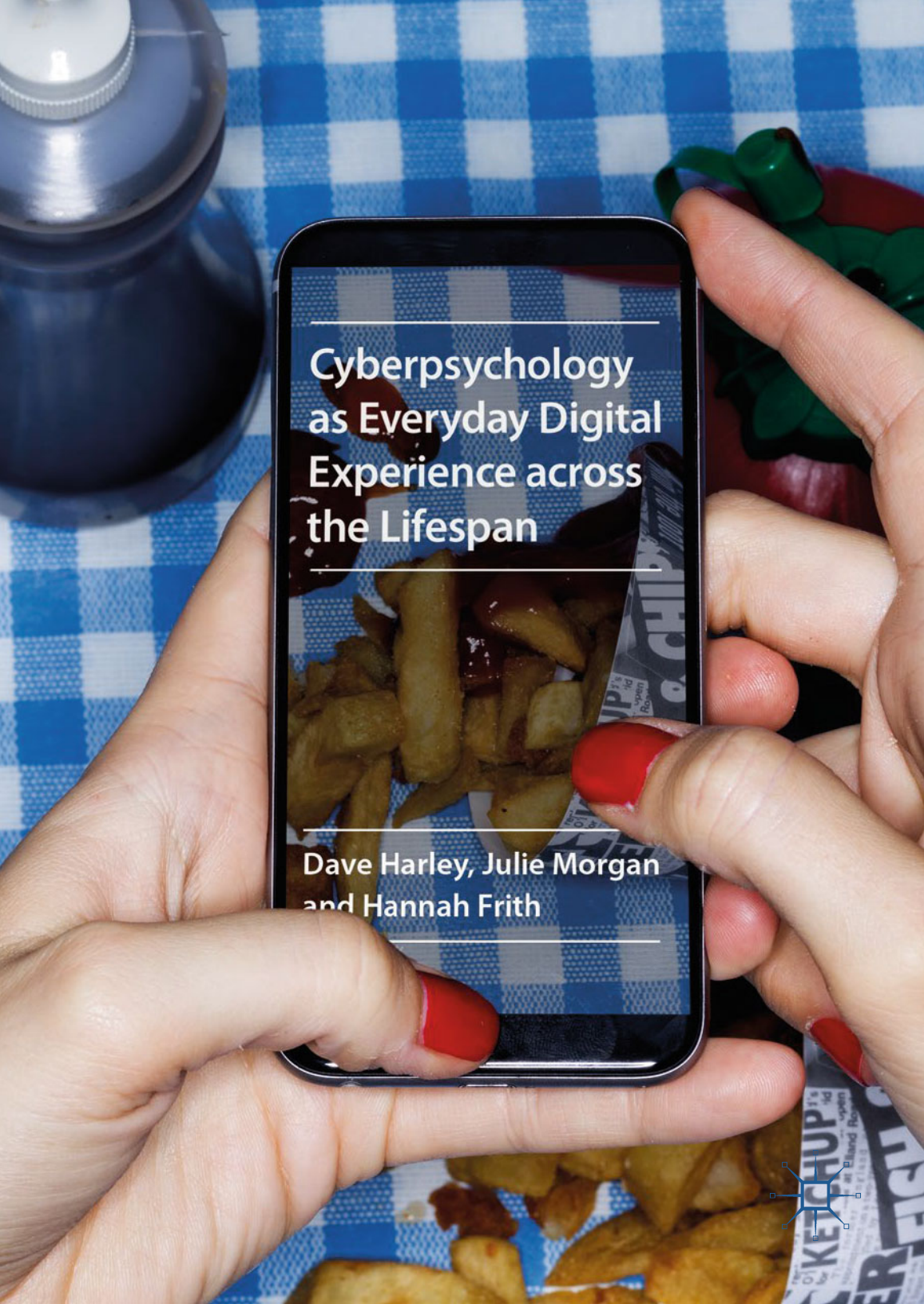
Cyberpsychology as Everyday Digital Experience across the Lifespan
Dave Harley, Julie Morgan and Hannah Frith

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To Robin, Gonzo, Mum and Dad D.H.
To Graham, Rowan and Rudi J.M.
To Rich, Tom, Ruby and Ninja H.F.

Preface

Digital technologies and media play an increasingly central role in our everyday lives—from online shopping and banking, managing our bills and services, maintaining relationships with family and friends to creating new friendships and communities, and exploring who we are and how to show ourselves to others. Many of our mundane daily activities and interactions take place online, in virtual worlds, or mediated through digital technologies. The developing discipline of Cyberpsychology often struggles to keep apace with digital innovation and the ways in which these technologies are taken up, moulded, adapted and made sense of through everyday practice. This book emerged out of our experience of teaching Cyberpsychology (the study of how new communication technologies influence, and are influenced by, human behaviours and subjectivities) to undergraduate students at the University of Brighton over the last five years. In this time, the field of Cyberpsychology has grown tremendously, and yet, it remains dominated by research which examines the 'impact' of the internet on our behaviour, attitudes and well-being—often assuming a negative impact and focussing on those who are likely to be most vulnerable to the influence of these technologies (e.g. children). Our aim in writing

this book was to shift the focus of Cyberpsychology away from quantitative, experimental approaches exploring the 'effects' of human–computer interaction and towards a focus on the subjective experiences and sense-making of users in everyday contexts. In other words, we wanted to focus our lens on the way in which individuals engage with internet-based technologies and make sense of their own online behaviour. Being aware of the diversity of online and mobile spaces, platforms and communities, the varied design features of hardware and software, and the different motivations, interests and life stages of users, we wanted to explore how the interactions between these elements create complex contexts in which the meaning of mediated interaction is produced. We also wanted to reflect the way in which our investment in, and use of, digitally mediated communication is likely to change and evolve over time as we meet the psychosocial challenges of different life stages and reflect on whether virtual spaces are coded as 'for us'.

Therefore, we chose to organise the book roughly chronologically from childhood to older age taking in some key aspects of everyday life along the way—from having a social life, to being sexy, to dying and grieving. Chapter 1 gives a more in-depth overview of our particular focus on the subjective experience of online spaces and contexts. Chapter 2 looks at the experience of 'Growing Up Online' for children and adolescents. Chapters 3–7 explore aspects of online experience which reflect different motivations or 'life orientations' which transcend age. Chapter 3 examines the construction and negotiation of identity and selfhood online, and Chapter 4 explores how social relationships are formed and maintained through digital technologies. Both are developmental tasks typically associated with adolescence, but which continue across the lifespan. Chapter 5, Chapter 6 and Chapter 7 speak to different ways of being in online spaces and virtual worlds. In Chapter 8, we come back more explicitly to focus on life stage, to consider the experiences of older people who are not 'digital natives' and make sense of technologies in sometimes very different ways to young people. In Chapter 9, we examine how experiences of death and grieving are mediated by digital technologies. Although often associated with old age, social networking sites (for example) are often mobilised for memorialising those, such as the young, whose deaths fall outside

these expectations. By organising the book in this way, we hope to illuminate the ways in which time, age, maturity and life stages are brought into complex relationships with the everyday use of digital technologies. In the final Chapter 10, we draw together the themes within the book around some key questions: 'How much should we invest in our digital selves?' and 'What counts as real life?'.

We hope we have written a book which is accessible to both undergraduate students and lay readers, and has something to offer scholars in Cyberpsychology as well as related disciplines such as human–computer interaction and media studies. Writing the book has given us (as academics who teach and research in the field of Cyberpsychology and as lay people who use technologies) much cause for reflection, and we have had many delightful conversations over coffee and cake about how we make sense of ourselves and others in relation to digital technologies. We hope that this book encourages you to be curious about your own experience of technologies, and that it sparks your further interest in Cyberpsychology.

Brighton, UK

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1

Understanding Digital Technology as Everyday Experience

As we sit down to write this book, we will have lived through 26 years of the World Wide Web—that accessible information space which has made the human potential of the internet come alive for so many of us in the developed world. In that 26-year period, we have seen profound changes in the way that we experience everyday life thanks to an ever-increasing reliance on digital technologies to fulfil our daily wants and needs.

As the Web has developed, we have seen a convergence of three principal technologies (computers, the internet and mobile telephony) and a move from limited desk and text-based interactions to more sophisticated and mobile forms of perpetual contact which allow us to exchange all kinds of media from synchronous text to photographs, synchronous video and audio clips. internet use has become a ubiquitous, pervasive and sometimes invisible part of our everyday lives being accessed through all kinds of digital devices from satnavs[1] and games consoles to tablet computers, mobile phones and smart watches. At the same time,

[1]Satnavs have historically just used GPS satellites to provide their routing information. Those that provide moment to moment information on traffic conditions now pool data from different vehicles on the roads via the internet.

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our internet-enabled devices have come to play an increasing part in shaping our experience of the world around us, how we express ourselves in daily life and how we relate to one another.

