embarrassing and therefore acceptable. Even the negative impact of excessive alcohol consumption has its benefits if it could become storytelling and social capital.

- *Like spilt drink on them or just like ripped like their tights or their skirt or something, just funny stuff like that. (1.5)*
- *It would be a personal joke between the group. (1.6)*
- *A bad ending but like it probably would be worth it if you had a good time. (1.5)*
- *It would be a funny story to look back and laugh at. (1.6).*

If the story provided humour in the context of close friends and had the potential to reinforce memories of 'a good night out' it appeared to be acceptable - perhaps because it served to bond members of that group. Again this chimes with emotional contagion theory (Chapter One). These findings also reinforce the argument throughout that 'tone' appears to be a critical storytelling 'element of change'. What matters, it seems, is who the protagonist, or antagonist in the story is and how they relate to the group. The same alcohol related storytelling elements could elicit quite different emotional responses according to the purpose of the storyteller and whether the teller is an insider or an outsider. The emotion of embarrassment is seen as a source of humour, if it contributes to a sense of belonging or conversely, ridicule if they contribute to a sense of isolation. It provides a reminder firstly that the relation between representation, mental image and emotion is not *absolute* but forged by the skill of the storyteller's practice, perspective and audience. But does the presence of key elements of change and the fact that it appeals to emotional mechanisms of change influence adolescents' alcohol consumption?

Participants were asked if seeing stories of their friends drinking on Facebook influence them to start drinking**. '***... it would, if everyone is doing it… if your friends were doing it liking the page and stuff. like you just follow what your friends do',* (1.1).

Some participants pointed to the distinction between seeing friends 'liking' alcohol online and liking and drinking alcohol in the 'real world'. '*I think it's probably only if your friends are doing it, not if you see it on Facebook',* (1.5). *'…if you are actually doing it, not online',* (1.6). It is clear that adolescents' alcohol related stories could influence their peers; but the degree to which real world evidence of their consumption is needed to tip the balance from abstention to initiation needs to be further researched. This also reinforces the need identified throughout this thesis to clearly delineate digital and real world storytelling space as part of any analysis. As we shall see in the final chapter, developments in digital technology will likely make the distinction between real and digital worlds and the impact of digital world on real behaviours more potent and increasingly difficult to tease apart.

c) Level 3: 'The Participant As Protagonist' transforms and gets to be who *they* want to be.

Part One argued that digital storytelling has the power to structure human emotions over time and *transform* the participant's sense of self; and that digital storytelling structures would therefore likely be used in the context of online marketing as bandwidths increased and greater levels of participation became possible in the context of social media. The findings of this study go some way towards supporting that hypothesis. Participants spoke of what they enjoyed doing most online. They spoke of wanting to create, collaborate and compete. Opportunities to socialise, collaborate and compete appeared to meld increasingly with these participants' real world social activities, people and places. For females, real world and online shopping 'trips' alone or with friends, for instance, were to purchase clothes to wear to parties to be photographed and displayed online. For males, it was to buy interactive entertainment products that would allow greater connectivity with friends online. We have seen above how the opportunities and tools that allow the participant as storyteller to tell one's story, compete and display appealed. This appears to further appeal and deepens the level of emotional participation if engagement is more interactive, physical and concurs with one's idea of who one wants to *be.*

For females, *Candy Crush*, a colour matching and pattern recognition game played through Facebook was popular with females who described it as '*dead addictive'* owing to its competitive element '*you see the people who are ahead of you…on the map and stuff …everyone on your Facebook … if it didn't have that you might not want to play it as much',* (3.3). *'The competitive element makes it better',* (3.3). Male participants enjoyed competing, collaborating, building, creating, finding new collaborators and challenges and pursuing collectively defined goals*: Minecraft* a free-roaming environment in which you build your own world from core elements and survive was popular amongst the males as it allowed exploration, creativity and the chance to build new places, identities and collect items in order to do so. *'Like starting a new world, you start from*

scratch', (1.2) *'I'd have a castle',* (3.4). Collaboration was popular *'You could go like talk them into helping you … and they will help you build what you want to build',* (3.5).

The familiar need to belong socially, enjoy humor and a sense of camaraderie attracted these participants to digital entertainment. '*It's a social thing rather than a games thing'*, (1.4) *'...you can have a laugh with your friends as well', (3.5) 'if you are in a game together and yous are all like kind of partying together and you are all interacting with each other and having a laugh and that at the same time over the same thing', (3.4).* They have a desire to form, define and belong to groups and define outsiders. There were clear limits or boundaries, for instance when it came to discussions of communicating and collaborating with people from other countries, *'Play with, but don't talk to',* (3.1). *You sometimes do but you mainly just stick to your friends',* (3.5). *'Yeah you can, but … you don't really talk to them as much… but you like play against them',* (3.1).

There was a sense that this part of their digital lives, like alcohol marketing, tapped into adolescents' need to create and define their own identities away from home and to alleviate boredom. This enthusiasm for social, competitive and collaborative experiences contrasted starkly with a sense of an apparent absence of similarly stimulating experiences in participants' 'real' and physical world experiences. Males spoke of using it to alleviate boredom, '*it passes time'* (3.1) and it's '*for when you are bored',* (3.5). *'I go on it sometimes just when I am fed up or whatever'*, (3.4). This concurs with evidence showing how interactive entertainment facilitates engagement at greater emotional depth if that level of immersion can't be achieved in real life, as Chapter Four discusses. But the central contention of the developing digital storytelling framework is that participants can potentially be influenced by becoming the protagonists.

Participants became most 'animated' when they spoke as if they were the *protagonists;* as if they themselves were at the centre of the action. The enjoyment of being the protagonist, the hero, in their own story and achieving one's own goals appears to appeal to the positive emotions associated with interacting with, mastering and controlling their environment. At the level of movement: '*Yes you can just run and there isn't anything you really need to fight or anything you can just do what you want and explore that's quite good'*, (4.5) *'it's as if it's you that's running through that's quite cool',* (4.2). At the story level '*…a story line makes you feel that you are part of it...it like drags you into it',* (4.5). *'it seems a lot more like real and stuff like that...something to do with family or something in the storyline and you can obviously relate to family in real life and …they try and make it as, I don't know how you put it, definitely involving yourself',* (4.2). Or as one participant described the phenomenon *'you feel like that person, even though it's complete fantasy'*, (4.5). But the ultimate pleasure appeared to lie not just in a sense of satisfaction or

completion. '*I like in games at the end of it when you complete it and you can just go and do what you want, like* ***freedom'****,* (4.5).

The findings of this study now end on the following three exchanges, one from a male and two from female participants who reported wanting to *be* different characters online. They are reported verbatim as this captures best these participants' creativity, imagination, sense of control and autonomy that appeared absent in the context of alcohol marketing and promotion.

1.6: *I'd be a mermaid*
Facilitator: *Why?*
1.6: *I don't know, I am just obsessed with mermaids*
1.5: *She has wanted to be one her whole life, like she's wanted to be a mermaid*
1.6*: Yeah like I've always loved mermaids, like the film, like the mermaid and that and because I don't know I have just always wanted to be one and like I don't know it just looks fun to be a mermaid. I wouldn't just want to be a mermaid and swim about and look at stuff like it would have like challenges and stuff to do. I can't think but just like under water games like. And you need, I don't know, you need to save people in it and stuff. From sharks or something…a bad shark or a bad octopus or something.*

1.3: I'd *like to be like the expert fisherman in a game. Because I like fishing, I would just like to be like the fisherman that catches his own fish. I've got one on my iPod and it's like you flick it and casts out and there is a wee float and on the screen there is a wee thing and it's like a reel so when the fish is on you use your finger and spin it around and it reels it in and it tells you how much line is out and then it tells you the fish strength and so you can go out to the sea because there is different locations and that's where like you catch the blue marlin and they are big strong fish so like you can, the fish strength, you need to try and tire them out and then the line tension goes too high if they are too strong and you try and reel it too fast. So you need to be quite good. Well there is different challenges you can do, like most fish, biggest fish, big catch.*

4.3: *I would swim*
Facilitator: *Where would you swim?*
4.3: *You could go like to different islands and stuff like you could transform into a mermaid and you could like go into the sea...and touch.*

9.3 The framework considered in the light of evidence from focus groups

The framework has now been used to analyse brand and consumer authored content and to explain how the former appears to influence the latter. The nature of adolescent's participation was analysed and the following three levels of participation were also identified: The 'Participant as Recipient', the 'Participant as Storyteller' and the 'Participant as Protagonist'. All three levels appear to appeal to adolescents: and the power of digital storytelling to influence appears to increase from levels one to three. Moreover, what adolescents bring to the storytelling process, their 'nature' as adolescents is as potent as the digital storytelling elements that play to it, as commerce well knows. The interplay between those storytelling elements, the three levels of participation and these non-conscious mechanisms of change needs urgent research.

This analysis has shown how brand authored digital storytelling appeals to adolescents and triggers consumer authored storytelling. It has also shown how that likely reinforces friends and peers' take up of alcohol. This study also showed that each of the above levels of participatory storytelling appeal to adolescents through emotions, association and memory. Adolescents' social and emotional 'investment' appears to increase from levels one to three, so the power of digital storytelling to influence them non-consciously likely increases and so their own power to influence and respond to the process rationally decreases. That likely influences their initiation into alcohol and attachment to brands at a time when their brains are rewiring in preparation for adult life (Dobbs, op cit). This demonstrates that the framework can be used to analyse brand *and* consumer authored content and begin to explain the interaction between the two.

9.4 Chapter Nine Summary and Conclusions

This chapter has reported the findings from six focus groups with 35 13-15 year old adolescents. In terms of the research questions this study found overall that:

RQ1: Exposure to, and participation with, ever deepening levels of digital storytelling appears to appeal emotionally and likely influences behaviour change. This confirms the findings of all the previous studies.

RQ2: Key digital storytelling 'elements of change' appeal to the emotions and likely influence adolescents' initiation into alcohol. Three levels of exposure to, and participation with commercial digital storytelling were identified. Even at the first and 'weakest' level, key digital storytelling 'elements of change' appeal to the emotions and likely influence adolescents' initiation into alcohol. When participation is increased and participants become storytellers they appear to '*tell the story commerce wants them to tell'*. Adolescents appear also to enjoying acting as 'participant

as protagonist'. At the time of the study this appeared to represent a threat and an opportunity for public health. A threat because adolescents reported deep levels of personal and emotional satisfaction in that role and so were vulnerable should alcohol marketers operate there.
An opportunity because alcohol marketers and commerce did not appear to be using the participant as protagonist as a strategy and public health might. This confirms the findings of the previous two studies.

RQ3: The developing framework is augmented further by this study. All three levels of participatory storytelling appear to appeal to adolescents and contribute analytically.

The findings of this study support all previous conclusions. Commerce understands and deploys digital storytelling to affect. By relinquishing participatory storytelling power commerce has evolved a more potent form. But when power relationships become unequal, that power becomes manipulative. The digital storytelling tools lay, quite literally, in the hands of adolescents but few if any of the digital storytelling parameters used to manipulate their alcohol consumption behaviours were ever really in their control. Opportunities and threats to public health arise from this. By using a digital storytelling framework grounded in theory, and evidence from primary research public health might counter the potential for harm resulting from that imbalance. But it means adopting the hidden and persuasive strategies of commerce. This has implications for public health practice, policy and further research as the ensuing and final chapter illustrates.

Part Two - Summary of Main Findings from Primary Research

Table 11: Summary of Main Findings from Primary Research	
RQ1:	***Does digital storytelling have the power to influence human behaviour?***
Digital storytelling appears to have the power to influence human behaviour (Chapters 7, 8 & 9).	
RQ2:	***If digital storytelling can influence human behaviour then how might it do so?***
Commerce and public health use the same digital storytelling elements to influence behaviour: but approach their use in different ways (Chapters 7 & 8). Digital storytelling appears to have the power to influence positive emotions that attract rather than negative emotions that repel (Chapters 8 & 9). Specific digital storytelling 'elements of change' appear to influence by structuring human emotions over time, place and platform at increasingly deepening levels (Chapters 8 & 9).	
RQ3:	***Is a 'digital storytelling framework' feasible as a health behaviour change approach?***
The proposed framework: • appears to be desirable *and* feasible (This confirms the findings of Part One). • provides an analytical, critical and creative toolset to approach the use of digital storytelling to influence behaviour in commercial and public health contexts	
Part Two Conclusion: Digital storytelling has the power to influence human behaviour. Commerce understands and deploys digital storytelling to influence consumer behaviours by engaging at deepening emotional and non-conscious levels Public health is advancing its use of digital storytelling to influence health behaviours – but its desire to control knowledge, the direction it flows and appeals to reason and cognition appears to limit its power to engage at deepening non-conscious levels. This imbalance presents a threat to public health. The proposed framework might help redress that imbalance and improve public health. This has implications for policy, practice, and the future. Hypotheses can now be drawn from these propositions and recommendations made for empirical research.	

Part Three

Synthesis

Chapter Ten

Findings and Discussion

10.1 Chapter Ten Overview

This inter-disciplinary research has explored the power of digital media to influence human behaviour. It provides a response to calls for further research on the influence of digital media on human health. It responds to those recognising the *opportunities* that digital media storytelling presents to bring about positive health behaviour change (e.g Baranowski et al, 2008**)**. It supports the arguments of those for whom digital media present a *threat* to public health when used by commerce (e.g. Cairns, 2013; Jernigan and Rushman, 2013). And it builds on salient research calling for policy constraint on the use of digital media to market harmful products (e.g. Hastings and Sheron, 2013). This thesis has addressed two questions upon which all the above three camps rely:

1. *Do digital media influence human behaviour?*

2. *If digital media do influence human behaviour then **how** do they influence?*

A third question arising from the first two was also addressed.

3. *Is a 'digital storytelling framework' desirable and feasible as an approach to behaviour change and if so what might one look like?*

This final chapter presents the findings and then offers a reflective appraisal of the research overall. Section 10.2 revisits and synthesises the main propositions generated in Parts One and Two in relation to the research questions. In 10.3 *The Research Process Revisited* I consider what I would, and would not have done differently, with the benefit of hindsight. In 10.4 *The Field Today* I reflect on where the evidence base appears to be currently. In 10.5 *Contributions* I consider the contribution this thesis makes to our understanding of the power of digital storytelling to influence human behaviour; And I show how it informs public health practice, promotion and policy. In 10.6 *Further Research* I outline what the next steps might be for further research.

10.2 The Research Questions Revisited

Each research question is now treated in turn.

RQ1: ***Does digital storytelling have the power to influence human behaviour?***

Secondary research (Part One) suggested that digital storytelling appears to have the power to influence human behaviour for good and for bad (Chapters 1- 3). This was supported by primary research in Part Two, (Chapters 7-9).

RQ2: ***If digital storytelling can influence human behaviour then how might it do so?***

Secondary research suggested that specific digital storytelling 'elements of change' can be identified that appear to have the power to influence emotionally and *non-consciously*. The use of character, story, three-act structure, theme, tone, interactivity and feedback being most noteworthy; together they appear to deepen levels of emotional and non-conscious participation over time (Chapters 1-5). This was supported by primary research; the same storytelling elements used by religious and political elites for millennia recur in commerce *and* public health to influence human behaviour, albeit to apparently different ends and in different ways (Chapters 7-9).

Secondary research also revealed unexpected findings as to *how* digital storytelling was used to influence behaviour (Chapters 1-3). The use of digital storytelling, as defined, appeared to be in its infancy in commerce *and* public health (Chapter 3, 7 and 8); but commerce appeared to be more advanced in its understanding, and use of, the technical parameters by which *interactivity* can be biased to influence consumer behaviours *non-consciously* (Chapters, 2-3). This was supported by primary research; commerce appears to understand the power of digital storytelling to influence consumer behaviours by engaging emotionally and by deepening levels of participation (Chapters 7-9). Digital media can be biased technically and used to 'read' (acquire or mine data about a range of human emotional, cognitive and physical conditions) as well as 'write' or influence human conditions; the fact that the data reading process is potentially invisible to participants raises a concern given that digital storytelling already influences *non-consciously*. This is a fact that commerce has recently begun to exploit, as we shall see below.

Secondary research showed that public health was beginning to use digital storytelling: but the emphasis was on *cognitive* approaches to behaviour change (Chapter 3). This was updated and reinforced by primary research Chapter Eight). Public health is advancing its use of digital storytelling to influence health behaviours: but it seeks to control knowledge and the direction in which it flows. And appeals to reason and cognition appear to limit the power of digital storytelling to engage at deepening non-conscious levels (Chapters 7- 9). Part One conjectured that this imbalance

presented a threat to public health and that a digital storytelling framework was needed that has both analytical *and* critical power (Chapters 1-5). It is conjectured overall that the proposed framework can be used to help redress that imbalance and improve public health.

Commerce and public health appear to use the same storytelling elements of change in different ways. Public health uses character, story, three-act structure and interactivity to appeal culturally and ethnically, maintain attention, model behaviours and deliver cognitive health messages and issue rewards and punishment for appropriate and inappropriate behaviours respectively. Commerce uses character, story, three-act structure and interactivity to appeal to positive emotions associated with belonging, social and sexual success. Commerce's use of the power of theme and tone to influence positive emotions associated with health, vitality, belonging, social and sexual success was evidenced strongly (Chapters 7-9). This was evidenced *across* the digital storytelling process from the storyteller's intent, the content and its influence on adults and adolescents. We saw also how the control of tone by commerce was used to appeal to adolescents' need for humour as a device for defining in and out groups. This was grounded in emotional contagion theory, itself supported by evidence from Neuroscience that humans imitate, mimic and parody the actions, intentions, emotions and behaviours of others non-consciously (Chapter One).

We saw how the alcohol myth, for instance feeds into and draws upon what has been called 'adaptive adolescence', the development stage during which 11-25 year olds brains, universally, rewire to adapt to new social and physical environments away from family and home (Dobbs, 2011). The adolescent brain prioritises and *rewards* risk over costs with *pleasure,* quite literally, by stimulating the neurotransmitters dopamine and oxytocin as an adaptive mechanism. This means the associations of *pleasure* (linked to alcohol consumption and brands) will likely trump associations of *pain* linked to public health messages. Even if adolescents are fully aware of and understand the 'drink responsibly' message, for instance, the pleasures associated with the risks perhaps far outweigh any control the rational mind will muster to alleviate the risk of pain.

This research has shown how public health tends to use digital storytelling to appeal to cognition. When it does engage emotions it tends to appeal to negative emotions (Chapter Nine). As we have seen, they do not to attract but repel (Chapters 9). This is entirely consistent with the 'adaptive adolescence' hypothesis outlined above. This reinforces and updates conclusions drawn by Hastings and MacFadyen (2002) in the context of tobacco control. Fear messages have *'questionable value'*, particularly as the target behaviour has positive social benefits to the consumer. As with binge drinking (Spotswood and Tapp, 2010) smoking secures a sense of belonging and social acceptability (Amos 1992). Fear messages, unless they are structured over time, end up where humans don't want

to be - in the dark. The current research builds on the previous by showing *exactly* what storytelling elements can elicit and structure positive emotions over time in the context of public health and counter-marketing campaigns; and that's before we bring in the power of commercial digital storytelling – storytelling *merged with* interactivity.

RQ3*: Is a 'digital storytelling framework' feasible as a health behaviour change approach?*

This research has tracked the use of storytelling elements and how they influence human beliefs and behaviour from the ancient Greeks to modern day humans. A digital storytelling framework based on secondary research and professional insight appears to have analytical, creative and critical power and thus appears to be feasible too (Chapters 4-5). Secondary research showed that the digital storytelling 'elements of change' identified can be isolated for use in the analysis of extant social marketing interventions and the creation of innovative intervention scenarios (Chapter 4-5). Primary research verified that the proposed digital storytelling framework is feasible *and* desirable (Chapters 7, 8 & 9). The framework is flexible, scalable and can be used to assimilate and analyse various stakeholders' perspectives simultaneously or apart but always from the same view of human nature (Chapters 1-5). The proposed framework thus provides a creative, analytical and critical toolset to approach the use of digital storytelling to influence behaviour in commercial and social marketing contexts.

The argument overall that digital storytelling, as defined, can influence human behaviour by structuring human emotions over time, place and platform at increasing depths of participation holds (Chapters 1-10). But its use to influence non-consciously appeared to be at odds with textbook notions of *voluntary* behaviour change (Chapters 4-5).

I stated in the introduction that two observations were made during professional practice in the Creative Industries (please see introduction): the light of evidence of primary research has now illuminated both observations. The first observation led to a question: *How do we tell stories that educate, inform and entertain when the audience has equal control of the storytelling process?* This was called '*The Participation Paradox'* (Grindle, 1997). This research suggests how commerce uses *interactivity and feedback* to deepen levels of participation and emotional engagement. This led to consumers '*telling the story commerce wants them to tell'* (Chapters 7-9). By facing up to the democratic power of interactivity to tell stories in two or more directions (Chapter 3, 7-9) and overcoming the fear of chaos and relinquishing *control* over the storytelling process (Chapter Seven), commerce appears to have evolved a more potent form of storytelling. By taking full ownership of the real power of digital participatory storytelling – the *illusion* of control and democratic power – commerce has taken the upper hand. This resolved '*The Participation Paradox'*. Public health might

similarly relinquish its power to tell stories uni-directionally and exploit this more potent form. The second was an observation made during professional practice. When immersed in a story-led computer game, participants refer to the onscreen protagonist's actions using the first person pronoun e.g. *I* defeated the evil emperor Zorg and saved the Princess. I referred to this, at the time as '*The Participant as Protagonist'* (Grindle, 2006). This research has informed that phenomenon as we shall see in the final chapter.

Digital storytelling appears then to influence human behaviour by engaging emotionally and non-consciously. The proposed framework provides a creative, analytical and critical approach to the use of digital storytelling to transform behaviours by structuring human emotions over time. This framework might contribute by helping public health practice and policy counter any harmful impact of digital media use by commerce.

10.3 The Research Process Revisited

This section considers what I would and would not have done differently. I expressed in the introduction my strong belief that commercial digital storytelling had the ability to structure a participant's emotions over time. I made clear that I brought to the research a commercial digital storytelling perspective, gained from a film, television and computer games writing and producing career spanning over 20 years. But I only *believed* that 'digital storytelling' had thereby the potential to influence human health behaviours. I *believed* that certain conditions were true: But I was simply following a hunch. An ethnographic approach was appropriate but only if it were properly reflective; particularly owing to the presence of that knowledge, those beliefs and their potential to bias the research from the outset. The following shows how, on reflection, that expertise might have influenced the outcomes of the research.

In Chapter One I reported the findings of an historical review locating my subject matter firmly in the context of the last 2,400 years of history. Storytelling appears to have influenced human ideas, beliefs and behaviours across the planet ever since the Ancient Greeks, and so, therefore, might digital storytelling. That review relied simply on the reading and study of secondary data – texts written by Aristotle and Plato. It is safe to conjecture that neither Aristotle nor Plato played computer games or had their own Facebook page: but they understood storytelling and its power to influence emotionally. Aristotle did so through storytelling practice and observation, Plato through his political life and understanding that storytelling practitioners had the power to influence civilians' beliefs and behaviours. The ideas expressed by these authors reinforced my professional view that storytelling appears to work best when it structures human emotions over time and my conjecture that storytelling might thereby influence health behaviours.

I then read and analysed stories told by religious and political leaders since the ancient Greeks. By reading and analysing the creation myths – stories – told by leaders of three of the four of the world's most powerful religions I was able to identify recurrent storytelling themes, elements and structures (the representation of human desire, power, transformation and destiny, for example). I called these the 'storytelling elements of change'. And I conjectured as to how they might influence behaviour by structuring human emotions over time. That approach, on reflection, may have been problematic on three accounts. Firstly, the presence and dissemination of religious stories – via the Bible, the pulpit or authoritarian family structures - merely *suggested* that religious myths *might* have influenced real world behaviours. The presence of certain recurring elements within those stories may, or may not, have influenced by reinforcing themes such as the desire for order, belonging and validation. Secondly I simply *assumed* that religious storytellers told these stories, using these same elements with active and manifest *intent* to influence behaviours. Thirdly, the question as to whether this analysis could have been possible without my prior practical experience has to be asked; particularly since I later placed these elements at the centre of the developing framework. Did the act of identifying these elements and underlying structures arise inductively from my analysis of secondary data – written texts - or was I simply recognising, and so confirming, patterns familiar to me, however non-consciously?

The answer is on reflection, probably both. But I would do no differently today. That analysis made it clear that since every culture over time and place develops a religion; and since every religion uses storytelling to convince its followers of some inevitability, validity or 'truth' about something, usually a fictional character, then there was strong argument to suggest that digital storytelling might also influence human behaviour - assuming of course that the same storytelling 'elements of change' were deployed. My reading and analysis of texts and articles by Neuroscientists Antonio Damasio, Michael Gazzaniga and Christian Keyser reinforced my theory further, that storytelling might influence human emotions over time *en route* to behaviour change. Experiments on animals, supported by observations of the behaviours of humans with brain lesions by these Neuroscientists demonstrated that *external* representations of characters interacting with their environment, objects and others in it to bring about change over time were represented *internally*, as emotions and non-consciously. Storytelling, as I understood it, appeared to be able to structure human emotions over time and might thereby influence behaviour, for good or bad. And since storytelling might influence behaviour in that manner, so might digital storytelling, all else being equal.

But *how* we tell stories in the 21st Century differs from how we told them before. I then argued that a more potent form of storytelling appeared to be emerging; one that engages at historically

unprecedented emotional and *non*-conscious levels. This was owing to the fact that we also now physically *interact* with the storytelling technology. I drew on further evidence from Neuroscience showing that by augmenting audiovisual engagement with physical interaction the intensity of our emotion response to it increases. (Please see Chapter Two for details and references.) It appeared logical therefore that if interacting with technology increases the range and intensity of our emotions, and storytelling can influence our emotions alone, then when merged or conjoined a more potent form of storytelling would evolve. That argument was, again, based on the study of secondary data, texts, grey literature and peer reviewed articles by Neuroscientist Christian Keyser, computer games practitioner and academic Jane McGonagall, and technology author Douglas Rushkoff, for instance.

This approach, on reflection appears problematic. The questions '*How and why were these texts chosen and not others?*' '*Why was a grey, rather than a peer reviewed literature included?'* might reasonably be asked. But I would have done this study no differently given the circumstances. The field of digital media and commercial storytelling was still relatively new to public health theorists, researchers and practitioners. Approaching the discipline of Neuroscience in this way provided scientific theory, based on empirical studies. That theory supported the idea that the storytelling elements I had identified influenced emotionally and non-consciously. What I found was *not* disconfirming. Further research might test my propositions more empirically.

My exploratory and interdisciplinary approach revealed theory and evidence from psychology to support my conjecture that digital storytelling could *transform* by structuring human emotions over time place and platform. Evidence provided support for my idea of 'the participant as protagonist'; and that evidence was predicated on a long chain of thought running from Kierkegaard, through James, Freud, Marx, Weber, Higgins and more recently Deci. That chain spoke consistently, albeit in different ways, of the same phenomenon: an individual's happiness and wellbeing can result when a person sees herself as the person she wants to be. Or conversely, anxieties may arise when a person's self concept appears to be at odds with who she - or society - wants her to be. I found pertinent evidence there of how a participant's sense of immersion, and the pleasure derived there, might increase if the participants' ideal sense of self is congruous with who they feel themselves to *be* when they are interacting. If interacting could transform a participant's sense of self, allowing them to 'try on' a new identity, and since we appear to act on our environment, objects and others in it according to our sense of self it might therefore likely influence positive emotions *en route* to real world behaviours. But that evidence was based on research into the use of interactivity alone: it did not incorporate storytelling. I return to this issue further below as it demonstrates the contribution this thesis makes.