As well as providing us with access to a seemingly endless source of information and entertainment media, the persistent digital connections of the internet and World Wide Web have allowed us to inhabit new digital spaces that exist alongside the physical realities of our everyday lives. We can now continue relationships across the planet via applications like Skype, social networking sites like Facebook and apps like Whatsapp, whatever time of day or night. We can connect with people we have never met before through global websites like LinkedIn, Twitter and YouTube or meet nearby strangers through apps like Tinder or Meetup. As well as the obvious technical achievements that have made this possible, we have developed new ways of behaving and representing ourselves through these technologies in order to harness the interactional potential of these online and mobile spaces. Central to this process has been a willingness to open our lives up to the public gaze of the internet and to invest in digital surrogates of ourselves in order to capitalise on these new social opportunities.

It would be wrong to suggest that everything about this digital revolution has been driven by pure and transparent intentions however. These same technologies now provide unparalleled access to our personal data for promoting the commercial interests of business and as conduits for wholesale government surveillance while at the same time providing new opportunities for Cybercrime through the misuse of that same data. Increasingly our digital surrogates are involuntary and invisible aspects of our everyday lives with our personal data being captured constantly during Web searches, digital conversations and as a result of travel and purchase decisions made with credit and store cards. This data forms the basis of new invisible digital selves which now help to define and control our view of the outside world by limiting our access to knowledge and determining potential avenues for action in the online and offline worlds. In this book, we explore just how our evolving relationship with internet-enabled digital devices has changed and is changing the experience of being ourselves and our relationships with others in the midst of everyday life.

As digital technologies become ever-present witnesses and accomplices to the intimate aspects of our lives, they influence how we develop as individuals and how our lives play out, inviting new life opportunities, risks and dilemmas. In this book, we also consider the role of digital technologies throughout our lives and ask what part they play in relation to different life stages, from childhood, through midlife to old age and death?

Our new digital selves are not automatic, effortless reflections of our inner selves. They take a lot of upkeep, competing for our attention alongside the immediate demands of everyday life. Negotiating the simultaneous social expectations of our online and offline worlds has become a new life skill, and in order to achieve a reasonable balance, we have had to redefine some of the cultural norms of self-presentation and invent new social practices. Perhaps one of the most visible of these new practices at present is the act of taking a 'selfie', that is taking a photograph of yourself with a mobile phone or tablet in order to share it via social media. Selfies have evolved from being a mostly teenage activity to the new lingua franca of social media. Taking selfies is almost ubiquitous among younger people (aged from 18 to 24) with active selfie-takers sharing between 3 and 20 selfies per day (Katz and Crocker 2015). Although the reasons for taking selfies change with age, it has become a common activity for all ages in possession of a smartphone (Dhir et al. 2016).

Here, the challenges of maintaining a digital self are sometimes brought into stark relief. In a search for more authentic and appealing selfies, some teenagers are going to extreme lengths, deliberately taking photographs of themselves in dangerous and unusual situations. In June 2017, a young Indian girl called Priti Pise drowned while taking an extreme selfie from Mumbai's breakwater when a massive wave engulfed her and carried her out to sea (Haines 2017).

At the same time, selfies are being used to convey feelings of allegiance and communal commitment through social media. In March 2014, Cancer Research UK decided to run a fund-raising campaign in which they encouraged Twitter users to show their support for the cause by posting their own selfies using the hashtag #nomakeupselfie. In the space of a week, they had raised £8 million and were able to fund ten clinical trials which would not have happened otherwise (Miranda and Steiner 2014).

A year later in March 2015, the National Gallery in London, the home of the self-portrait, decided to ban the use of selfie sticks[2] because they were disrupting other people's enjoyment of the paintings (Weaver 2015). Twenty-six years ago, this kind of behaviour was unheard of even though personal photography was well established as a pastime, so what has changed and how do we make sense of these changes? Technology and social media companies obviously promote such opportunities as boons to society while news media typically express some degree of moral panic over such activities, highlighting the addictive nature of social media practices and the narcissistic tendencies of those who engage in them (Murphy 2015). Such reports will often use psychological research to back up their views (e.g. Fox and Rooney 2015). In this book, we attempt to move beyond these good/bad judgements of new technology and towards an understanding 'from the inside' that acknowledges the motivations and experiences of those using these technologies and the social meanings that arise within these new mobile and online contexts.

Our Evolving Relationship with Digital Technology

The first personal computers started to arrive in people's homes in the mid-1970s. At that time, they were mostly office machines and required some programming knowledge and direct text entry of commands in order to operate them. When graphical user interfaces were first developed in the 1980s, our opportunities for interacting with computers developed further through mouse-based 'point and click' options and game-based interactions. It was only when computers started to be connected to the internet in the 1990s that their potential as socially connected sources of media and information began to be realised.

[2]A metal stick specifically designed to hold a smartphone or camera beyond the normal range of the arm so that selfies can be taken which are in focus and which capture the surrounding scene.

In the developed world, the ubiquitous nature of mobile and internet-based digital technologies is hard to deny. There are now more mobile phones on the planet than there are people (GSMA 2017; Worldometers 2017). In developed nations, mobile phone ownership has reached near saturation point with 93% of the UK population owning at least one phone (Ofcom 2015) and similar adoption levels of 92% in America (Anderson 2015) and 84% in Europe (GSMA 2016). Internet access is commonplace in the developed world with 85% of the UK population being online (OfCom 2015), 84% of Americans (Perrin and Duggan 2015) and 81% with internet access across Europe (EU 2015). Many now choose to go online via smartphones with 66% of Britons and 64% of Americans owning one (Anderson 2015).

There are still concerns about those that are excluded from the digital economy, living the wrong side of a digital divide because of age-related limitations, poverty or lack of mental capacity, but for the most part digital technology is presumed to be a positive addition to modern life.

Looking back into history, we can see that there have always been concerns about the effects of new technologies on the human psyche and behaviour. As far back as the fifth century BC, the Greek philosopher Socrates expressed concerns about the new technology of writing (Bloom 1991) and its potentially negative effects on the transfer of human knowledge which had previously (in the Greek oral tradition) relied on a strong connection with personal experience as a basis for 'knowing'. Subsequent innovations have continued to spark concerns about how technology might influence human thought and behaviour.

At the beginning of the twentieth century, when the telephone was still a fairly recent innovation, it was considered a potential threat to morality and social cohesion with fears it would 'allow the destruction of community' and 'encourage far-flung operations and far-flung relationships' (Fischer 1994). During that same period, the technologies of cinema and television were becoming a cause for concern and initiated the earliest attempts to assess the psychological effects of technology. This later became known as the 'media effects' tradition in psychological research. Cinema studies in the 1920s showed that children were apt to copy what they saw on screen influencing their subsequent behaviour, attitudes and emotions (Jowett et al. 1996). Later research in the 1950s

and 1960s showed that watching violence on television could undermine normal childhood development by making young viewers more aggressive (Bandura 1963) and desensitising them to real acts of violence later on in life (Lazarus et al. 1962). Since then research into media effects has broadened to show TV as responsible for a whole range of emerging attitudes including those relating to sex (Huston et al. 1998), romantic relationships (Eggermont 2004), ideal body image (Tiggeman 2006) and political allegiance as well as influencing attitudes leading to greater risk-taking (Potts et al. 1994) and criminal behaviour (Huesmann et al. 2003).

The Emerging Field of Cyberpsychology

The underlying premise of media effects research has been that technology (and media) is responsible for changing our attitudes and behaviour in discernible ways and that we are particularly susceptible to these influences while growing up. Within Cyberpsychology, investigations into the transformative nature of digital technologies have pursued a similar trajectory, attempting to show the ways that digital technologies can cause changes in attitudes and behaviour, particularly maladaptive behaviours.

The significant milestones of Cyberpsychology research so far suggest that digital technologies are responsible for a number of effects on our psyche and behaviour.

1. Regular and excessive use of digital devices has been shown to have an addictive quality, undermining normal behaviour and disturbing mood and sleep patterns. These same effects have been found for the internet (Young 1998, 2004), video games (Griffiths and Meredith 2009) and mobile phones (Bragazzi and del Puente 2014).
2. Internet use has been implicated in changes to social behaviour and mood. In the early days of the internet, it was suggested that using it would inevitably lead to increasing social isolation and corresponding feelings of loneliness and depression for everyone (Kraut et al. 1998). This view has since been tempered (Kraut et al. 2002;

Amichai-Hamburger and Ben-Artzi 2003; Caplan 2006) to acknowledge the different personalities of internet users and the particular vulnerabilities of shy and lonely people to these ill effects. Nonetheless, the view that excessive internet use causes loneliness and depression continues to be a firmly held view, informing much of the research in this area (e.g. Yao and Zhong 2014).

3. Anonymous internet use, in particular, has been singled out as having a significant effect on users with research showing that we become less inhibited when interacting online in a way that is similar to being drunk (Hirsh et al. 2011). This results in us either becoming overly trusting, disclosing 'too much' personal information and helping complete strangers or becoming more antisocial, expressing overly critical or aggressive comments with those that we encounter online (Joinson 2001; Suler 2004).
4. Excessive playing of video games has been shown to change the way that players relate to others, attenuating their ability to empathise in 'real' life. Research focusing on violent video games has shown that (as with violent television) regular players find it harder to empathise, and they become desensitised to instances of real-world violence and become generally more aggressive (Anderson and Gentile 2014). Conversely, playing games with a prosocial and cooperative slant can encourage greater empathy (Anderson et al. 2010).
5. Social networking sites and the practices of self-disclosure that accompany their use have been shown to be intrinsically rewarding (Tamir and Mitchell 2012), potentially leading to overdependence and addiction (Kuss and Griffiths 2011; Turel 2015). While there is evidence that SNSs like Facebook serve an important social function bridging social worlds online and offline (Ellison et al. 2007), their inherent 'selfie-culture' has been shown to encourage social comparisons which can cause depression in regular users (Steers et al. 2014).

This research highlights the profound impact that digital technologies can have on our mental state and behaviour but it also betrays a certain bias towards these new technologies that is not unlike that of Socrates, blaming them for negative trends in human behaviour.

A central concern for any study of Cyberpsychology has to be the notion of causality. Is it the technology that causes these changes to human thought and behaviour or is it something else? Positivist approaches to Cyberpsychology in line with the 'media effects' tradition have tended to pursue a 'technologically determinist' agenda here, maintaining a view that it is the technology itself that is the prime mover of psychological and social change (along with associated problems). In some ways, this chimes with a dominant view in broader society (particularly in the developed world) where technological innovation is seen as the solution to many of humanity's problems. Technology's preeminence commonly informs government policy (e.g. Cabinet Office 2014) and business investment aimed at alleviating such problems. Within the frame of technological determinism, current approaches to Cyberpsychology offer a critical voice challenging this Utopian view of technology and highlighting its equal potential as a maladaptive influence. However, the underlying stance of technological determinism remains a partial one with particular drawbacks.

The technologically determinist form of Cyberpsychology assumes that the psychological effects of digital devices operate in one direction with the user being a passive recipient of these effects. The causal factors of a particular technology (e.g. the anonymous, global and text-based interactions of Twitter) are assumed to be immutable and monolithic aspects of each technology, predetermined by design and experienced in the same way by all users.

So what are the causal factors of digital technology that are seen as responsible for these ill effects? Much of Cyberpsychology's criticism of digital technology comes from a central concern about 'overstimulation' caused by increasing access to all forms of media that digital technologies afford. Internet and mobile networks increase access in terms of speed and choice to all forms of media including news, gaming, entertainment, gambling, advertising, pornography and social media. The argument that proceeds from this is that we are vulnerable to the demands of this media, soaking up their messages and allowing them to transform our minds, our behaviour and the norms of society accordingly as we unconsciously indulge in their consumption (Carr 2011).

In technologically determinist Cyberpsychology, the closest we get to an acknowledgement of the user is through individual differences in terms of personality traits, gender, age and culture. The subjective experience and agency of individual users are often ignored even though these may be central to explaining how and why digital technology is so prominent in everyday life and how it is interpreted, understood, made meaningful through use (and even enjoyed!). Given the interactive nature of the Web and its blurring of distinctions between media and technology, we could argue that individual experience and agency are even more significant than with previous forms of technology and media.

This objective stance within Cyberpsychology also struggles to accommodate the truly social nature of digital technology use, i.e. the social contexts established through digital connections that frame interactions, giving them meaning and purpose, sustaining emotional involvement and guiding our interpretations of media content and online activities.

The inability of digital technologies to convey the same degree of social information as face-to-face interactions is usually cited as problematic here (e.g. Sproull and Kiesler 1986). Interestingly, the issue for technologically determinist researchers in this instance is one of incompleteness and 'understimulation'. The lack of socially relevant cues that would normally be gleaned from body language, tone of voice and aspects of a shared physical setting means that mediated communication is often incomplete and ambiguous. This is likely to hinder communication, leading to greater misunderstanding (Bazzanella and Baracco 2003), disagreement (Kushin and Kitchener 2009; Lampe et al. 2014) and disinhibition (Suler 2004). This perspective, often described as the 'cues-filtered-out' approach (Culnan and Markus 1987) to Computer-Mediated Communication (CMC), views the social contexts of digital environments as inevitably impoverished and therefore encouraging of social transgression because the media that they operate through cannot convey 'social presence' in a faithful manner (Short et al. 1976). Here, social context is defined as a simple accumulation of available social information (or cues) where social meanings are predefined and independent of the medium itself or human agency. While social 'bandwidth' may be extended (e.g. by choosing to use Skype to

communicate difficult emotions rather than text messaging), some social cues will always be missing from CMC and it is their absence that is viewed as problematic because these cues are essential for the social regulation of emotion and the resolution of shared understandings.

More recent theories of CMC such as Walther's (2008) Social Information Processing (SIP) model have started to question this limited view of CMC, showing how social bottlenecks are commonly overcome by users revising the significance of different social cues principally by taking greater notice of time as a significant social variable and reinstating some of the missing elements from face-to-face interaction. Examples of such workarounds are commonplace, e.g. if a friend posts a status on Facebook that we don't immediately understand, we will likely take some time to ask them what they mean. In response, they may attempt to iron out ambiguities by explaining things differently or by adding emoticons. In short, we have human techniques for making ourselves understood that are not negated by the technology.

Here, we see the beginnings of a more user-centred approach to Cyberpsychology which can both accommodate human agency and consider digital environments as bona fide social contexts. In this book, we continue to pursue such a line of inquiry.

The Approach to Cyberpsychology Pursued Within This Book

Beyond technologically determinist forms of Cyberpsychology, there are other valid ways for us to frame the dynamic between people and their digital devices and these should be part of a more complete approach to Cyberpsychology. In this book, we start to acknowledge these alternative approaches by moving beyond technological deterministic arguments and towards more subjective and socially situated understandings of the human-technology dynamic. This means incorporating studies that acknowledge phenomenology and context—that is studies of a more qualitative and ethnographic character drawn from Cyberpsychology as well as other disciplines such as technology design, human computer interaction, sociology, anthropology, linguistics and media studies.

Subjective Understandings of Technology

The way that we decide upon the meaning and purpose of a particular digital technology is only partly defined by its design. Psychology's earliest attempts at explaining our relationships with digital technology (within the field of Human Computer Interaction or HCI) assumed that purpose was something that was fixed. They focused on the overt 'designed-for' intentions of technology designers and explored the mismatch between these and users' expectations of a technology's function (Norman 1988). Through analysis of this 'cognitive mismatch', HCI was able to improve the 'usability' of a technology by redesign. Emerging in the 1990s, Cyberpsychology borrowed much from HCI in terms of its positivist cognitive outlook and the fixed sense of purpose it assumed from digital technologies. While HCI focused on improving the design of technologies, Cyberpsychology assessed the psychological impacts of their use. Debates at this point in time were concerned with whether or not a technology was usable (e.g. Nielsen 1999) or harmful (e.g. Kraut et al. 1998). The quality of technological interactions and users' personal interpretations of use were largely ignored. As we have moved into an era of networked multifunction devices that inhabit not only our working hours but also much of our mundane and intimate activities as well, the quality and meaning of these technological interactions to our lives have taken on much greater significance.

Psychologists working within HCI have more recently turned to the notion of 'user experience' to explore issues of phenomenology, acknowledging the qualitative aspects of use that frame everyday interactions with and through digital technology (e.g. Green and Jordan 2003; McCarthy and Wright 2004). User experience acknowledges the temporal, emotional and aesthetic dimensions of technology use, showing how engagement may be shaped by underlying motivations of fun or pleasure versus work-based motives of productivity (e.g. Hassenzahl and Tractinsky 2006). User experience research provides an important resource for this book in terms of offering an alternative view on the person-technology dynamic that moves beyond simple notions of causality.

Cyberpsychology has been slow to incorporate this shift to a more qualitative perspective on the person-technology dynamic, but it is evident in certain lines of research (e.g. Bakardjieva 2005; Livingstone 2014; Turkle 2011; Whitty 2008). For these researchers, the emphasis has been on capturing individual lived experiences with technology as a route to understanding the meanings and motivations that inform daily use rather than making judgements about technology use that can be generalised across populations. Such approaches are characterised by a different set of methods aimed at capturing personal perspectives, motivations and feelings. These include online and offline interviews, participant observations and discourse analysis of online and mobile interactions. In this book, we incorporate such approaches and work towards an understanding that is relevant and accessible to technology users rather than those solely concerned with overseeing their use such as parents, teachers or policy makers. We also draw upon research from outside of Cyberpsychology where such qualitative approaches to technology use are perhaps more common.

The Context of Technology Use

The meanings ascribed to digital devices are rarely established in isolation nor are they fixed, universal or even obvious at times: they are implied by design but individually interpreted, shared and negotiated with others as part of an ongoing fluid involvement in particular social contexts. Let's take the smartphone for instance, can we say what one is for? If we consider a middle-aged person whose car has broken down at the side of the road and is using it to contact the nearest roadside assistance, their interpretation of its purpose will be quite different to the teenager who is using it to post messages to their school friends in the middle of the night. Ultimately, the smartphone's use is defined not just by its 'designed for' technical function but also by the 'context of use'—a set of social expectations about possibilities for action and norms of behaviour which are enacted and affirmed through use by other users.

Some of this variation is clearly down to design and functionality, the limits of which can be learnt from interacting with the device. However, the same overt functionality can be enlisted for quite different social purposes. Consider for a moment how differently one approaches the Facebook status update box versus posting to Twitter. Similar functionality but quite different contexts of use, with differing social norms and practices defining distinct forms of self expression on each platform. Different interpretations of use can even arise within the same technological framework (Salovaara 2008); in fact, it is common to see platforms like Facebook being used for all kinds of competing reasons from advertising to playing games to socialising with family and friends.