I then conjectured what I was calling digital storytelling had potential as an approach to health behaviour change. If the range and intensity of our emotions can be increased when we interact with digital technology; and if digital technology can be used to tell a story; then the independently potent 'storytelling' and 'interactivity' if merged could result in a more potent form of storytelling. It followed therefore that digital storytelling might already have been used in the field of public health. I conducted a Scoping Review to explore the area further on that basis. Please see Chapter Six and its supporting Appendices A and B for a detailed review and critique of that process. Digital storytelling, as I understood it, appeared in the review to have been used and researched in very few health interventions; even though a literature on the use of 'narrative' in digital behaviour change scenarios appeared to be emerging. On reflection it appears that I was expecting, however non-consciously, to find subsumed by concepts such as 'narrative' and 'storytelling', a more finely nuanced understanding and approach to storytelling. My *a priori* knowledge and beliefs may have caused me to exclude or even to miss vital references. My approach may also have become more deductive than inductive. As we saw above, my analysis of the creation myths may have drawn from my *a priori* practical storytelling knowledge; and so here my practical understanding of digital storytelling may have caused me to exclude articles based on that same pre-conception. This may be a limitation of this research.

I would then conduct this review differently, in hindsight. I would militate against that potential selection bias by ensuring that the scoping review process was validated at each stage. I might have validated my criteria for the inclusion and exclusion of articles to read with a consultant; and not just validate there my choice of databases and search protocols. I might also have compared my definitions more systematically with the definitions appearing in the literature. I might also have drilled down into and analysed data further within only one field and database, rather than over ambitiously exploring all research that appears to have been done in more than one field and across many databases. I would overall have conducted the scoping review more systematically. And, on reflection, I would have recorded every step in my research diary in more detail to allow easy reporting and replication. The final scoping review findings and their representation in Chapter Three were however read and validated by both supervisors and I took some academic comfort in that.

My exploration was, nevertheless, wide. And a significant gap in health research appeared evident, nevertheless. On reflection, it might have been the case that what I believed I might find in the public health literature was simply not there - *yet.* I had argued that the *potential* of storytelling when merged with interactivity was to add value to behaviour change endeavours. But that potential

appeared yet to have been fully realised in the context of public health *or* commerce *or* political communications. Nevertheless, the scoping review provided a valuable way to better understand how interactivity has been conceptualised; how digital media can be biased to influence; and how it was used increasingly to 'read' a wide range of human cognitive, emotional and physical conditions as well as to influence or write 'them'. That understanding reinforced the findings of the previous study (Chapter Two). The argument for the potential of storytelling to be merged with interactivity and thus influence behaviour was thus strengthened. The lack of a coherent digital storytelling framework as an analytical, creative and critical approach to human behaviour change remained apparent, regardless of any limitations given the breadth of data analysed.

The lack of homogeneity in approach to the use of digital storytelling across the literature or, indeed, the lack of any coherent paradigm by which its use might be analysed, criticised or created suggested that one was needed urgently. I breached that gap by proffering a digital storytelling framework based on the findings of the above research, the observation and analysis of secondary data, and my commercial storytelling approach. The Digital Storytelling Transformation Framework was outlined in Chapter Four. I would approach this no differently today. I grounded that framework on the philosophy of the ancient Greeks, the storytelling practice of religious and political leaders over time and place, recent developments in Neuroscience, Psychology and Evolutionary Psychology as well as, more contentiously perhaps, my professional practice and observations made in the film, television and computer games industry. I ended Chapter Four with a creative scenario, based on that framework, to illustrate how the framework functions creatively as well as theoretically. That showed how the framework appeared to contribute an analytical, critical *and* creative toolset.

I then tested that framework against an established approach to behaviour change - Social Marketing. On reflection, that was entirely appropriate given that one of its central tenets is that the discipline borrows strategies from commerce and I was bringing commercial knowledge concepts and expertise. I then tested the rigour of the developing framework by using it to analyse an early sample of Social Marketing practice - the U.S government's campaign to try and sell war bonds in order to finance the war effort to an unconvinced public. That analysis showed the framework could stand up to an established approach to behaviour change. But the study suggested that *if* Social Marketing were really to adopt the knowledge, concepts and techniques of commerce, as the discipline argues it should, then it must also accept that it thereby adopts an approach that appeals to the emotions, non-consciously, and so involuntarily. This is anathema to the Social Marketing purist for whom all behaviour change approaches should be voluntary and *visible*. This marks a significant contribution to social marketing theory as the following 'contributions' section attests.

In the second phase of this research I tested the findings of the secondary research (above) using primary research. Chapter Seven presented the findings of a study using depth interviews. It explored the knowledge and beliefs of those with power to use digital storytelling to influence specific human behaviours in commerce and public health – the digital storytellers. If I were to redo this study today, with the confidence of the knowledge gained from this study, I might increase the sample size which, at 12 participants was small. I may also have included a semi-structured questionnaire to validate the data from the interviews. I might thereby have increased the number of participants and retained the international status of the sample. All respondents were however intelligent adults with emphatic and often unequivocal perspectives about the power of digital storytelling – as they used and understood it – to influence specific behaviours in commerce and public health; and the analysis of the data was compelling. It demonstrated that beliefs about the potential of digital storytelling to influence behaviour appeared to be strongly held. But while public health respondents appeared to recognise the power of storytelling to maintain attention and engage emotions, their emphasis on the need for cognitive behavioural approaches appeared to militate against their fully realising that potential to influence. There also appeared to be a fear of losing - and a desire to take control of - the storytelling process across commerce, political communications and public health. But respondents from commerce appeared to be in the process of prioritising the use of digital storytelling to engage their online audiences emotionally to bring about behaviour change. They also recognised a need to embrace digital participation to that same end. Public health meanwhile appeared to prefer top down, unidirectional and cognitive approaches.

I then explored and analysed extant cases where digital storytelling had been used to influence specific behaviours (Chapter Eight). A detailed and reflective appraisal of the research approach, the methods deployed, their rationale and limitations is provided in Chapter Six and the supporting appendices. If I were to revisit this study, on reflection I would increase the number of cases of 'digital storytelling designed to influence specific behaviours' from each milieu. That would be easier to do today than in 2012 owing to the number of academics now moving into this field, the research funding to support it and the consequent increase in related research. I return to this below when we consider where the evidence base appears to be at today.

Chapter Nine presented the findings of a study using focus groups. It explored and analysed the perspectives of 'digital storytelling participants', most of whom were exposed to and participated with digital stories told by commerce to influence specific behaviours. A detailed and reflective appraisal of the research approach, the methods deployed, their rationale and limitations is provided in Chapter Six and the supporting appendices. If I were to redo this study today I would increase the

duration of each focus group. Participants had stories they wanted to tell but I had only planned 60 to 90 minutes. An analysis of those data revealed an apparent underlying need to display, collaborate, compete and create. This study also identified three clear levels at which participants engaged and participated with digital media. Participants appear to be exposed to key digital storytelling 'elements of change' at each level; and each level appeared to influence behaviour. One of those levels, the participant as protagonist is discussed further below. Commerce appeared to be operating at two of the three levels - catering directly to participants' apparent desire to alleviate boredom and *be* someone they could be comfortable with and thereby influence their consumption behaviours.

My primary research suggested overall then that the storytelling elements of change used by religious and political leaders to influence for millennia appear still to be used by commerce today to engage emotionally; but not, it appeared, by public health whose *raison d'etre* appeared to be imparting knowledge to bring about change cognitively. While alcohol marketers, for instance, used digital storytelling to engage with under-aged teenagers actively - and appeal to their positive emotions associated with health, belonging and social success - the evidence suggested that public health prefers a 'hands off', non-participatory approach and appeals to negative emotions associated with illness, embarrassment and social isolation. We might conjecture, if teenagers have a need to see their social and sexual futures as successful, and their lives as never ending, they are perhaps more likely to listen to and engage with digital storytelling rather than non-participatory approaches.

The primary methods used to explore the research questions and test the developing framework further have been discussed in the methods chapter, chapter 6, as have their limitations. On reflection the decision to focus on three research sites - the story, the storyteller and the story participant - was a brave one. It linked theoretically, perhaps for the first time in the field, the digital storyteller's manifest intent to influence behaviour, the content within which that intent becomes manifest (or not) at the level of the digital storytelling process and the perceived influence of that process on the consumer. I regret that the samples at each of these three sites were small. This was unavoidable given the limited budget and timescales. As I argue in Chapter Five, the choice of three sites meant that increasing the depth of analysis at any one site meant decreasing the depth at either of the other two sites. A balance had therefore to be struck where a consistent depth of analysis and interpretation was applied across all three sites without losing the breadth of analysis and interpretation across all three. This balance was made possible by focusing on the demands of the research questions. Storytelling is an active process involving many potential social agents. The findings provide an antidote to previous research in the field, where only one stage of

the process is taken in isolation: but from which sweeping claims about the other two sites are made. I consider this further below when the contributions of this thesis are outlined.

My intention was then simply to explore the field and follow my hunch. I wanted to develop theory and my hypotheses with some stealth. The field was still new and too early to test hypotheses empirically. My primary research would later test my theory and framework with more rigour. Moreover, I simply aimed to explore my research questions: I never purport to have *proved* my propositions at any point. My further research may do that. The multi-disciplinary approach answered my three main research questions. And it led to my conclusion that the digital storyteller acting with intent to influence, to tell a digital story (in a specific way) appears to influence adults and adolescents alike, and in similar ways. The old ways of storytelling certainly appear to have been used to affect by the powerful for millennia. Commerce appeared to be co-opting the new ways and finding the best ways to merge them with the old. And so might public health.

10.4 The Field Today

I reflect now on more recent developments to better understand where the evidence base appears to be today. The resources needed to conduct a full scoping or systematic literature review was unavailable to me at this stage. Brief forays into the original data bases (Chapter Three) searched however suggest that the use of narrative in behaviour change interventions is becoming more commonplace. The following is a snapshot view taken by reading abstracts alone.

Evidence from quantitative studies appears to suggest that exposure to messages embedded in stories can increase sexual health (e.g. Mevissen, et al 2012) and to reduce harm from substance use (e.g. van Leeuwen, et al 2013). It quickly emerges however that stories are still delivered on more traditional channels such as print, or television (e.g. van Leeuwen, et al op cit). Evidence now suggests that *interactivity* appears to motivate and engage stroke patients and increase their rehabilitation activities using video games technologies, (Swanson et al, (2015). Interactivity as it pertains to digital media has now been used to influence teenager's sexual health behaviours, to alleviate depression, and to motivate stroke patients, for instance.

The internet and 'social media' are now used to communicate '*correct knowledge'* and *'positive attitudes toward sex'* to teenagers using '*popular interactive platforms'*, such as tablets and smartphones, (Kai Wah Chu, 2015). The success of studies reviewed appears to owe to '*a participatory design approach'*. This proved to be an effective approach for developing game-based learning tools that would later be used for sex education. The process of participation appears then to be improving outcomes. And there appears to be an increasing emphasis on the

need for it. Smartphone and internet-based interactivity have also been used to treat depression with interventions appearing to rely on cognitive-behavioral therapy and positive psychotherapy strategies, (Ann Marie Roepke et al 2015).

Social media have also been recognised and used increasingly in public health more recently for communicating key public health messages. Kass-Hout & Alhinnawi (2013) recognise that social media can be used to *'engage the public.'* Social media, they posit provides *'an increasingly common platform for public health to share information with the public'*. They argue that more work needs to be done to understand how interaction can '*provide timely, relevant and transparent public health information'*. The potential to provide and share information is now recognised. But the emphasis still appears to be unidirectional i.e. to '*communicate public health interventions'*. The opportunity to 'read' data as well as 'write' or influence behaviours using uni directional message systems is now explored. Social media are now viewed as *'a valid data source'* and a valuable tool for '*public health surveillance'*, Kass-Hout and Alhinnawi, (op cit) because they have distinct advantages over traditional public health surveillance. The evidence suggests that public health is beginning to borrow from commerce.

Gardner and Davis (2013) argue that life for teenagers, 'The App Generation', differs from life before the digital era since formative relationships and interpersonal dynamics are played out online. They argue that interactivity can '*foreclose a sense of identity'*. They also argue that it can promote a strong sense of identity. They allow '*deep relationships'* with others; but they also encourage '*superficial relations'* with others; they can stunt '*creative imagination'* or they can be a '*springboard to stimulate creativity and higher aspirations*'. Either way it is recognised that interactivity as it pertains to digital media impacts identity formation and sense of self. We have seen how adolescents tell their stories and provide a window on their lives and a window into their peers in which they can display. The ability to read that content for tracking or predicting *'the spread or severity of disease'*, for instance, has been recognised. It may also be used to read adolescents' stories invisibly, and so render their participation *involuntary*, at least in part.

Valuable work has since been carried out on the use of interactivity and storytelling as it pertains to digital media to influence human behaviour. Research has now been conducted on the delivery of storytelling using mobile phone text technology. It was based on the principles at the core of the digital storytelling framework developed here and is demonstrating promising levels of acceptability and engagement (Crombie et al. 2013, 2014). The use of theory and evidence based behaviour change techniques embedded in narrative mobile phone text interventions has demonstrated high levels of engagement particularly among men, (Crombie, op cit). And the

evidence for combining SMS with narrative interventions for lifestyle behaviours such as weight loss is building (Ryan 2014).