This has profound implications for how we make sense of Cyberpsychology research. Can we say for instance that 'the internet' means the same things to all users? If we are positing that there is indeed a problem with internet addiction, what version of 'the internet' are we talking about? If we are to assert that playing violent video games can desensitise children to real-world violence, does it matter who they play with and how they interpret violent game play in the first place. In short, context makes a difference and a complete version of Cyberpsychology must acknowledge this.

Early approaches to HCI tended to ignore context when evaluating people's interactions with technology, assuming that this was something predetermined by a technology's intended function (i.e. a technologically determinist stance). In the 1980s, studies such as Suchman's (1987) showed how people's interactions with technology (in this case photocopiers) were socially situated and far from being defined solely by the design of the technology and driven by prior rational planning, emerged contingent upon the actions of others, becoming intimately linked to the creation of the said 'context'.

Cyberpsychology has struggled to incorporate context as part of its assessment of digital technologies continuing with a largely technologically determinist stance. Studies of internet addiction (Kuss et al. 2013) and video game violence (DeLisi et al. 2013), for instance, have tended to problematise the digital medium itself rather than considering the social contexts that might surround or emerge inside such media which may validate their use. Some authors are already questioning the simple

causality put forward here, arguing that we need a much better understanding of users' underlying motivations before we can assert something as problematic as 'addiction' (Kardefelt-Winther 2014). Factors present within a social context such as exposure to family violence and peer influences have been shown to be more significant than playing violent video games in determining violent behaviour (Ferguson 2011) which again highlights the importance of a contextual understanding before passing judgement on digital media and technology. In this book, we take such contextual critiques further, exploring what motivates people to engage with online and mobile contexts as well as examining how online activities are rendered meaningful within the virtual contexts themselves.

When it comes to studies of online social interaction, Cyberpsychology does acknowledge certain aspects of context, but this is often in a limited sense. Social context is usually represented as static and quantifiable in terms of the social cues available within a digital medium and the amount of information that can be transmitted through each. This inherently cognitive approach equates communication with an efficient exchange of information but struggles to capture the inherently pliable nature of human communication where meaning emerges out of the interaction itself. Even Walther's (2008) SIP model, which does extend the notion of context to include the progression of time and the reinvention of social cues for enhanced communication, is not able to fully accommodate the effects of human resourcefulness when the need to communicate arises. Attempts to acknowledge context in a more qualitative manner have done so at quite a gross level, either contrasting online with offline behaviour (Pierce 2009) or differentiating task-based versus socioemotional framings for online interaction (e.g. Peña and Hancock 2006). While these definitions of context are clearly significant, they tend to oversimplify the role of context in determining human behaviour and struggle to provide meaningful insights into our everyday uses of digital technology as they exist now. Notions of distinct purpose are rarely clear when we log onto our Facebook page but emerge as we start to use it. Context is dependent on a number of factors such as the possibilities for action and norms of behaviour in a particular online setting, but also what motivates us to be there in the first place (how our age and

respective life goals frame our sense of purpose) and who we share this online space with. Social contexts are dynamic and relational—it matters who is posting or not, the life events that others choose to divulge online and what is going on in each person's life at a given moment. As mobile technologies start to bring our engagement with social media and other technologies onto the streets, the boundaries between online and offline contexts become increasingly blurred with the immediate social and environmental situations also adding to this dynamic.

When we look a bit deeper, we find that context is not stable, static or defined in advance but something which emerges 'on the fly' in relation to each of our visits to Facebook (or other places online). Context is something that helps us understand what counts as relevant behaviour in relation to each particular online setting or in response to others that inhabit those digital spaces. At the same time, context is not something which is divorced from our own involvement in these spaces 'but is actively produced, maintained and enacted in the course of the activity at hand' (Dourish 2004, p. 22).

In this book, we turn to research that appreciates the value of contextual understandings in attempting to make sense of our digital lives. Much of this research currently exists outside of the established Cyberpsychology domain but is highly relevant. Often derived from sociology and anthropology, it focuses on the practices of meaning-making that help to construct the notion of a particular context within technology-mediated spaces.

Life Stages, Life Orientations and Context

As part of engaging with the notion of context, we also start by considering the life course as significant in determining our evolving relationship with digital technology, framing context in its broadest sense by defining an overarching sense of purpose for digital devices. We use the notion of 'life stage' not just to differentiate people on the basis of their chronological age or physical maturity but rather to emphasise how the role of digital technologies in one's life is likely to shift in line with the psychosocial demands of particular age groups.

In this book, we consider the role of digital technologies in determining experiences of each life stage from childhood and adolescence through to young adult life, mature adulthood and then old age. The meaning and value of digital technologies shift in relation to one's life circumstances and the relationships that emerge at different times in one's life. For instance, younger internet users will tend to prioritise opportunities for meeting new people online (e.g. Brandtzæg and Heim 2009) while older people are interested in ensuring ongoing intimacy with their existing friends and family (Lindley et al. 2009). Digital technologies can therefore be pertinent in addressing the particular demands of each person's life stage whether they be concerned with establishing a clear sense of identity in the world or of maintaining emotional stability in the face of increasing frailty. Understanding the demands of each life stage can therefore be helpful in explaining why digital technologies are used in different ways by different age groups.

With this in mind, the book starts and finishes with a consideration of context in terms of life stages with Chapter 2 looking at the experience of children and adolescents in 'growing up online' and Chapter 8 looking at older people's experiences of using digital technology and 'growing older'. Chapter 9 also considers certain aspects of later life by considering the emergence of a digital legacy as part of 'dying'.

In the middle part of the book (Chapters 3–7), we approach context in terms of 'life orientations' that transcend age and life stage. We explore how 'being yourself', 'having a social life', 'being sexy', 'behaving badly' and 'being alone' can motivate and inform our digital interactions in different ways. 'Life orientations' represent the implicit approaches that we take to everyday life that provide us with an ongoing sense of purpose and meaning. By themselves, they are essential aspects of the human experience. When present as part of digital interactions, they inform how we choose to use the technology, how we relate to the people that we meet in digital spaces and they frame how we interpret the content that we encounter there. In these chapters, we explore how each of these life orientations shapes the context of use for digital technology and media.

We have outlined the overall approach to Cyberpsychology taken within this book, highlighting the limitations of current approaches within the field and our emphasis on exploring the relationship we have with digital technology in terms of subjective and contextual understandings.

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2

Growing up Online

As the previous chapter has already shown, the effects of new technologies on children are often a source of deep concern for parents, educators and psychologists. Media effects research emerged out of a concern for the detrimental effects of film and television. Cyberpsychology now concerns itself with the effects of digital technology on children and young adults.

The Underlying Dilemma for Developed Societies

There is a central dilemma for responsible adults within industrial and post-industrial societies when it comes down to establishing the significance of digital technology in children's lives. On the one hand, we want children to be au fait with these technologies and competent in their use because they are now likely to underpin many of their daily activities and will probably be essential for their future careers. On the other hand, we do not want them to be harmed in any way by their use. The majority of children growing up in the developed world now

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experience a childhood saturated with digital technology and media from the start. Inevitably, this kind of digital immersion has profound effects on the way that they develop in terms of their mental capacities, well-being, social competencies and sense of self. It is important for Cyberpsychology to understand the implications of this immersion on the experience of childhood and children's future development.

As babies, many children become fascinated with the digital technologies of the home and often learn about digital media as a form of parental substitute left to occupy themselves with video games and media (Nathanson 2015). By the time they are 3 or 4 years old, roughly half of them (53% in the UK) will be using tablet computers to play games and will often be connecting to the internet even before they can tie their own shoelaces (Summers et al. 2008); 23% of them will already be using mobile phones[1] at this age (OfCom 2016). School often encourages more extensive use of information technology with computers being an intrinsic part of modern education in terms of both the subjects taught and the internet becoming central to school administration with homework often being conducted and submitted online (Hammond 2014). By the time they become teenagers, use of the internet and mobile phones will have become an accepted norm of their everyday lives; 77% of 12–15-year-olds will own a mobile phone (or more likely a smartphone) and 76% will have their own social media profile. By the time they leave school, this digital immersion will be complete and pervasive with smartphones and social media underpinning much of their daily life and interaction with family and peers. Between the ages of 5 and 15 years, children in the UK will spend on average 5 hours 33 minutes out of every day in front of a digital screen playing video games, watching television or using the internet. Increasingly, this screen time takes place without parental supervision on personal devices like smartphones and tablets or games consoles and DVD players in their own bedrooms (Ofcom 2016).

[1]Although usually owned by their parents.

As well as giving children access to myriad forms of digital entertainment, these technologies allow social interaction to take place irrespective of time or place, involving them in social worlds that exist outside of parental awareness or control. Between the ages of 12 and 15 years, they will be sending an average of 141 text messages[2] a day (Ofcom 2016) and 45% of them will be sharing photographs. A similar tale of digitally immersed childhood is common to all industrialised nations whether in Europe (Livingstone et al. 2011d), North America (Lenhart 2015), Australia (ACMA 2013) or Asia. These digital behaviours established in childhood become the mainstay of everyday life for those same children as they move into young adulthood.