I merely report an impressionistic account based on my continued reading *across* disciplines, using a small sample of recent developments. A full systematic review is recommended (below). This small sample of recent developments suggests that interactivity and storytelling appear to have been used more widely in public health each with promising results. There appears to be no consistency or agreement on what format works best for specific conditions, population and contexts. And there appears to be little consensus as to how story, storytelling or narrative is defined. It becomes clear that more research is needed. My impression is that, in public health, even where interactivity is used to facilitate participation at one level, the participant as the recipient, the emphasis still appears to be on the use of cognitive based approaches to human behaviour change and a desire to control and disseminate knowledge and messages *unidirectionally.* The degree to which adolescents see their ideal selves in *that* story might usefully be explored. That research might consider if participants' data is read invisibly rendering their participation involuntary, at least in part. That is an issue of increasing ethical concern and provides perhaps a fecund subject for another thesis.

10.5. Contributions

I now consider the contributions this thesis makes to our understanding of the power of digital storytelling in the context of public health theory, practice and policy.

This thesis contributes a genuinely multi-disciplinary and unifying theoretical approach to our understanding of the power of digital storytelling to influence human behaviour. My research was conducted under the auspices of the Institute for Social Marketing at Stirling University and the Open University; it was approached, at first, through a Social Marketing lens. My initial reading of key social marketing texts, articles and conversations with leading social marketers internationally suggested that commercial storytelling and digital media was only beginning to feature in their thinking. It wasn't until later that 'The Art of Storytelling' featured in a chapter all of its own in a seminal Social Marketing text book (Hastings and Domegan, 2013). My research had a clear theoretical methodological and critical contribution to make.

The thesis contributes to the discipline of Social Marketing *theoretically* since it brings *'knowledge, concepts and techniques'* (Lazer & Kelly, 1973) from commerce. The central premise of this thesis is that digital participatory storytelling engages emotionally and *non-consciously.* The central tenet of social marketing is that *voluntary* behaviour change must be based on fully aware and cognitive

human exchanges (Kotler et al 2002; Smith 2006). By adopting the digital storytelling strategies of commerce, social marketing moves from overtly influencing behaviours on the basis of cognitive exchange to covertly manipulating behaviours emotionally. This thesis suggests that if Social Marketing has perhaps always adopted the strategies of commerce and political leaders that influence emotionally, non-consciously, invisibly and so involuntarily since the early 1950's. So if Social Marketing *is* to borrow the creative strategies of commerce identified here to influence behaviours, and take cognisance of recent developments in Neuroscience, then it must accept that its practice is to effective, it can no longer cling to notions about changing behaviour *voluntarily.*

The thesis also contributes to the discipline of Social Marketing *analytically*. As Chapter Eight details, important research conducted by Hastings et al (2010) explored the strategies and intent of commercial alcohol marketers to influence consumption behaviours. These authors wrote of *'hidden methods'* used with intent to appeal to the positive emotions of social and sexual success, (Hastings et al, op cit). This research developed a conceptual framework by which those strategies could be analysed. That conceptual framework was uniquely able to analyse that same content and demonstrate: firstly, that brand commercials online deploy digital storytelling, secondly that commerce deploys the storytelling 'elements of change' identified here – and that these were the same elements understood by the ancient Greeks and adopted by the world's most powerful religions to influence behaviour, for good or for bad. Thirdly, the research suggests that those same elements of change appear to influence individuals who are exposed to, and participate with them. This thesis builds on that previous research and makes what were previously understood as '*hidden methods'* visible; it identifies and makes commercial storytelling strategies manifest. It then links those visible strategies to studies of their consumption and affect. That could not have been done without taking an innovative methodological approach.

The thesis also contributes to the discipline of Social Marketing then *methodologically*. By combining evidence of the storytellers' intent, with an understanding of what is happening at the storytelling and consumption levels psychologically; and by augmenting established approaches to content analysis with a professional storytelling perspective and online ethnography I was able to build upon previous milestone studies in the field of Social Marketing. I was able to analyse: the perspective of the digital storyteller (acting with intent to influence specific behaviours) within the same analytical frame as an analysis of digital storytelling content (designed to influence specific behaviours); and I was able to link both of the above to insights into how digital story participants from a specific population appear to be influenced by the same content, possibly en route to specific behavioural outcomes. That approach suggested to me that research participants' exposure to, and participation with that content, across time place and platform appeared to bear silent witness to the

storytellers' original intent to influence. The thesis thereby contributes to the discipline of Social Marketing *methodologically*.

The proffered framework offers a new approach to digital literacy for critical practice more widely and social psychology more specifically. Valuable research has been carried out by social psychologists into the potential influence of advergames on diet behaviours. For Nairn & Hang (2012) advergames influence children's diet behaviours '*by persuading on a subconscious emotional level without their conscious awareness'*. Through 'dual processing' the child focuses on the game *explicitly*, oblivious to the positive affective associations being established *implicitly* and *non-consciously* (Nairn & Fine, 2008). This thesis suggests how similar positive affective associations appear to be established in adolescents *implicitly* and *non-consciously* through exposure to and participation with digital storytelling elements. It has shown how that those associations likely lead to initiation into under-aged alcohol consumption. Since advergames are now used widely to promote high fat, salt, and sugar foods (Harris et al, 2012), alcohol brands such as Jack Daniels (Ithaca, 2012) and have been found to influence children's diet choices (Dias & Agante, 2011), there is an increasing need for improved literacy by which to create, analyse and evaluate these strategies. This thesis contributes then by augmenting our digital media literacy.

I have argued that levels of non-conscious immersion and the pleasures associated with that appears to be deepening. The thesis improves our literacy by identifying three levels of engagement and participation: '*the participant as recipient', the participant as storyteller',* '*the participant as protagonist'*. Participants' sense of mastery, control and freedom appears to increase as the levels deepen from the participant as recipient, the participant as storyteller and the participant as protagonist. Even at the level of '*the participant as recipient'* digital storytelling appeared to trigger adolescents' positive emotions associated with health, belonging, social success and happiness and make them want to try alcohol for the first time. It is likely therefore that any increase in the *depth* of engagement over time might increase their probability of initiating alcohol use. At the level of '*participant as storyteller'* the same participants reported wanting to retell the alcohol myth - story - to their friends and siblings, because it made them appear to be socially successful. Alcohol marketing uses the first two levels of participation to appeal. Even at that level of contribution a commensurate public health and policy response becomes due. And calls for further research into how deepening levels of immersion with digital media might influence behaviours become clarion.

Chapter Nine suggests that when acting as participant as protagonist, adolescents enjoyed a sense of freedom doing what they want to do - playing, creating, competing, socialising and collaborating - and becoming who *they* wanted to be. Evidence from focus groups showed how adolescents enjoy

being other characters; it appeared to alleviate their boredom. Acting in the role of 'the participant as protagonist' individuals lose their sense of self, of time (Chapter Two and Four). The concept of the *participant as protagonist'* becomes then a particularly important concept and in integral part of that framework. It offers great potential to improve public health by allowing the participant - or even patient - as protagonist to be who *they* want to be. This depth of immersion is beginning to be deployed by commerce.

Advergames designed to remits set out by commercial marketers now provide ready made *personas* into whose shoes the child participant can step into as protagonist. Kraft Food's Honey Comb Cereal, for instance, was promoted using an advergame called 'Be a Popstar' on the brand's child-targeted website. Children choose and become a pop star avatar, making decisions as a music celebrity. We have seen how adolescents enjoy the freedom of being who they want to be (Chapter Nine). We have seen that in the role of storyteller the participant will tell the story the brand wants them to tell. The irony here is that by acting as participant as protagonist and appearing to be who *they* want to be, participants are in danger of becoming exactly who *commerce* wants them to be - with potentially lasting consequences. This thesis contributes again by providing a conceptual framework by which this might be analysed and understood.

The thesis contributes to further research, intervention design and digital storytelling practice. I have argued that interactivity and storytelling as I defined them in the introduction proffers a powerful approach to behavior change when merged. I referred in chapter two, to research demonstrating that the appeal of interactivity, as it pertains to digital media appears to be, in part, that it provides participants with '*access to ideal aspects of themselves'* (Przbylski et al 2012). Participants who expressed ideal aspects of themselves while interacting experienced short-term effects on their emotions after interacting. How participants consider their 'ideal' and 'actual' selves and how they experience themselves while interacting appeared to influence emotions. This suggested that who a participant gets to *be* while interacting will similarly determine positive emotional affect if that protagonist most conforms to who *they* want to be. But as I argue in Chapter Two, previous laboratory research measured how participants felt about their performance in tasks set within games or '*challenges embedded in accessible narratives'*. The allure of interactivity and its power to influence emotions appeared to be strong. Prior research demonstrates the power of *interactivity* alone. It did not test whether or even how the participant related to the protagonist or any other storytelling element of change identified here. The present study builds on previous work then by providing a conceptual framework by which the use of digital storytelling might be operationalised and tested further. This remains a fecund site for further research and intervention practice.

The findings show an apparent imbalance in the degree to which public health and commerce embrace the power of digital storytelling to influence behaviours. Given that commerce is advancing its knowledge, understanding and use of digital storytelling to influence consumer behaviours, deepening levels of participation and emotional engagement, and that part of the storytelling process is invisible to consumers gives cause for concern. Particularly as public health appears to be advancing its use of digital storytelling to influence health behaviours; but limiting the power of digital storytelling to strategies that seek to control behaviours by controlling knowledge and thereby failing to engage at deepening non-conscious levels. This imbalance can be addressed in two ways: public health might adopt the strategies of commerce evidenced here. Or, policy might be brought into line with contemporary digital marketing practice.

This thesis contributes then by taking a multi-disciplinary approach to suggest how digital storytelling might influence health behaviours for good. It has developed and 'tested' a new theoretical model based on secondary and primary evidence and professional expertise. The fact that digital storytelling appears to influence human behaviour suggests that the *threats* to public health from the commercial marketing of harmful products can now be researched with more confidence. It thereby contributes by proffering a framework upon which new studies of story-based digital health interventions *across* behavioural outcomes can be, and are being, built.

This thesis contributes to public health policy. I have shown that under-aged adolescents are likely to try alcohol, having been exposed to, and participated with digital storytelling deployed by commerce. This has specific implications for policy. This research suggests that policy makers remove the teeth from the shark. The framework can contribute by foregrounding and throwing into relief the specific storytelling elements of change that policy makers and third sector stakeholders need to focus on. Particular attention needs to be paid to the power of digital storytelling to appeal to human emotions at increasing depths through the use of tone and theme, for instance. The importance of the unspoken and invisible power of these elements and their ability to engage human emotions over time highlighted here is further emphasised by recent developments in Film Censorship. On 24th February 2014, the British Board of Film Classification recognised the need to consider the elements of tone and theme and to move away from more conventional concerns with static representations and 'content' (BBFC 2014). This research goes further still by providing a unified set of concepts and framework by which increasing depths of exposure to, and participation with digital media storytelling can be analysed, critiqued and understood.

As commerce invests in ever more sophisticated forms of digital storytelling, neuromarketing, data-mining and emotional management tools the question research might ask is not can digital

storytelling be used to change our behaviours but should it be used at all? And if so, by whom? The thesis makes a novel and timely contribution by proffering a framework that can be used to analyze extant story-led content, create and design new story-led interventions and critically appraise the negative impacts of their use by commerce to market harmful products such as alcohol, and high fat, salt and sugar foods. The theoretical links demonstrated here suggest that calls for policy change is now more pressing than premature.

This thesis also contributes to Evolutionary Psychology. It supports Darwin's (2003) argument that we might view the current version of humanity, not as the end point of evolution, but as an early phase. We saw in Chapter One how evolutionary power can be gained, over time, by any one organism, group or organisation if they *consciously* control and manipulate by non-conscious means. In spite of this, and however *conscious* of that process the participant may become, or however much they anticipate and are aware of the manipulator's *intent,* the power of storytelling to engage them *non-consciously* may likely override and preclude any effort to counter those means. Since how we interact with our environment from and even before birth determines our habits of our lifetime (Lindsrom, 2012); and since that can be passed on epigenetically, what our environment becomes in the shorter term will determine who we become as a species in the longer term. Recent developments suggest that participants will likely enjoy increasing levels of emotional engagement over time; but also with the worrying consequence of a loss of control over the distinction between the physical world, their habits, behaviours and those of others in either; this can impact on a global and evolutionary scale. This argument is supported by significant developments occurring since this research was first conceived.

On September 9th 2014 Microsoft bought Mojang the company who makes the online game Minecraft for $2.5 Billion (Wired, 2014). Commerce thereby secured access to, and data from the games' 100 million adolescents worldwide (Reuters, 2014), 21% of whom are estimated to be under 15 (Quora, 2014). The data will likely be read and used to manage, structure and regulate human emotions over time. Since 2009, Google's objective has been to use its search platform as an emotional management and regulation tool; this exploits its ability to read the range and intensity of emotions now publicly expressed and shared on social platforms globally (Morning, 2014). Our knowledge as to how digital storytelling can be used to structure human emotions over time becomes vital. Google's competitors also seek to capture consumer behaviour data unconsciously (Johnson 2104). Facebook has its own plans and in March 2014 bought Oculus Rift a virtual reality system for use in social media contexts for $2 billion (Oreskovic and Nayak 2014). In June 2014 Facebook advanced commerce's ability to manage, regulate and manipulate human emotions over time and place using digital storytelling. Researchers published the results of a

controversial social experiment on 689,003 subjects across the world (Kramer et al, 2014). By editing and hiding participants' online stories researchers were able to manipulate recipients' emotions and so their emergent storytelling over time. It showed that emotional states transfer from one person to another online via emotional contagion *non-consciously* causing each person to experience the same emotion as the other; moreover, that spread can be now be mediated by commerce. This thesis contributes strong argument to suggest that the emotional and health impact of that activity might also be mediated *and* countered by public health.