Digital technologies have become a ubiquitous part of family life and serve all sorts of important functions with digital media and games providing entertainment and educational resources within the home and mobile phones offering a sense of ongoing connection within families when children start to become more independent. However, the particular affordances of these technologies introduce new dilemmas for childhood and parenting that must be understood and acknowledged if they are to support healthy development. All internet-enabled devices provide access to potential sources of risk that would previously have been out of bounds to children including violent and sexually explicit content as well as direct contact with unknown others. Children's access to such 'risks' may be accidental or intentional depending upon the age of the child and their personality. At the same time, children are often more adept at using these technologies than their parents which means that much of their online activity often remains hidden from view. We are only just beginning to understand the dynamics involved in them 'growing up online' and how this may influence the way that they come to make sense of the world.

[2]This figure includes instant messages sent through apps like WhatsApp and Snapchat.

How Does Digital Technology Define Childhood?

Digital computers first appeared in children's lives during the 1970s. In the UK, USA, and Northern Europe, they entered the home as platforms for playing video games and arrived in schools as educational tools for learning how to program. Parents and teachers invested in these technologies because they saw them as equipping young people for an increasingly automated workplace where such skills were becoming more valuable. Even at this early stage, psychologists had differing views on their value to children. Early advocates of computers believed that programming skills would offer children new opportunities for creativity and empower them as learners (Papert 1980). In contrast, some developmental psychologists were concerned about how the impoverished learning environments that computers engendered would undermine important stages of cognitive development by limiting opportunities for physical and sensory play and more direct forms of social interaction (e.g. Fein et al. 1987)—aspects of a child's environment which constructivists have long been considered essential for healthy cognitive development.

Since that time, we have seen a digital revolution that has transformed and multiplied the presence of computers in children's lives through iPods, smartphones, games consoles and tablet computers. As anticipated, these devices have become central to many children's playtimes even at a young age (Haughton et al. 2015). This trend has reduced the level of physical activity previously associated with youth which has obvious implications for general health (Pearson et al. 2014). The cognitive repercussions of this largely sedentary and screen-based childhood are less clear and are still revealing themselves. Here, we explore what current research has to say about this.

Defining Cognitive Capacity

Digital technologies create interactive environments where children learn certain skills and the ability to interpret specific forms of digital information. Over time these digital interactions can come to determine children's expectations for interaction, prioritising certain skills and

forms of attention and response. Children using the internet are likely to develop their skills in typing, spelling and comprehension while they search and browse (Livingstone 2009). Chatting online through text-based interaction can provide an opportunity for them to develop their expressive written language skills (Johnson 2009). However, children's first prolonged encounters with digital technology will often be through playing video games. Those who play action video games are likely to develop their perceptual motor skills while they play, helping them to identify and respond to onscreen activities quicker and more accurately (Subrahmanyam et al. 2001). Three-dimensional action games will also develop a child's spatial reasoning so that they can anticipate the movements of objects in 3D space better through mental imagery (Green and Bavelier 2012). Video games may also help in developing 'metacognitive' skills that could potentially be useful outside the game environment such as those involved in allocating visual attention (Bavelier et al. 2012), task switching (Green et al. 2012), problem solving and general strategising (Blumberg et al. 2013). Unfortunately, none of these digital skills seem to transfer very well beyond the specifics of the digital environment in which they are used (Boot et al. 2011; Unsworth et al. 2015) involving literacies that are only loosely connected to those required for offline activities (Leu et al. 2013). There may even be a more detrimental side to a digitally immersed childhood.

Some theorists have argued that early immersion in these kinds of digital environments can habituate children to digital forms of interaction so that they start to expect and crave them over other more human or natural experiences (Prensky 2001; Carr 2011; Palfrey and Gasser 2013). It has been argued that those who have grown up with computers, the so-called digital natives[3] (Prensky 2001), are likely to suffer from this propensity, becoming proficient with digital technology at an early age and starting to use them in ways that are profoundly different from their parents. Digital nativism brings with it an increasing use of digital technology to acquire awareness and knowledge of everyday life and the wider world but also an increasing dependence on those same technologies.

[3]Born since 1980.

Since the advent of video games in the 1980s, we have known about the addictive nature of computers (Klein 1984) but the spread of mobile and internet-enabled devices into everyday life has made the possibilities for digital dependency even greater. According to Prensky, digital natives have come to expect knowledge to appear in digital form (i.e. in brief, searchable chunks which are entertaining and easily digestible). They will also struggle to integrate 'older' forms of knowledge that would normally be acquired through books or direct experience of the natural world.

While the idea of children being neurologically distinct from adults (as digital natives) is highly contentious (Hargittai 2010), there is evidence that young people are experiencing a particularly unhealthy dependence on their digital devices with clinical diagnoses of internet and mobile phone addiction on the rise (Kuss et al. 2014) and the majority of teens (79%) themselves admitting that they are 'hooked' on their connected devices (OfCom 2016). A number of studies have shown that extreme digital immersion can produce changes in underlying cognitive processes that suggest a shallower processing of information online (Nicholas et al. 2011) an increasing need for digital stimulation and problems concentrating when these digital needs are not being met (Loh and Kanai 2016). However, it would be wrong to present these cognitive changes as emerging out of choices made by children themselves when digital technology is commonplace and validated by old and young alike.

Shaping Social Expectations and Competencies

Digital technologies and media now underpin much of social life in the developed world both interpersonally and at a societal level. To a large extent, it is here that children now encounter their culture and come to understand themselves as social beings. By playing the latest video game online with their friends, watching videos on YouTube or perfecting their selfies for Instagram, they are learning about the skills and qualities that are valued in their society and discovering what counts for acceptable behaviour, etiquette and morality. From the beginning of the digital revolution, psychologists have been concerned with how

digital technologies and media might influence children's social and moral development, bringing them into contact with adult themes at a young age and steering them towards more transgressive norms and risky behaviours.

As already mentioned, a child's first encounter with digital technology is often through playing video games. Children between the ages of 3 and 4 years are already playing about 6 hours 48 minutes per week often starting with tablet computers. This steadily increases throughout childhood so that by 12–15 years old they will be playing an average of 13 hours 24 minutes per week (OfCom 2016). Early research in this area showed that playing violent video games even for short periods was likely to increase a child's aggressive behaviour immediately after playing the game as well as their feelings of hostility towards others. It was also shown to undermine their willingness to engage in prosocial behaviour (see Dill and Dill 1998 for a review). For instance, even moderately violent video games such as Space Invaders were shown to make young children (4–6 years old) more aggressive while engaged in free play activities immediately after playing the game (Silvern and Williamson 1987).

Since that time, video games have changed enormously, becoming increasingly realistic and immersive. Studies conducted over the last 20 years continue to show that playing video games does affect children's subsequent behaviour in the short and long term. Violent video games increase players' subsequent aggressive behaviour as well as their aggressive intentions towards others (Anderson et al. 2010). They are also likely to desensitise players to real-life violence, reduce their empathy for victims of violence and make them less likely to help others (Anderson et al. 2010). Playing such games can also make real life appear more threatening (Dill and Dill 1998). While these effects may be fairly short-lived, they have clear implications for how children (who are excessive gamers) will interpret and respond to life events beyond the game world. Conversely, playing games where the aim is to help and protect game characters can encourage prosocial effects, making players think and behave less aggressively and experience greater empathy and consideration for others after playing the game (Gentile et al. 2009; Greitemeyer and Osswald 2010).

Video games can also be influential in ways that are seemingly incidental to the game itself. Many games offer a distorted view of the world where men are often aggressive protagonists while women are underrepresented and highly sexualised (Dill and Thill 2007). There is evidence that boys who play such games are likely to be more accepting of sexual harassment against women in real-life situations (Dill et al. 2008). The increasing presence of advertising within games can also create environments in which the right product placements can lead to greater brand recognition, loyalty (Lull et al. 2016) and consumption by children (Harris et al. 2012) even before they are aware that they are being advertised to.

The persuasive social effects of digital technology are not confined to the fictional worlds of video games of course. Children's exploration of the internet increases as their written language improves and they start to use online resources to learn about the world beyond their home or immediate environment. This is likely to bring them into contact with all kinds of influential content that their parents would probably consider inappropriate whether by surfing the Web, interacting with friends on social media or watching videos on YouTube.[4] The same concerns about sexual and violent content are apparent here too along with others relating to the over-commercial nature of the internet and the presence of extreme and biased views whether sexist, racist, pro-anorexia, promotion of illicit drug use or hate speech (Livingstone et al. 2014). While these issues are clearly a concern for parents, they are also a concern for the children themselves who are often tasked with making sense of all that they encounter on their own. In a recent UK survey, 15% of 8–11-year-olds said that they were seeing things online that were too old for them or that made them sad, frightened or embarrassed (OfCom 2016). Another recent pan European study which looked at the specific online risks that concerned children showed that 18% of 9–16-year-olds were disturbed by the violent content that they encountered online (particularly through video sharing Web sites like YouTube) but even more worrying for them was the pornographic content that they encountered with 21% identifying this as their most serious online concern (Livingstone et al. 2014).

[4]YouTube is popular among all children and for those over 8 is more important than broadcast TV (OfCom 2016).

It is now very easy for young children to encounter sexually explicit material online without ever meaning to. This unintentional exposure is often met with fear or disgust (Livingstone et al. 2014) but as children reach puberty they may start to seek out pornographic material deliberately in order to satisfy their sexual curiosity and learn about sex (Brown and L'Engle 2009). While there are obvious difficulties in assessing the true nature of children's exposure and access to online pornography, in countries where the internet is commonplace so too is children's exposure to pornography. Studies conducted across Europe, North America, Australia and Asia suggest that this exposure and deliberate access are widespread (e.g. Häggström-Nordin et al. 2009) with the vast majority of children encountering pornography before the age of 16 (Horvath et al. 2013).

There is now growing concern about how this early access to pornographic content may be influencing children's sexual attitudes and behaviour as they emerge into adulthood (Wright 2014). Studies so far show that exposure to pornography in childhood can lead to more permissive and 'recreational' attitudes towards sex (Peter and Valkenberg 2010) with them having sex at an earlier age than would otherwise occur (Vandenbosch and Eggermont 2013). It has also been shown that prolonged use of pornography during puberty (which is twice as likely among boys than girls) can distort their understandings of the part that sex plays in intimate relationships. They will be more likely to develop more regressive attitudes about gender roles, start to view women as sex objects, be more likely to engage in sexual harassment and perpetrate sexually aggressive acts (Brown and L'Engle 2009).

Encountering Other People Online

The internet is of course about much more than access to passive content: it is an interactive social medium where children will inevitably come into contact with other people at some point. This may be through playing online video games with others, connecting with friends on social networking sites or interacting with unknown others via social media, chat rooms or in virtual worlds. It is this global social aspect of the internet

that carries such potential for children in terms of maintaining friendships, meeting new people, learning about other people's lives and learning to express themselves as individuals. It also carries some risk.

The mobile phone (and more recently the smartphone) has also been hugely significant in transforming the social opportunities of children providing them with opportunities for maintaining friendships independent of family influence. This has increased the significance of peers in terms of a child's development with mobile phone ownership becoming a rite of passage into independence.

Many children enjoy the social opportunities that the internet provides with it becoming a significant place for them to socialise. Forty per cent of 9–16-year-olds now use it as a place to find new friends, and according to a recent pan European study (Livingstone et al. 2011a, b), a significant proportion of their online contacts will be strangers. Twenty-eight per cent of children's (11–16-year-olds) online gaming takes place with people that they have never met in real life, 29% of chat room interactions, 30% in virtual worlds and 12% on social networking sites. The anonymous nature of these virtual spaces means that age, gender and identity are not always presented accurately or transparently. In most cases, online age restrictions are unrealistic with children just having to tick a box to say that they are old enough in order to gain access to a game or social network. In the UK, for instance, 47% of 9–12-year-olds will pretend to be over 13 years of age in order to gain access to Facebook (Livingstone et al. 2011c).

Online social contact is not always friendly and may be completely uninvited and unwanted, particularly for younger children who may be too young and naïve to appreciate the possible duplicity of others that they meet online. The internet's social 'openness' can be a source of great unpleasantness as well as a place for more targeted forms of bullying, persuasion, coercion and exploitation. Recent figures from the UK show that 16% of 12 to 15 year-olds (and 21% of 8 to 11 year-olds) will have experienced other people being nasty, mean or unkind to them online; 13% will have been bullied there (11% of 8 to 11 year-olds); and 34% will have encountered hate speech (Ofcom 2016). Previous surveys show that 12% of 11 to 16 year-olds will have seen or received sexual messages online

(Livingstone et al. 2011d). These figures vary slightly across Europe and North America but continue to represent a sizeable proportion of young people online (Livingstone et al. 2011c).

There are obvious concerns about children encountering adult strangers online and becoming unwitting victims of sexual exploitation or radicalisation in some form whether encouraging extreme views through hate speech or risky behaviours like drug taking, self-harm or anorexia. However, it seems that many of the troubling interactions that take place online involve other children and are an accompaniment to broader forms of harassment, bullying or sexual solicitation (Finkelhor and Ormrod 1999). The children perpetrating these acts tend to be known to the victim (Mishna et al. 2009) and are using the internet as a way of hiding their identity. Bullying is still more prevalent offline and existing disputes in the real world may be where the trouble starts (Livingstone et al. 2011c). However, cyberbullying adds a whole other dimension to bullying by harnessing the internet's opportunities for anonymity, perpetual contact and social broadcast. These aspects of the internet may embolden shy children or those who have previously been bullied at school to do some bullying of their own (Mishna et al. 2009; Kubiszewski et al. 2015). At times, differentiating the perpetrators from the victims of cyberbullying can be difficult when online 'teasing' may be established as a tactic for attaining social status at school. Cyberbullying can take many forms, including direct personal insults and threats through text messaging services (like SMS, Facebook Messenger or WhatsApp) as well as more public forms of ridicule and humiliation enacted through social media. Public humiliation may involve the sharing of private information in public spaces or hacking into a victim's account and impersonating them in order to get them into trouble. While face-to-face bullying is usually contained at school, cyberbullying is particularly problematic because it follows a child home and invades their private space so that there is essentially no escape (Tokunaga 2010). At the same time, the anonymous nature of the internet makes it difficult to identify the bully and confront them. As a result, cyberbullying is likely to be experienced even more acutely than face-to-face bullying affecting a child's

self-esteem, their confidence in social settings and their involvement with school (Kowalski and Limber 2013). Nilan et al. (2015, p. 6) use the following example of an Australian schoolgirl to illustrate the depth of feeling that arises in relation to cyberbullying,

> Cyberbullying is the worst type of bullying because it affects every part of you, not just your body. It makes me pissed off that one person can cause so much harm over something like a smart phone. People can say things online that make someone more afraid, feel more worthless than if they were just being physically threatened. (Carly, female)

You might think that the most effective way to 'close down' a cyberbully would be to disconnect yourself from social media entirely. However, it seems that this is no longer an option for children because they have so much of themselves invested in their digital selves and the social opportunities that social media affords. Underpinning the cyberbullying dilemma for children is an increasing reliance on social media as a source of validation for their emerging sense of self—a subject that we now turn to.

Developing Digital Selves

Developmental psychologists have known for some time that establishing one's identity is a major theme of adolescence (Erikson 1963). As children approach young adulthood (from around 13 to 19 years of age), they are expected to take more responsibility for their own decisions and actions. This process involves teenagers differentiating themselves from their parents and working out what they truly think about significant life issues such as relationships, authority, gender roles, sexuality, religion and politics. This does not happen overnight, and teenagers will commonly experiment with diverse ways of being before they arrive at a unified sense of self (Marcia 1993). Increasingly, the internet and mobile phones are places where children will experiment in this way, and this has particular implications for how they develop a sense of who they are.

By the time children reach adolescence, they are likely to be simultaneously involved in a plethora of social networking sites and online games, presenting themselves to each audience through a different digital persona. Children learn how to manage their digital selves so that they can develop a meaningful presence in each online context taking into account the varying degrees of anonymity, opportunities for self-expression and social norms of each context. The interactions that occur through these digital selves give children opportunities for forming a view of themselves, reflecting upon who they want to be as a person and articulating this to others.

Early studies of children's internet use examined through the lens of text-based online role-playing games showed that as well as providing a place for making new friends they were also using this medium to work through their own issues of identity. Assuming virtual personae in these games, they were able to explore different ways of being, re-enacting difficult parental dynamics with depressed or addicted parents with a view to making sense of these aspects of their own personalities (Turkle 1995). Subsequent research has shown that these online 'identity experiments' can be particularly beneficial to those adolescents whose shyness (McKenna and Bargh 2000) or uncertain sexuality (Craig and McInroy 2014) may complicate relationships with their immediate friends and family. This kind of identity play continues to be a part of virtual worlds like Second Life (Boerllstorff 2015) and within MMORPGs like World of Warcraft (Taylor 2009).

More recent studies in Europe show just how common these 'identity experiments' are across all forms of digital media with half of the children (9–18-year-olds in this case) in one Dutch study pretending to be someone else: the girls were most likely to pretend they were older and more beautiful while the boys were more likely to pretend they were more macho. Both genders would also pretend to be specific other people (both real and imagined) sometimes changing their gender to suit (Valkenburg et al. 2005).

The sheer diversity of a teenager's digital self-expression has led some to question the value of the internet in developing any unified sense of self where constant access to so many alternate views may make it harder to establish one's own personal stance on anything (Valkenburg and Peter 2011). In fact, some young people (particularly those

who suffer with social anxiety) find it easier to be themselves online (Amichai-Hamburger et al. 2002) and may start to prefer the multiplicity of the virtual world as their 'reality of choice'.[5] This phenomenon has become so common in Japan (where some teenagers effectively live online, never leave home and remain with their parents) that they have even given it a special name: hikikomori, literally meaning 'pulling inward, being confined' (Li and Wong 2015).