This thesis also contributes by highlighting a need to view digital and physical world settings as if on a continuum; this is something I have stressed throughout. More recent developments are noteworthy. Google Glass (a digital eye wear device that captures voice and video) has now been patented to track consumers' emotional states over time and place (Morning, op cit). The miniaturization of devices such as Pupil, an eye-tracking device and Autographer, a life blogging camera worn around the neck will bring voice and vision functions closer to the consumers' ears, eyes and mouth. This means that no active *conscious* data capture is needed in order to read behaviours and emotions. This has obvious potential for health monitoring and regulation; but health is perhaps not Google's main priority for promoting self-ethnography. Google has recently patented pay-per-view technology where advertisers are charged a fee for exactly what *you* see; and soon, perhaps by extension what you hear, say and *do*. These developments suggest that digital media will further blur physical and digital spaces, physical and digital world behaviours and physical and digital personas making the distinction between physical and digital world behaviours, and the influences on them increasingly difficult to see and tease apart.

The thesis also contributes by updating the thinking of the Ancient Greeks for the digital age. Aristotle, writing over 2,300 years ago, embraced storytelling's ability to structure human emotions; to allow the citizen to experience change vicariously through emotional catharsis. This thesis updates Aristotle's understanding, that the stories we tell may influence by bringing about emotional catharsis and change '*without explicit argument'*. Commerce has since embraced this approach in cinema, computer games and digital media and marketing more widely since. This thesis contributes the elements of change that may structure emotions '*without explicit argument'* over time, place and platform in a digital era. To return to Plato writing over 2,300 years ago,

> *'...we must first of all it seems, supervise the storytellers. We'll select their stories…And we'll persuade nurses and mothers to tell their children the ones we have selected, since they will shape their children's souls…Many of the stories they tell now, however, must be thrown out.'* (Plato, 1992:53).

This thesis suggests that Plato's approach towards controlling and censoring storytelling in order to change civilians' base emotions to reason, parallels that of modern day public health. As we saw in Chapter Seven, public health experts appear to fully realise the power of storytelling to engage the emotions - but insist on the power of reason and cognition to guide appropriate and 'responsible' behaviours. In terms of the apparent imbalance in preferred approach evidenced here, little appears to have changed in over 2,300 years. But Plato's objective was a civilisation that benefited the subjects and *not* just the ruling classes. Plato believed that by removing citizens from their enslavement to base desires they might be free to enjoy better, happier and more fulfilling lives. As Reeve (1992) has argued, Plato's approach might be reconsidered in the light of our modern desire for products that may never make us happy or healthy.

10.6 Further Research

The theory developed here then provides a robust framework and set of 'elements' by which exposure to and participation with digital storytelling can be analysed and the impact it has emotionally and non-consciously. New research might audit what marketing strategies alcohol brands use to trigger adolescents to tell and share their 'own' stories; to what extent those stories recapitulate the alcohol myth and how and to what extent marketers optimize and *bias* those same adolescents' subsequent exposure and participation with digital alcohol marketing strategies over time. New qualitative studies might explore further, for instance, the distinction made here between physical and digital world behaviours and settings. That data might establish how adolescents use their peers' stories and displays of alcohol consumption online as 'evidence of' physical world consumption and how that influences their initiation into alcohol. Leading from the current research, the likely null hypotheses would be that:

H1 - Participants stories of alcohol consumption will *not* influence peers to take up alcohol if the 'elements of change' outlined here engage positive emotions associated with health, belonging, social and sexual success (as opposed to negative emotions associated with isolation and illness).

Or conversely,

H2 – Participants' stories of alcohol consumption will influence peers to take up alcohol if the 'elements of change' outlined here engage negative emotions associated with isolation and illness as opposed to health, belonging, social and sexual success.

Further research might test the predictive power of the proposed framework. The current framework might be used to analyse how the three levels of digital participation identified here mediate real world consumption over time, for instance. Individual 'within subject' case studies might reveal whether the roles of 'participant as recipient', 'participant as storyteller' and 'participant as protagonist' impact adolescents' own and their peers' drinking behaviours. Or it might explore usefully whether any take up or increase in the frequency of real world consumption leads to any increase in the level and frequency of exposure to and participation with these three levels in the context of digital alcohol marketing strategies.

The following specific studies are also recommended.

A Systematic Review: It is recommended that a systematic review now be conducted to reveal how research into digital mass media has progressed over the last three years during which this research was conducted. This would progress the finding of this research whose conclusions rely in part on a scoping review conducted in 2012. It would serve to update and upgrade this scoping review as well as to 'test' the rigour of the current framework and its components in the light of more recent developments in commerce, public health and political communications. But it appears to be still too early to conduct Meta Analyses given the heterogeneity of research design, populations and outcomes – and a lack of any agreement as to what is meant by, and operationalised as 'narrative'.

Population Level, Quantitative Studies: This research has highlighted alcohol marketers' manifest intent to associate alcohol consumption with the positive emotions associated with belonging, social success; and it has shown that, and how, digital storytelling might transform adults and adolescents' behaviours in the brand's favour (Chapters 8-9). Population level quantitative research might now be conducted to investigate the impact of digital storytelling elements of change in the context of what I have called DAMS Digital Alcohol Marketing Strategies. The digital storytelling framework and the following null hypotheses drawn from this thesis now form the basis of a current bid for ESRC funding for a two phase longitudinal cohort study.

H1: Adolescents who have been exposed to, and participate with, digital storytelling over a given period of time will *not* have started drinking alcohol.

H2: Adolescents who have started drinking alcohol during the research period will *not* have been exposed to and participated with digital storytelling.

H3: Adolescents who have been exposed to, and participated with, digital storytelling will *not* have increased the frequency and quantity of alcohol consumed during the research period.

H4: Adolescents who increased the frequency and quantity of alcohol consumed during this period will *not* have been exposed to and participate with digital storytelling.

These hypotheses will be tested with alcohol initiation status and frequency of consumption as the dependent variables and exposure to, and participation with digital storytelling elements of change as the independent variables. This research will thus augment directly previous research by the Institute for Social Marketing (funded by National Preventive Research Initiative) investigating the cumulative impact of conventional alcohol marketing by focusing solely on exposure to and participation with digital media (Gordon et al, 2010).

The insights acquired by this research could also be of potential value to those seeking to better understand how mass digital marketing influences other health behaviours such as smoking, illicit drug use, diet, physical activity, sexual health, mental health, violence and gambling. The hypotheses above could also be extended and adapted usefully to further research the impact of digital storytelling strategies on high fat, salt and sugar foods and tobacco consumption, for example.

We might for instance investigate the distinction between '*aspects of self*' - as measured in response to tasks facilitated by interactivity alone - and a sense of self or identity that emerges by playing a clearly defined protagonist in a story-led interactive experience. Previous research suggests that the outcome may result, in whole or in part on how that participant *interacts* throughout the duration. I would conjecture that the digital storytelling – the external audiovisual (digital) representation of how a character acts on her environment, objects, events and others in it, how she changes – as well as how the participant *interacts* throughout the duration will impact how the participant responds emotionally. I would conjecture that playing a strong and proud fisherman or a mermaid who defeats evil, for instance, may likely result in positive affect if the participant wants to be a proud and strong fisherman or a mermaid who defeats evil in the first place. Previous research has shown how emotions after the experience are impacted. By shifting the emphasis of research towards the structuring of human emotions over time and how digital storytelling elements of change identified here, we might discover how those emotions change from before, during and after a carefully crafted interactive story experience. Measuring those emotions becomes, however, problematic. But that problem does not appear to have stopped commerce trying.

The main conjecture is that the digital participatory storytelling approach advanced here will influence across behavioural outcomes emotionally and non-consciously at ever increasing depths. The framework developed here is now being tested across a range of behavioural outcomes. Its central principles now sit at the core of research initiatives that exploit the potential of digital storytelling to reduce alcohol, tobacco harm and obesity in men; improve smoking cessation amongst pregnant women and improve parents' and children's adherence to physiotherapy for Cystic Fibrosis.

Evidence from Neuroscience has shown us that human beings engage on a wider, and *non-conscious* spectrum than previously understood. '*An intellectual understanding is not enough to understand our social world. Our intuitions are essential'* (Keyser 2012:101). Any just and responsible civilization must recognise this. The thesis contributes overall then by showing how digital storytelling has the potential to structure human emotions over time and thereby change behaviours. It appears to operate non-consciously because as human beings we intuit. Public health and policy might therefore embrace the power of digital storytelling, in the interests of what Plato and Aristotle both sought - a 'just' and healthy civilization. But that power has to be wielded responsibly and transparently by commerce and public health. Given what Neuroscience is telling us now it may transpire that intuition has always been one of the most powerful tools humanity has ever possessed.

10.7 Chapter Ten and Thesis Conclusion

Digital storytelling appears to have the power to influence human behaviour. Its power appears to lie in its ability to *transform* the participant through deepening levels of emotional and non-conscious engagement over time. For that reason the proposed framework is now called the *Digital Storytelling Transformation Framework*. Commerce continues to embrace the power of digital storytelling to survey, control and manipulate behaviours. It is posited here that public health might realise its duty of care to citizens globally and use the power of digital storytelling to act on it. It is conjectured that failure to act effectively hands the adaptation of the human species over to commerce. The proffered digital storytelling framework provides a model by which digital storytelling can begin to be understood, approached and deployed responsibly in the context of research, intervention practice, critical marketing and policy.

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Appendices

Appendix A – The Scoping Review Process

This appendix includes further details on the Scoping Review process. Steps 1 and 2 of the scoping review process, the trial search protocols are presented to allow replication. Please see the methods chapter (Chapter Six) where a narrative details each step of the scoping review process and a chart outlines all steps taken 'at a glance' (pgs 84-85). A detailed narrative of these early but formative findings (taken from the researcher's diary) follows each step. A reflective appraisal of the literature review process overall now features as part of the final chapter (Chapter Ten). This includes reflection on what might have been done differently, during the literature review process, with valuable hindsight.

Scoping Review – Step 1: Trial Search 1

The Medline database was searched first, via Ovid. The Ovid Medline database *''...contains bibliographic citations and author abstracts from more than 4,600 biomedical journals published in the United States and in 70 other countries. The database contains well over 13 million citations dating back to 1950, including more than 130,000 population-related journal citations Although coverage is worldwide, most records are derived from English-language sources or have English abstracts. Abstracts are included for more than 75% of the records'*, (OVID, 2012).

Database: Ovid MEDLINE(R) 1946 to January Week 1 2012
Search Strategy: Run on Tuesday 17th January 2011

1 ipad.mp. (127)
2 iphone.mp. (48)
3 smartphone.mp. (55)
4 exp Video Games/ (1303)
5 wii.mp. (158)
6 playstation.mp. (25)
7 xbox.mp. (11)
8 exp Cellular Phone/ (2610)
9 mobile phone.mp. (1175)
10 8 or 9 (2878)
11 ((behavior or behaviour) adj2 change).mp. (6290)
12 10 and 11 (18)
13 android.mp. (417)
14 "Computers, Handheld"/ (1675)
15 11 and 14 (5)
16 computer games.mp. (266)

17 exp Internet/ (39007)

18 11 and 17 (158)

19 online gam$.mp. (92)

20 casual gam$.mp. (5)

21 exp Social Media/ (38)

22 social media.mp. (233)

23 facebook.mp. (157)

24 1 or 2 or 3 or 4 or 5 or 6 or 7 or 12 or 1

This first step was carried out with advice from an experienced literature review consultant. Search terms yielded an unmanageable number of documents – in the case of 'internet' n= 39,007 or 'Computers, handheld' n= 1,675. A 'search strategy within a search strategy' was built into the protocol and these terms were coupled with 'behaviour change' (and 'behavior change') thus limiting the results to an amount more manageable within the timeframe and budget available. Behaviour change was central to the research questions. All selected documents were then screened according to whether or not a clear behaviour change was sought using interactive storytelling strategies. A choice was made not to combine *all* terms with 'behaviour change' at this stage for fear of missing those studies that have a clear behaviour change goal but do not specify it explicitly. This should be considered if the study is to be replicated with more resources at a later date. The inclusion of 'narrative' 'storytelling' and 'interactivity' as search terms was discouraged. The search revealed 2,517 articles. All abstracts were read and filtered.

Inclusion Criteria: Articles were included if they appeared to report a nuanced use of commercial audiovisual storytelling strategies and interactive media technologies (digital storytelling) as an intervention (or a component of an intervention) with a clear behavioural or biological outcome or measure.

Exclusion Criteria: Articles were excluded if: No abstract. Duplicate. Education or training of nurses or surgeon's laparoscopic skills. Articles reporting the use of the internet for broad dissemination of health information and the use of Web 2.0 strategies to enhance professionals' image, networking and training were numerous and also excluded. Abstracts concerning video game screen time and pediatrics where the topic was bundled with similar but wider concerns over television and 'negative media use in adolescents' was ignored as it would be difficulty to isolate the impact of interactive media or participatory storytelling in this.

Findings of Trial Search 1

1 abstract, (Baranowski, 2008), appeared to report the use of (digital storytelling) – the use of commercial audio visual storytelling strategies merged with interactive media technologies in an intervention (or a component of an intervention) with a clear behavioural or biological outcome or measure. The use of interactive media appeared to be, however, increasingly reported and researched in the context of health within the last three years. All 2,517 abstracts were therefore read and themed. This allowed the researcher to relate the findings of subsequent searches back to this background literature.

Topics ranged from the use of interactive media to improve the larpascopic skills of surgeons, concern over video violence and screen time, sedentary behaviour in adolescents, online gambling, and addiction to video games and the internet. More positive uses included the health benefits of active video gaming and exercise (exergaming) and the use of virtual reality headsets in stroke rehabilitation. Although mostly background, concerns about violence and addiction were interesting insofar as they began to observe and catalogue the psychosocial determinants of addictive and violent behaviours online or in games. Most abstracts recognised the behaviour change impact of interactive media (as defined in the introduction): but not storytelling. It was noted that the medical and dental professions appeared to feel threatened by the ability of patients to speak back on the emerging 'social media'. The tone of the writing suggests that they wished the genie were back in its bottle in the interest of protecting their professional distance and stance. These findings, although impressionistic, provided context, evidenced the rising interest in and concerns with digital media in the context of health. It became clear that digital media had been used for good and for bad. And that there was some tension over the idea that interactive media allowed the end user to speak back. It evidenced an apparent desire for control. Very few studies sought to unravel the workings of story and rhetoric within interactive products. This is something we need to address. Step 1 then provided vital background information, albeit impressionistic, that informed this exploration. It also helped to calibrate the terms for later search strategies more finely.

Scoping Review – Step 2: Trial Search 2

The original intention was to cover three fields – public health, commerce and the military; by restricting our search to Medline we had a protocol which covered Health alone. A wider and more cross disciplinary approach was needed. The aggregator, EBSCO was used next to search further databases using the same – or at least a similar – protocol. The three databases searched via EBSCO included PsycINFO, the CinAHL (Cumulative Index to Nursing and Allied Health Literature) and the Psychology and Behavioural Sciences Collection (PBSC). This widened our

search to four databases increasing the review's interdisciplinary nature to include Psychology.

The EBSCO trial yielded 2,675 abstracts for screening. Commerce was still not covered. A fifth database, Emerald, was searched using the same protocol which gave us results specific to commerce, business and marketing. Duplicates *across* the databases were removed and the findings were then limited to the English language and abstracts only.

Further consultancy took place augmenting the Scoping Review with the perspectives of Information Systems Management and Social Marketing systematic review experts. It was felt that the business and commerce field could be covered more fruitfully by Business Source Premiere from within the EBSCO search. It was suggested that Emerald be searched as a subsidiary exercise alongside the more rigorous aggregators but within the review. In order to ensure that Health, Social Science and Commerce were covered in a balanced and comprehensive manner it was advised that the *Web of Knowledge* or *Scopus* aggregators should be used to search between six and eight seven databases. It was felt that as 10 was usual for a systematic review, 7 databases was ample for a scoping review. It was also advised that searches were limited to the English language early on and to abstracts and titles only in order to keep the results fewer and focused. The protocols were re-written by the researcher to include 'storytelling', 'interactive narrative' etc. and further searches were executed. The findings of this and later steps are reported in Chapter Three.

Appendix B – The Data Analysis Process

This appendix includes further detail on the data analysis process. The process of how the emerging themes were identified, indexed, coded, charted and the data interpreted is made explicit.

Framework Analysis

A framework analysis approach was used to analyse data acquired from the 11 depth interviews and the six focus groups. Spencer et al (2003) and Ritchie et al, (2003) recommend that all data are analysed using five key stages: Familiarisation, theoretical framework identification, indexing, charting and interpretation. Following this approach, and adapting Furber's (op cit) application of it, large data sets from the interviews and focus groups could be managed and analysed with some rigour. The application of how this approach was used is now outlined in detail, with examples from the analysis of the depth interviews and the focus groups. The further detail provided below means that the process can become more *'easily replicable'* Furber (op cit).

Familiarisation (Ritchie et al, 2003): All transcripts were printed out, bound and read three times each. Notes were made in the margins. Broad headings or 'themes' began to emerge from that familiarisation process. These were simply written down in the research diary. Box 1 shows the broad themes first emerging from data from depth interviews. Box 5
shows the broad themes first emerging from data from focus groups:

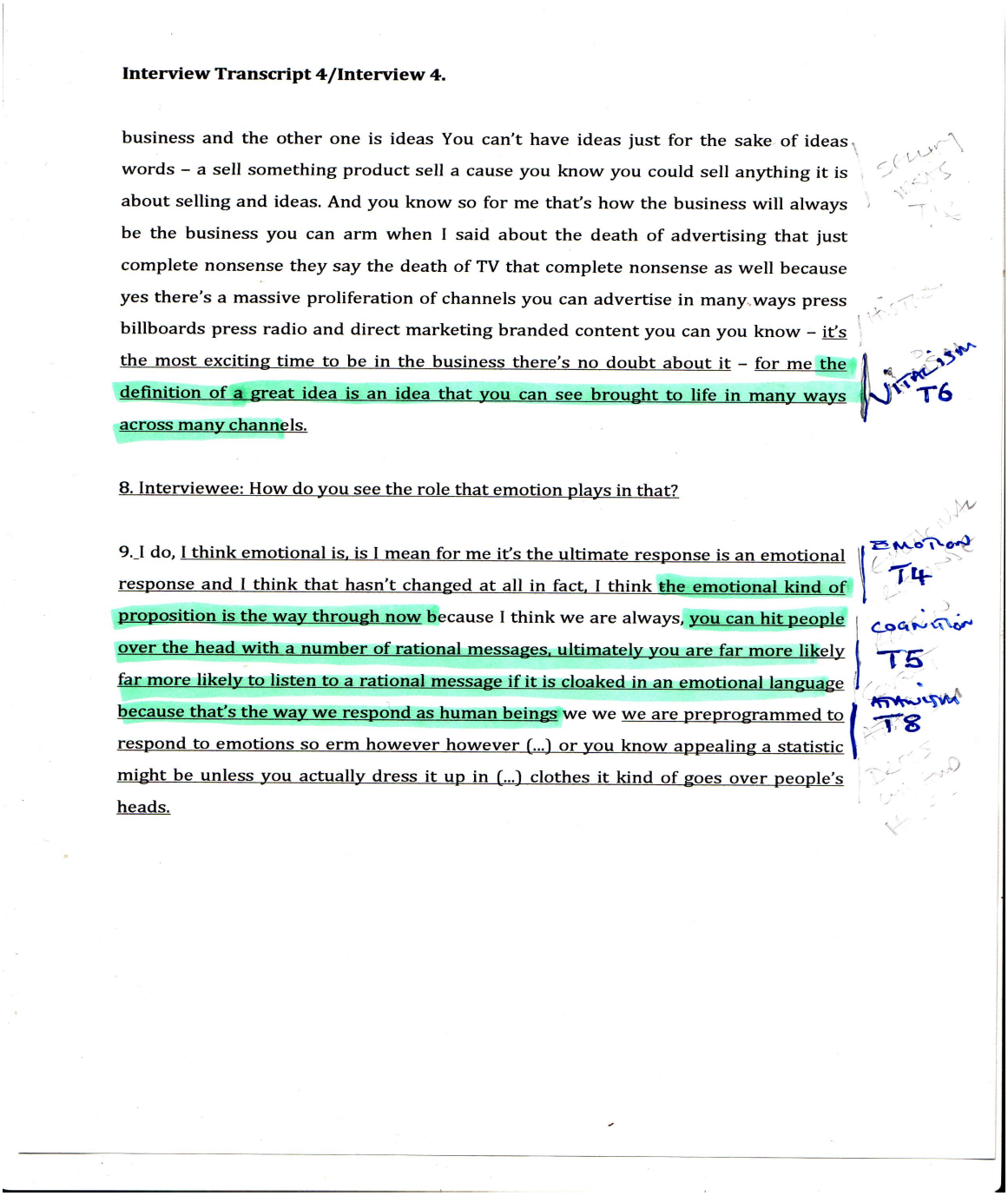
Box 5: A Sample of the Broad Themes First Emerging from Data from Depth Interviews

- Belief in the power of digital storytelling to influence human behaviour
- Fears of losing control over the storytelling process
- Overcoming fears of losing control over the storytelling process
- Emotional engagement as a behaviour change 'Holy Grail'
- Cognitive behavioural approaches as the 'Holy Grail'
- The need for a digital storytelling 'recipe book'
- Vitalism
- Atavism

Box 6: A Sample of the Broad Themes Emerging from Data from Focus Groups

- Alcohol brands' digital storytelling 'pushed' at adolescents not 'pulled'.
- Alcohol brands' digital storytelling potent when simply received online
- Emotions elicited by alcohol brand's digital storytelling associated with social and (sexual?) success
- Emotions elicited by public health campaigns' digital storytelling associated with isolation, depression and illness.
- Participants' storytelling has emotional protocols
- Participants' ideal selves.

Indexing and Coding *(Ritchie et al, 2003):* Each of the emerging themes was given a number and thus 'coded'. Each transcript was then re-read and the text was indexed using these codes, prefixed by a 'T' to represent theme e.g T1 = Theme 1. Codes were written in pencil in the margins at first. When there appeared to be a consistent 'fit' between the themes and the data, pencil marks were later erased and an indelible pen was used. This represented an increase in the researcher's confidence in the themes, the emerging 'sub-themes' and their supporting data. This step in the process became particularly marked when key differences emerged between the responses from commerce and those from public health. For example, when a difference emerged, across the transcripts of interviews in how emotions and cognition were seen by commerce and public health respectively. The following extract has been scanned from one of the commerce interview transcripts. It represents Commerce: Interview 4: Transcript 4. Themes 4, 5, 6 and 8 have been indexed (T4=Emotional response, T5=Cognitive Response, T6=Atavism and T6=Vitalism).



Interview Transcript 4/Interview 4.

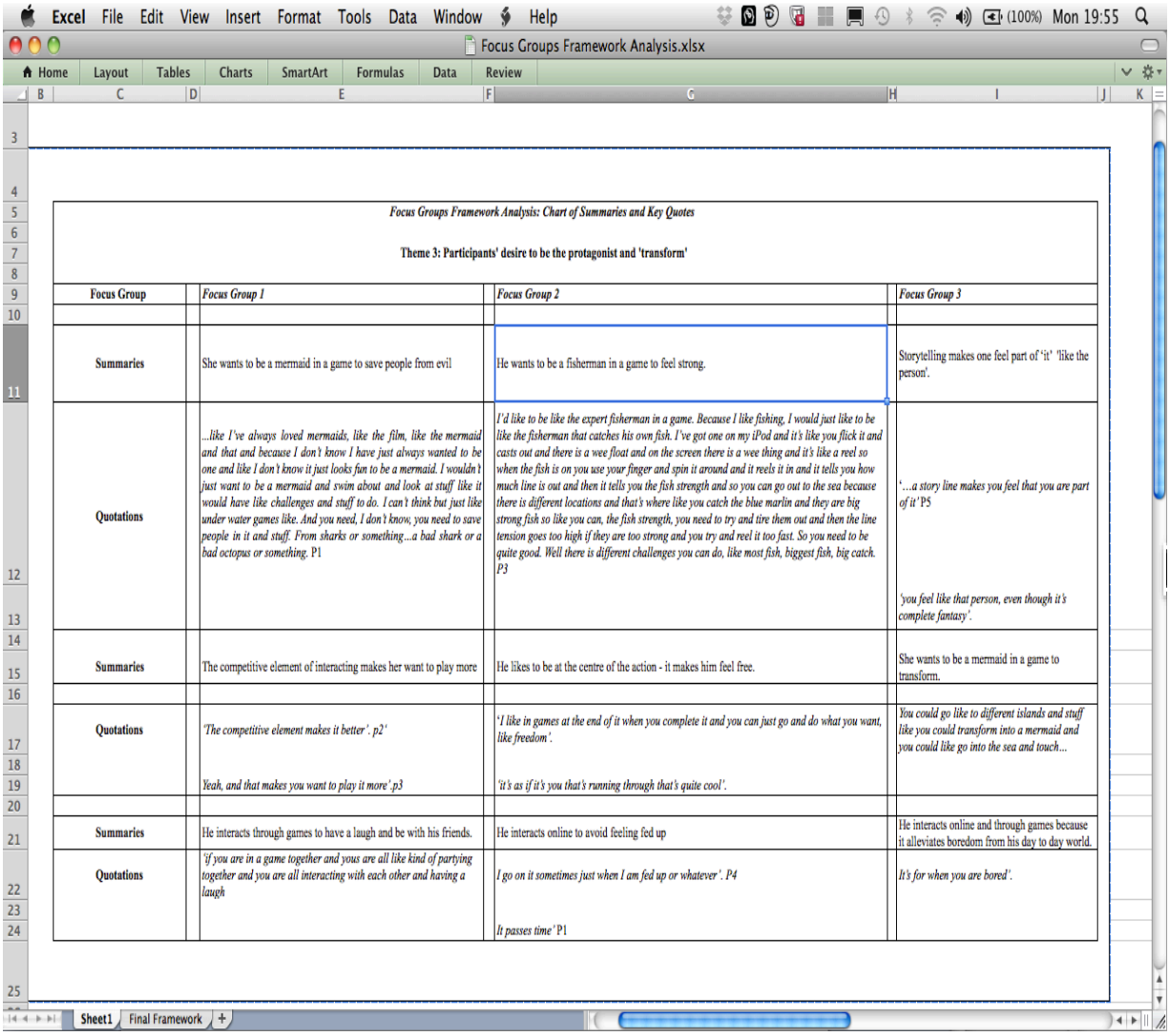
business and the other one is ideas You can't have ideas just for the sake of ideas words – a sell something product sell a cause you know you could sell anything it is about selling and ideas. And you know so for me that's how the business will always be the business you can arm when I said about the death of advertising that just complete nonsense they say the death of TV that complete nonsense as well because yes there's a massive proliferation of channels you can advertise in many ways press billboards press radio and direct marketing branded content you can you know – it's the most exciting time to be in the business there's no doubt about it – for me the definition of a great idea is an idea that you can see brought to life in many ways across many channels.

8. Interviewee: How do you see the role that emotion plays in that?

9. I do, I think emotional is, is I mean for me it's the ultimate response is an emotional response and I think that hasn't changed at all in fact, I think the emotional kind of proposition is the way through now because I think we are always, you can hit people over the head with a number of rational messages, ultimately you are far more likely far more likely to listen to a rational message if it is cloaked in an emotional language because that's the way we respond as human beings we we we are preprogrammed to respond to emotions so erm however however (...) or you know appealing a statistic might be unless you actually dress it up in (...) clothes it kind of goes over people's heads.