Some teenagers will exploit the affordances of digital media so that they can avoid emotionally charged social situations. This is evident in their preference for text messaging over voice calls as a more 'controllable' medium as well as in their willingness to switch between online identities and connections in order to avoid possible rejection or disapproval and hence maintain agreeable interactions. Avoiding the emotional aspects of relationships in this way can be detrimental to the emergence of a unified self where emotional intelligence is key to integrating online identity with that in the 'real' world (Turkle 2011).

Social networking sites like Facebook and Instagram are particularly attractive to adolescents who are seeking a sense of self online but present particular complications. Through the articulation of a digital self, these sites emphasise physical attraction, affinity with social groups and popularity, all of which are significant in terms of adolescent identity. Social dynamics within SNSs are driven largely by the social comparisons that underpin adolescent identity development, and although these are potentially damaging to a teenager's self-image (Lee 2014), the 'power of likes' is undeniable to most teenagers. Cultivating an active Facebook presence with regular profile updates and lots of Facebook friends is likely to increase their self-esteem (Gonzales and Hancock 2011) and subjective well-being (Kim and Lee 2011).

A major issue for teenagers in such spaces is maintaining a positive self-image to as many of their peers as possible while also exploring intimate friendships, and this requires careful management of public/private boundaries. Adolescents are more likely than other age groups to post regularly and disclose details about themselves on SNSs like

[5]34% of 12–15-year-olds find it easier to be themselves online than when they are with people face to face (OfCom 2015).

Facebook (Christofides et al. 2012). This can be problematic when their public online persona does not coincide with who their close friends and parents expect them to be: a dilemma described by boyd (2014) as 'context collapse'.

Teenagers' apparent disregard for privacy and their overriding need to engage in self-promotion has led some (older) commentators to suggest that this is down to an increasing narcissism among the younger generation (McCain et al. 2016). Others suggest that the idea that teenagers are 'oversharing' and do not care about their privacy is misplaced (boyd 2014). The increasing presence of parents, family and employers on the Facebook network means that young people are becoming increasingly cautious about what they chose to disclose online (Brandtzæg et al. 2010). However, SNSs like Facebook are 'public by default' and teenagers are aware that they must make deliberate choices if they want to maintain their privacy. Similarly, the act of 'friending' forces a binary definition onto young people's relationships that would ordinarily involve a more subtle navigation.

None the less there is evidence that adolescents do manage the privacy of their social networks successfully in ways that go unnoticed by older users. As boyd's (2014) ethnographic studies have shown teenagers will post 'light' versions of their everyday life in order to maintain their public presence, while at the same time communicate more intimate messages by encoding their posts in ways that are only decipherable by close friends.

Adolescents' obsession with maintaining a constant presence in SNS has led some to point out the significant loss of contemplative space that teenagers must now experience as part of growing up, with teenagers finding it harder to be alone and unoccupied (Turkle 2015).

Understanding Children's Digital Engagement in Context

Currently, Cyberpsychology identifies children's access to transgressive digital content as inherently problematic for society with a primary assertion that children are learning extreme violent (Anderson et al. 2010) and/or sexual 'scripts' (Brown and L'Engle 2009) which they may later

act out in real life. At the same time, the anonymous nature of the Web is blamed for creating a highly deviant environment which puts children at risk of harm by enabling direct contact with dubious strangers and increasing adolescents' narcissistic tendencies. The news media often takes a similar (technologically determinist) stance, routinely blaming video games and the internet for instances of extreme youth behaviour and sexual predation. This includes many of the school shootings in North America such as the Sandy Hook Massacre perpetrated by a 20 year old reported to be an avid player of first-person shooter games like Call of Duty and School Shooters during his teenage years (Pilkington 2013).

However, as some researchers have pointed out, the direct causality suggested here is not straightforward. A child's particular involvement in a digital realm may be determined by a number of factors that are invisible to this kind of analysis, including their individual propensities and the social context that exists offline (Livingstone 2014) reinforcing their ongoing use of digital technology and shaping their interpretations of the digital content that they encounter. In short, Cyberpsychology research (and the news media) is very good at identifying potential risks but not necessarily the processes by which these may translate into actual harms or not (Livingstone 2013).

The evidence for video games being responsible for long-term changes in behaviour that might culminate in violent acts such as school shootings is weak, being only correlational rather than causative with only a small effect size of $r = 0.15$ (Anderson et al. 2010). When other factors are taken into account such as the family environment, the delinquency of peers and mental health issues such as depression, the effects of violent video games become negligible (Ferguson 2011). Similarly, any direct causal link between online pornography and sexually aggressive acts is questionable. Those children who most actively seek out online pornography tend to be sensation seekers (Beyens et al. 2015). They are also more likely to be depressed and have an emotionally distant relationship with their family or caregivers (Ybarra and Mitchell 2005). Those children most likely to become the victims of online sexual solicitation from adults are also likely to have poor family ties with parents who do not pay close attention to their well-being. They are also more likely to be troubled by loneliness and depression and in the case of boys

may be struggling with issues around their sexuality (Wolak et al. 2004). All of this points to the importance of understanding the offline social context to gain a better understanding of underlying risks.

Interestingly, despite the concerns about the effects of violent video games on young people in the USA, their popularity has coincided with a broader reduction in youth violence (Olson 2004) with popular video games actually coinciding with a drop in violent crime (Cunningham et al. 2016). Similarly, although teenagers' attitudes about sex are becoming more liberal in the age of the internet, teenage pregnancies are at their lowest levels for years in the post-industrial countries of Europe and North America (ONS 2016; Martin et al. 2017). Fears that digital technology and media will undermine the morality of the next generation appear to be simplistic and largely unfounded.

The Family as Context

In order to appreciate the context of children's digital engagement, we must first start to consider the family's role in determining a child's digital habits. Although children clearly pick up on the social and cultural significance of digital technology from an early age, there is more coming from their parents than simple encouragement. Since the 1980s, parents have been increasingly fearful about their children's safety, becoming more protective and risk averse in the ways that they bring up their children (Gill 2007). In particular, fears about road traffic and 'stranger danger' have increased (Foster et al. 2015) with parents feeling more of a need to supervise their children's outdoor activities and transport them from place to place by car rather than let them go to places on their own. Children's 'independent mobility', their freedom to explore and play in their own neighbourhood, has been curtailed significantly compared to their parents' generation (Foster et al. 2015). Journeys to and from school are now more likely to happen with a parent in tow. In the UK in 1971, 80% of 7–8-year-olds were allowed to travel home from school on their own, and by 2010, this figure had reduced to just 6% (Shaw et al. 2013). Outdoor play which was once commonplace is now rare with the majority of children preferring to

play at home rather than in the street or in natural spaces like parks or woodland (Karsten 2005; Natural England 2009). These changes have real implications for child development as we know that opportunities for independent activity are important for developing children's resilience and self-reliance (Lindon 2011).

The digital spaces provided by video games, the internet and social media have given families seemingly 'safe' spaces in which their children can play and hang out with their friends, places where they do have some freedom to explore and encounter risk while remaining in the presence of their parents (Olson 2010). However, it seems that some of those same fears about 'stranger danger' resurface in relation to the online world and are in fact amplified by what they encounter there in terms of both the availability of violent and sexualised content and media reports about the risks of the internet (BBC 2017). While on the face of it children are materially safe, their experience of the outside world becomes defined by what the internet tells them about it—that the world is a violent, aggressive and dangerous place where sex and money are everywhere as well as extreme views, bias, prejudice and competition.

A family's approach to supervising internet use is therefore crucial, in terms of keeping in mind a child's need for independent action, critical thought, etc. Parental approaches which foster children's awareness of potential sources of online risk (enabling mediation) are therefore likely to be more effective than those that restrict access (Livingstone et al. 2017).

Consumer Societies as Context

While the motivations for getting children into computers during the 1970s and 1980s may have been to do with future job skills, this is clearly no longer the main reason that they are in people's homes. Computers and the internet serve quite a different role in post-industrial nations where the economic concern is with consumption rather than learning skills for industrial production. The global revenue for video game sales is now at $109 billion (Newzoo 2017) equivalent to

the GDP of Morocco. Internet companies like Google and Facebook also make enormous advertising revenues of $73 billion and $34 billion (Handley 2017), equivalent to the GDP of Myanmar and Bahrain, respectively (IMF 2017).

While children are being 'safely' occupied in their homes, they are also being taught how to be good consumers. While parents may be concerned about their children becoming addicted to video games and social media that is exactly what these companies are aiming for (e.g. Sheffield 2010). The focus of concern may be about how violent and sexual content is affecting children's attitudes but these themes are exactly what makes games addictive and viable as vehicles for increasing revenue. Similar advertising and consumerist motives underpin social media content. Perhaps unsurprisingly 52% of children (8–15-year-olds) think there is too much advertising on the internet (Ofcom 2016).

Conclusions

In this chapter, we have considered how digital technologies have changed the experience of growing up in the developed world along with the implications that this has for children and their parents. Undoubtedly, digital technologies have reshaped childhood and continue to do so. However, they are beneficial to children in many ways, providing them with access to knowledge, entertainment and social opportunities. At the same time, they bring inherent risks. As soon as children start to access the internet, they have to grow up fast, with a high likelihood they will encounter violence, pornographic content, hate speech as well as have to deal with unwanted social contact, bullying and harassment.