Individual quotations were then lifted from the transcript and exported in a Microsoft Excel spreadsheet. There was some concern at this stage that the context of the interview, its structure and the questions and answers approach would be lost; but this appeared to be unavoidable. Quotations from the focus groups were more readily kept in their original context and form because the interactions between participants was often vital. Nevertheless, the Excel file quickly became large and unmanageable without a second computer screen. Some reduction of the data was however needed and inevitable.

Charting (Ritchie et al, 2003): The charting process then began. Brief summaries of the quotations and emerging sub themes were included in the charts for reference, (Spencer et al, 2003). This included summaries of key quotes - or of a number of key quotations - now linked by a theme. Key quotes were included in these documents but they began became subsidiary to their summaries. Care was taken to use quotes that represented clearly, and supported as unequivocally as possible, the themes identified. This process allowed exemplary data and their relation to key themes to be represented at a glance. The following (Box 4) is an extract from an Excel chart used to represent and better visualise and group data from the focus groups.



Excel File Edit View Insert Format Tools Data Window Help (100%) Mon 19:55

Focus Groups Framework Analysis.xlsx

Home Layout Tables Charts SmartArt Formulas Data Review

Focus Groups Framework Analysis: Chart of Summaries and Key Quotes

Theme 3: Participants' desire to be the protagonist and 'transform'

Focus Group	*Focus Group 1*	*Focus Group 2*	*Focus Group 3*
Summaries	She wants to be a mermaid in a game to save people from evil	He wants to be a fisherman in a game to feel strong.	Storytelling makes one feel part of 'it' 'like the person'.
Quotations	*...like I've always loved mermaids, like the film, like the mermaid and that and because I don't know I have just always wanted to be one and like I don't know it just looks fun to be a mermaid. I wouldn't just want to be a mermaid and swim about and look at stuff like it would have like challenges and stuff to do. I can't think but just like under water games like. And you need, I don't know, you need to save people in it and stuff. From sharks or something...a bad shark or a bad octopus or something.* P1	*I'd like to be like the expert fisherman in a game. Because I like fishing, I would just like to be like the fisherman that catches his own fish. I've got one on my iPod and it's like you flick it and casts out and there is a wee float and on the screen there is a wee thing and it's like a reel so when the fish is on you use your finger and spin it around and it reels it in and it tells you how much line is out and then it tells you the fish strength and so you can go out to the sea because there is different locations and that's where like you catch the blue marlin and they are big strong fish so like you can, the fish strength, you need to try and tire them out and then the line tension goes too high if they are too strong and you try and reel it too fast. So you need to be quite good. Well there is different challenges you can do, like most fish, biggest fish, big catch.* P3	*'...a story line makes you feel that you are part of it'* P5 *'you feel like that person, even though it's complete fantasy'.*
Summaries	The competitive element of interacting makes her want to play more	He likes to be at the centre of the action - it makes him feel free.	She wants to be a mermaid in a game to transform.
Quotations	*'The competitive element makes it better'. p2'* *Yeah, and that makes you want to play it more'.p3*	*'I like in games at the end of it when you complete it and you can just go and do what you want, like freedom'.* *'it's as if it's you that's running through that's quite cool'.*	*You could go like to different islands and stuff like you could transform into a mermaid and you could like go into the sea and touch...*
Summaries	He interacts through games to have a laugh and be with his friends.	He interacts online to avoid feeling fed up	He interacts online and through games because it alleviates boredom from his day to day world.
Quotations	*'if you are in a game together and yous are all like kind of partying together and you are all interacting with each other and having a laugh*	*I go on it sometimes just when I am fed up or whatever'. P4* *It passes time'* P1	*It's for when you are bored'.*

Sheet1 Final Framework +

Interpretation: A higher level 'summary of summaries' was then created in the research diary from which a final theoretical framework was drawn. Please see Box 5 below where the final framework derived from the analysis of data from focus groups is represented.

Box 5 Focus Groups Final Framework	
Dominant Themes	**Summary of Data Supporting Dominant Themes**
1. The Participant as Recipient	For the participant as recipient: Linear storytelling online appears to appeal and influence emotionally. Appeals to desire to belong, be healthy and experience positive emotions associated with social success. Alcohol branded digital storytelling creates space for, and likely reinforces adolescent's initiation into alcohol.
2. The Participant as Storyteller	For the participant as storyteller: Non-linear storytelling appears to appeal emotionally. Telling stories helps express desire to belong, to display to friends, and outsiders alike. Parents are not the preferred audience. Participants'' audiovisual storytelling appears to have emotional protocols. Participants audio visual storytelling likely reinforces own and others initiation into alcohol. Commerce provides the tools.
3. The Participant as Protagonist Transformational	The Participant as Protagonist appears to be perceived as 'Transformational'. Improves sense of self; stronger, more attractive, popular, humorous, on the side of good, at the centre of action, be free and escape.
	The Participant as Protagonist provides opportunities to: • compete, collaborate and create • have a laugh and be with friends • display • alleviate boredom and depression.

Adherence to the clear stages outlined above was iterative and non-linear. It allowed the researcher to move from raw data to the higher level concepts and themes drawn from it in a systematic manner. Interpretation of data could then be linked to the research questions on the one hand and to the raw data as the source of those interpretations on the other. This framework was then compared against the developing framework digital storytelling framework; and the findings were then reported in the first draft of what became Chapters Seven and Nine.

Appendix C: *Belong* Shot List

SHOT 1: 00:00 – 00:03 – WS: Establish Trees in English Countryside, Evening.

SHOT 2: 00:03 – 00:05 WS: Establish Sunset English Countryside, Evening. Suggests that there is a conurbation on horizon.

SHOT 3: 00:05 – 00:07 MS: Two Starlings in a tree, agitated. Both look at the sky watching something (OOS). Starling (frame left) glances OOS (frame right).

SHOT 4: 00:07 – 00:09 WS: Camera pans left to right to follow small group of 16 starlings until they settle in a tree and join a larger group (24). Camera settles.

SHOT 5: 00:09 – 00:11 MS: Camera studies tight group if starlings (5) in the tree. They appear anxious and look to something happening (OOS) in the pink evening skies all around them.

SHOT 6: 00:11 – 00:13 WS Camera pans left to right following medium sized murmeration of starlings.

SHOT 7: 00:13 – 00:16 MS Camera pans right to left to follow medium-sized murmeration of starlings travelling in opposite direction (to previous shot).

SHOT 8: 00:16 – 00:175 WS Static camera. Medium-sized murmeration of starlings joins another Medium sized group. They 'spin' anti clockwise. Shot ends where 'spin' reaches 8 o'clock.

SHOT 9: 00:175– 00:18 MS Static camera. Starling move left to right joining previous 'spin' at '7-5 o'clock'.

SHOT 10: 00:175– 00:18 MS Static camera. Huge murmeration 'expands' and moves right to left joining…

SHOT 11: 00:20–00:21 WS Static camera. …larger murmeration travelling right to left. Murmerations split, one to frame right one to frame left as if choreographed.

SHOT 12: 00:21–00:22 WS Camera zooms as murmeration 'tumbles' down towards the trees.

SHOT 13: 00:21–00:22 MS Camera pans down, following murmeration travelling right to left.

SHOT 14: 00:23–00:24 MS Static Camera. Bottom edge of large murmeration passes camera right to left.

SHOT 15: 00:24–00:25 MS Static Camera. Bottom edge of large murmeration passes camera right to left as if travelling somewhere.

SHOT 16: 00:25–00:26 MS Static Camera. Edge of large murmeration passes left to right, as if towards conurbation on horizon.

SHOT 17: 00:27–00:28 WS Static Camera. Large murmeration joins another large murmeration spinning clockwise like the eye of a huge hurricane.

SHOT 18: 00:28–00:30 WS Static Camera. 'Hurricane' travels right to left across evening sky.

SHOT 19: 00:30–00:33 WS Camera pans left to right to follow 2 'waves of murmerations as they travel left to right across the evening sky.

SHOT 20: 00:30–00:33 MS Static Camera. Many starlings, 'inside' murmeration, many birds out of focus.

SHOT 21: 00:33–00:35 MS Static Camera. Murmeration spirals out, as is dissipating and travels left to right

SHOT 22: 00:35–00:37 MS Static Camera (start). Murmeration enters frame left. Camera picks them up and pans left to right with them. Murmeration travels right and exits frame right.

SHOT 23: 00:37–00:41 Graphic: ‘Murmeration’ enters frame left, travels to frame centre and (00:40) ‘morphs’ into Belong logo in Carling font. Camera holds not static logo.

END: Carling ‘Belong’: TX Shot Lis

Appendix D: *Escape* - Story Outline

Session 1

1. Opening scenes, Deejay is fit and healthy. He falls into Diab accidentally.

2. DIAB kids stop to get something to eat and drink from vending machines

3. DIAB kids enter safe house, Bearspaw picks up electronic game while others talk about Mediquin left by Delinda's father

4. DIAB kids are amazed how physically fit Deejay is and ask him why?

5. King Etes is watching the kids as Deejay explains how he'll help the group meet challenges to make them healthy enough to escape DIAB

Session 2

1. Recap of Episode #1 and cliffhanger resolution; then dream sequence with Deejay dreaming about fruit

2. DIAB kids are walking through food towers and depot; robots carrying boxes of fruit and other foods

3. DIAB kids have their bags full of food, some with fruit, some with vegetables, and others with water they have gotten from the food supply depot.

4. Guards find DIAB kids and attempt to catch them; Deejay uses soccer ball to deter guards enough for the kids to escape with their food bags

5. DIAB kids carry an unconscious Deejay back to safe house. He wakes up and they talk about fruits, vegetables, water and challenges

6. DIAB kids are late for school, but Deejay tries to get them to eat breakfast. King Etes is watching them again on special monitors. He decides to extend school day since the kids appear to have too much time and energy.

Session 3

1. Recap of Episode #2 and cliffhanger resolution, where kids are telling Deejay they don't have time to eat right

2. DIAB kids explain to Deejay how they don't have time to eat right in the morning. He tries to point out ways to do it. And serving size questions come up. Bearspaw brings out game.

3. Delinda talks about things her father told her about the Mediquin and how it can help them escape DIAB. Deejay is watching DIAB kids doing pushups and eating vegetables. And Deejay is trying to figure out the Mediquin and how it can help them.

4. Opens at school and it's lunch time. DIAB kids find an underground food stand with vegetables.

5. Delinda is eating an apple and thinking about her father when guards burst in and kidnap her.

Session 4

1. Recap of Episode #3 and cliffhanger resolution; guards kidnapping Delinda

2. Dagan is contemplating what to get for lunch…fruits and vegetables or fried ice cream. Kids find out that Delinda was taken by the guards. Bearspaw feels sick since he ate too many apples.

3. Hopefully Bearspaw has learned his portion- size servings for fruit and won't eat too many next time.

4. DIAB kids plan a way to go after Delinda and rescue her, knowing they need energy to do so.

5. Bearspaw's dad has dinner ready for him, but no fruits or vegetables; so how is he going to meet his challenge?

6. King Etes is talking to Delinda about her father and he sends her back to prison.

Session 5

1. Recap of Episode #4 and cliffhanger resolution; Bearspaw's dad has no vegetables for dinner

2. Bearspaw tries to tell dad what he needs for dinner without hurting his feelings.

3. DIAB kids talk about how they can get into shape to be able to rescue Delinda from prison.

4. DIAB kids get into Delinda's prison cell and talk about how to get her out

5. DIAB kids get Delinda out of her prison cell by doing various physical activities to divert the guards' attention

6. DIAB kids are about to be discovered with Delinda by some guards; do they escape?

Session 6

1. Recap of Episode #5 and cliffhanger resolution; DIAB kids talk about how doing more physical activity will help them free Delinda, noting that several months ago they wouldn't have been able to do this

2. Flashback of Deejay talking to DIAB kids about eating right and exercising to get enough strength and stamina to escape DIAB

3. Guards are getting bored watching DIAB kids trying to distract them.

4. DIAB kids realize that Delinda has a tag on her back that senses when she leaves the cell. They remove it, leaving it in her cell and escape down a passage.

5. Mayza and Bearspaw have a crowd watching them exercise (including a small child) while the rest of the DIAB kids escape with Delinda.

6. DIAB kids all rejoin each other after successfully diverting the guards by doing various physical activities. Bearspaw wishes he could help the other DIABites realize they need to be physically active in order to escape DIAB. Meanwhile small child finds a Kinga Coola can and starts to play kick the can… will he discover the joy and fun of physical activity?

Session 7

1. Recap of Episode #6 and cliffhanger resolution; Delinda is freed from prison and Bearspaw talks about wanting to tell the small child he saw how good he felt exercising and eating right

2. DIAB kids are at the train station and trying to find a way out of DIAB

3. DIAB kids jump onto the moving train to see where it goes

4. King Etes' guards inform him that the DIAB kids have left the city walls via the train.

5. Delinda talks about how her father had taken her outside the city several times and how this might help them learn how to escape DIAB.

6. DIAB kids use telescope to see King Etes yelling at guards to find them. Now they know, one of them is a spy and told King Etes of their escape plans…WHO?

Session 8

1. Recap of Episode #7 and cliffhanger resolution; who is the SPY among them reporting all their plans to King Etes?

2. DIAB kids approach a town that Delinda's father talked about, and robots are all around. They find exercise equipment and are puzzled by it

3. DIAB kids test out the exercise equipment they find.

4. DIAB kids talk about saving the town's people vs finding the Golden City and have to make a choice.

5. DIAB kids reach a mountain pass with a bridge. But the bridge retracts and blocks their way. King Etes and his guards appear and the DIAB kids are trapped.

6. DIAB kids find the last bridge to escaping DIAB. But as they turn around….King Etes and his guards have them boxed in without a route of escape…what now?

Session 9

1. Recap of Episode #8 and cliffhanger resolution; King Etes has the DIAB kids trapped. He tells them that their Mediquin is actually a sensor that keeps track of all their doings (i.e., their SPY)!

2. Delinda and the DIAB kids are amazed that King Etes has been tracking all their moves through the Mediquin; they had thought it was a good thing with special powers.

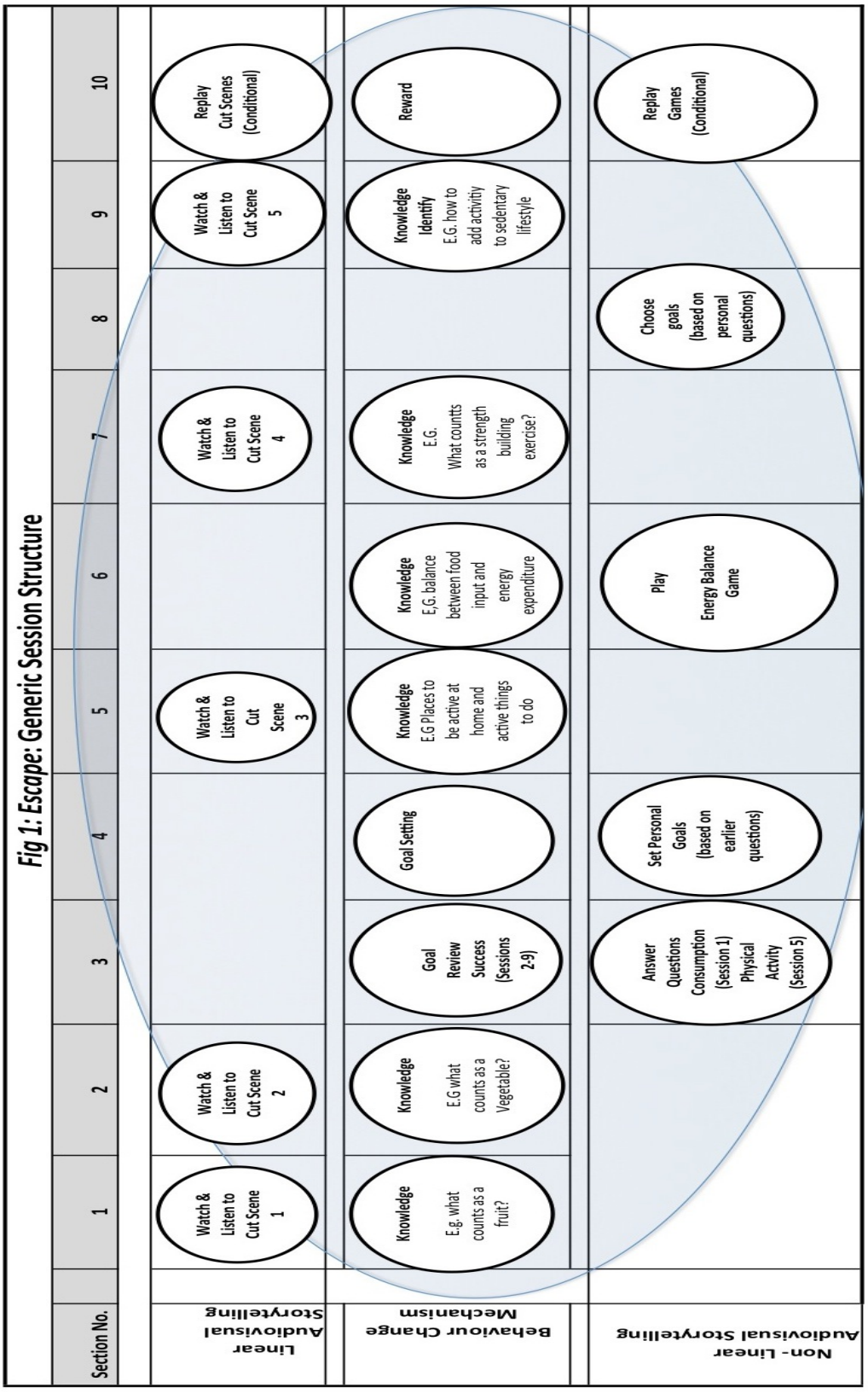
3. King Etes shows the DIAB kids how the Mediquin can make the bridge appear and retract. They also find out that Delinda's father was actually the King, but King Etes dethroned him.

4. DIAB kids rush King Etes and the guards trying to get to the bridge and then escape DIAB

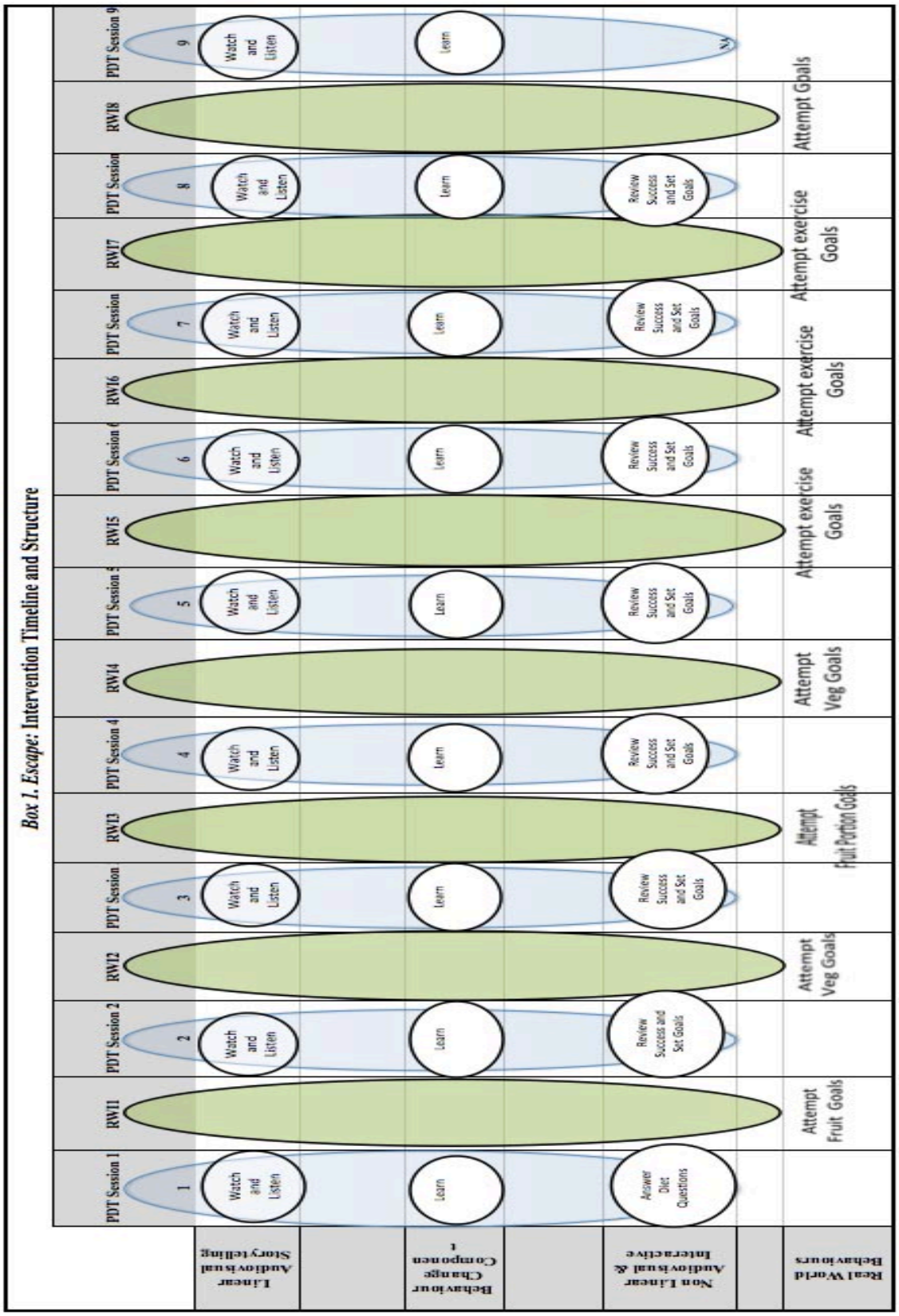
5. Mission Completed: DIAB kids escape if they have met all their goals. -------- Mission Not Completed: Delinda tells Deejay to go on and they will stay and fight King Etes to save the rest of the DIAB people to meet him later in the Golden City.

6. NA—but kids who didn't meet goals will see good ending after they get "bad" ending to encourage them to keep trying to meet their goals.

Appendix E - *Case Study 2. Escape – Generic Session Structure*



Appendix F - *Case Study 2. Escape – Intervention Structure*



Appendix G - Young Person Information Sheet

UNIVERSITY OF STIRLING

INSTITUTE FOR SOCIAL MARKETING

University of Stirling & The Open University
Stirling FK9 4LA Scotland

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Focus Group Research into Young People's Experiences of Consumer Products and Digital Media

INFORMATION SHEET FOR YOUNG PEOPLE

You are being invited to take part in a research study that is being run by the University of Stirling. Before you decide, it is important to understand why the research is being done and what it will involve. Please take time to read this information sheet carefully and discuss it with others if you wish. If there is anything that you are not clear about, or if you would like further information, please ask.

What is the study about?

We want to find out what people your age think about how products are marketed online. The researcher is interested in online worlds, characters and computer games storytelling; the information will be used to find out what makes digital media so appealing. We are using alcohol as an example. It doesn't matter if you have tried alcohol or not. But it is important that we speak to a mix of young people including some who have drunk alcohol and some who have not.

What will the study involve?

A good way for us to find out what young people think is to speak with small groups of young people and hear it in their own words. You will attend a very informal group discussion, with around 4 or 5 other young people of a similar age as you. The discussion will be led by a researcher from the University of Stirling who will ask informal questions and let you and the other young people openly chat and express your views in your own words. You may be asked what you think about an idea for an iPhone, iPad or Facebook game designed for people your age as part of the research discussion.

The session will be held in an informal venue in Glasgow, such as a local hall, community centre or the recruiter's house. The session will last around 90 minutes.

The discussion will be audio-recorded, to ensure the researcher does not miss any important comments, but no-one will be identified by name on the recording. The information recorded is confidential and no-one except members of the research team will be allowed to listen to the recording. Your name will be kept confidential and will not be used in any reports. The findings of the research may be published but individuals will never be named.

Do I have to take part?

Attendance at the discussion group is completely voluntary and you may withdraw at any time.

How do I take part?
If you would like to take part then complete and return the consent form provided.

What if I change my mind?
You are not obliged to participate in this study and you can choose to opt out at any time.

Are there any risks to me if I take part?
In any research study there is a possibility that you may feel uncomfortable talking about some of the topics or there is the risk that you share some personal or confidential information, by chance. However, we do not wish for this to happen. You do not have to answer any question that you feel is too personal or makes you uncomfortable.

What do I get in return?
If you take part in the interview you will receive a cash sum of £15.

Who can I contact for further information?
If you have any questions or would like to discuss the study further, please contact:
(Contact details removed for publication).

Appendix H - Young Person Consent Form

INSTITUTE FOR SOCIAL MARKETING

University of Stirling & The Open University
Stirling FK9 4LA Scotland

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YOUNG PERSON CONSENT FORM

Focus Group Research into Young People's
Experiences of Consumer Products and Digital Media

Please initial Box

1. I confirm that the above study has been explained to me and I have had the opportunity to ask questions. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason. ☐

3. I agree to the audio-recording of the discussion group. ☐

4. I agree to take part in the discussion group. ☐

5. I am aware that the results from the study may be published but I will not be identified in the research findings. ☐

_____	_____	_____
Name of Participant	Date	Signature
_____	_____	_____
Name of Person taking consent (if different from researcher)	Date	Signature
Researcher	Date	Signature

Appendix I - Pre-Focus Group Questionnaire

Focus Group Research into Young People's
Experiences of Consumer Products and Digital Media

YOUNG PEOPLE'S VIEWS AND EXPERIENCES OF CONSUMER PRODUCTS

Recruitment Questionnaire (Spring 2013)

No.	Question	
Q1	**Do you use any of the following Digital Media Channels? Please tick as many as you use often and put a cross against those you do not use at all.**	
	Facebook	
	You Tube	
	Pinterest	
	Twitter	
	SMS (Text)	
	Any others?	
	None of the above	
Q2	**Do you have a Facebook account and Profile?**	
	Yes	
	No	
Q3	**How do you access Digital Media Channels? Please tick as many as you use often and put a cross against those you do not use often or at all.**	
	Smartphone (eg iPhone)	
	Games Console (Wii, Xbox etc)	
	PC (Destop or Laptop)	
	Tablet (eg iPad)	
Q4	**What do you like to do when you access Digital Media Channels? Please tick as many that apply.**	
	Watch films or videos	
	Create films or videos	
	Share films or videos	
	Listen to music	
	Create music	
	Share music	
	Play games	
	Create games	
	Share games	
	Communicate with friends	
	Communicate with brother(s) or sister(s)	
	Communicate with parents	
	Communicate with new people	
	Get information	

	Sell things	
	Share information	
Q5	**Which of the following best describes you? (Please tell me the letter which matches your answer)**	
	SHOWCARD 4	
	I have never drank alcohol	
	I have tried alcohol in the past, but I do not drink now	
	I drink once or twice a week	
Q 6	**If you have drunk alcohol how old were you when you first tried it?**	
	Age	
Q 7	**Have you ever seen alcohol products mentioned online?**	
	Once	
	A few times	
	Many times	
	Never	

Appendix J - Mood Board A : Objects

Appendix K – Mood Board B – The Alcohol Myth

Appendix L - Mood Board C : The Public Health Story

Ends Thesis