Given the powerful influence of neoliberalism in relation to internet regulation, it seems unlikely that the largely uncensored nature of the internet will change any time soon. However, we should remember that risk is not the same as harm and learning to deal with risk is part of becoming a resilient human being (Livingstone 2013). The most sensible thing that parents can do is to encourage a critical perspective in

their children which can balance the risks and benefits of their digital engagement. There are also clear signs that children themselves are not comfortable with the situation, having to deal with unwanted attention and influences on their childhood. Although some of the measures that children take are difficult for older generations to understand, there are reassuring signs that they are adapting to this digital immersion without being completely consumed by it.

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3

Being Yourself

Opportunities for showing and telling the self to larger and more disperse audiences have multiplied exponentially with the rise of the internet. The widespread use of social networking sites and personal home pages (Facebook, MySpace), the popularity of platforms for visualising and sharing self-images (such as selfies and Instagram) and the exponential growth of blogging sites (such as Twitter and Tumblr) offer opportunities to construct and display selves for public consumption.

Understanding the relationships and interactions between these digital spaces and our 'self' is complex. We can identify at least three aspects of this complexity using blogging as an example: complexity of context, complexity of influence and complexity of theory. Blogging about one's own experiences and opinions (from 'mummy bloggers' and 'wellness bloggers' to 'refugee bloggers', 'mental health bloggers' and 'sex bloggers') has been variously seen as self-indulgent and narcissistic, expressive and cathartic and (increasingly) as self-promotion and branding. As blogging shifts from being the equivalent of a digital diary, to being a kind of informal, edgy journalism, its meaning inevitably changes—as does its relationship to self. Moreover, the meaning of blogging as a 'mummy blogger' may be very different (with different norms of

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behaviour and self-expression) to the meaning of blogging about politics. As the meaning of virtual spaces and practices constantly shifts and evolves, Cyberpsychology research struggles to capture or assess how these spaces impact on, and are shaped by, users' identities. Therefore, an important theme of this chapter is a focus on the virtual context (whether blogging, gaming, developing a personal home page, using Facebook, etc.) and the meanings of these contexts.

Secondly, researchers have different ideas about the direction of influence between virtual environments and self. As noted in Chapter 1, there have always been concerns about the 'effects' of new technologies on the human psyche. The underlying premise of media effects research has been that technology (and media) is responsible for changing ourselves in discernible ways. Within Cyberpsychology, investigations into the transformative nature of digital technologies have pursued a similar trajectory, attempting to show the ways that digital technologies force changes in who we are. For example, is blogging therapeutic? Can it change the way in which people think about themselves, including improving their self-esteem? However, a different train of thought has come from a 'uses and gratifications' approach in which technologies are brought into the service of users who want to meet particular goals. So, blogging will be attractive only to certain people who are motivated to use these spaces to (for example) engage in self-promotion or express something about their own experience.

Finally, the field is complicated by a plethora of different theoretical approaches to understanding what is meant by the 'self', 'identity' or 'personality'. In writing this chapter, we focus on the notion of 'self' because this fits with our aim to move towards a more subjective and socially situated understanding of the human-technology dynamic. This means incorporating studies that acknowledge phenomenology and context. The 'self' refers to the person's own awareness and experience of themselves; it is how someone thinks about, evaluates or perceives themselves. It is our experience of knowing 'me'. In contrast, identity is the traits and characteristics, social relations, roles and social group memberships that define who we are. Personality refers to individual differences in characteristic patterns of thinking, feeling and behaving.

Personality rests on the idea that people are made up of a number of different personality traits—enduring personal characteristics that are revealed in a particular pattern of behaviour in a variety of situations—and it is the combination of these traits which makes an individual unique. Therefore, research exploring the human-technology dynamic shifts between an 'objective' focus on how particular traits are altered by technology (does mummy blogging make the writer more extrovert), and the subjective experience of engaging in virtual worlds and how this shapes how we experience ourselves (does mummy blogging change the way that one experiences oneself as a mother).

As broad as this area of research is (which makes it tricky to summarise neatly and succinctly), there are nonetheless a number of key foci in Cyberpsychology research which can be drawn out.

- Research has focused on identifying whether there is anything unique about digital selves, or whether they are underpinned by the same psychological processes as 'real life' selves. This involves mobilising existing theories of self/identity/personality to examine their applicability to online identities and starts from the premise that the digital and the real can be neatly distinguished.
- The literature privileges a concern with exploring the (harmful) 'effects' that engaging in virtual worlds might have on individual personalities and selves, thereby adopting a technological determinist position (where technologies, their forms and structures, act on individuals).
- Alternatively, researchers have considered whether people's personalities/identities/selves lead them to engage more frequently with some kinds of platforms/technologies/spaces to meet particular goals, motivations or psychological needs (i.e., adopting a uses and gratifications approach).
- Researchers have explored whether the affordances offered by different virtual environments—particularly anonymous/non-anonymous (or nonymous) environments—enable different opportunities playing with identities.

- Scholars have considered whether people are more likely to present their 'true' identities, an ideal version of themselves, or a false version of themselves in online spaces, due to anonymity or reduced social conventions.
- Finally, the field is characterised by different theoretical conceptualisations of self, and disagreements about how best to research digital selves.

With regard to this last area, Cyberpsychology has been dominated by trait theories of personality which utilise the concept of a relatively fixed, stable and bounded self. This research typically follows the 'media effects' tradition by exploring the impact of new technologies on personality using experimental and questionnaire-based methods. Others writing from a Cybercultures perspective (drawing on sociology, anthropology and cultural studies) have criticised this approach for failing to keep up with theoretical developments in self and identity (Robinson 2007; Kennedy 2006). Many have drawn on Goffman's (1959) theory of self-presentation (discussed later) to explore how people communicate about themselves to others (often by doing content analysis of website, home pages, twitter feeds, etc.). Relatively few have taken on deeper aspects of the symbolic interactionist tradition to examine the self as something which forms, and is experienced, in interaction with others—seeing the self as something we do (an active process) not a fixed set of traits we possess. Cybercultures research typically draws on qualitative methods to explore the subjective experiences of users. So too, do those drawing postmodern theories of self in which virtual spaces provide opportunities to try out and play with multiple and fragmented identities, although others have criticised this for relying too heavily on the study of multi-user role-playing games while having little to say about processes of selfing in other contexts (Robinson 2007). Finally, researchers based in HCI have been more concerned with exploring what being on line feels like for users, and whether avatars and other ways of representing oneself online *feel* real. These researchers have offered a different set of theoretical concepts with which to explore digital selves, including immediacy, immersion, and embodiment.

What is clear from this overview is that 'being yourself' online is a complex business, and the variety of research approaches adopted reflects this complexity. In this chapter, we review a range of different approaches to exploring 'being ourselves' online, but we favour approaches which capture the subjective experience of users. We consider how different online contexts (shaped by the type of technology, the platform, the social norms of the virtual environment and the affordances offered by that technology) make different kinds of identity work possible. Some virtual worlds offer spaces for a controlled presentation of self—often an idealised self in which stigmatised or unwanted aspects of the self can be hidden—while others offer opportunities to 'play' or experiment with different selves and to test these out in relative safety. The question 'who am I' is one which may be tested out, explored, altered and developed through computer-mediated interaction with others who respond to and influence our 'identity projects'.

Narcissism, Personality and the Rise of the 'Selfie'

> Are Kim Kardashian's selfies a form of art – or a sign of narcissism? (Clements 2014)

> Social media and the internet are making us more narcissistic… (Chamorro-Premuzic 2014)

Selfies—photographs taken by individuals and shared through social networking sites—have become a pervasive form of 'showing' the self. Often attributed to the development of front-facing cameras on mobile phones and the growth of image hosting websites (Losse 2013), selfies have become a widespread practice taken up not just by 'ordinary' folks but by celebrities (like Kim Kardashian), politicians (Barak Obama) and other public figures. Posing and sharing intentionally flattering images of the self is variously seen as harmless fun or shameless self-promotion and aggrandisement. Headlines asserting an association between narcissism (a 'pervasive pattern of grandiosity, need for admiration, and an

exaggerated sense of self-importance', Mehdizadeh 2010, p. 358) and social media/internet use, followed the publication of a series of social scientific studies which drew a link between 'personality' and the use of social media. Personality, as a psychological construct, is a cornerstone of psychological theory and research and is one which dominates psychological thinking about the relationship between technology and the self. As a psychological construct, personality rests on the assumption that people are constituted by relatively fixed traits which predict how people behave and how they respond to social situations. The unique combination of these traits is what makes us individual and different from one another, but nonetheless, it is possible to identify, measure and define a key set of traits which constitute our personalities. Thus, the question of whether reality TV star Kim Khardasian's selfie is evidence of narcissism, reflects the idea that taking a selfie (a behaviour) may be the expression of a relatively fixed trait (narcissism). Narcissists are said to use social relationships to regulate their sense of well-being, not by enhancing warmth or intimacy, but by appearing popular, successful, attractive and so on. According to researchers in this area, narcissists seek out 'superficial and empty relationships', and online communities offer a 'fertile ground' for narcissists because they provide opportunities for hundreds of shallow relationships (virtual friends) and emotionally detached communication (Mehdizadeh 2010, p. 358). Studies typically ask participants to self-report their levels of narcissism using established questionnaires (e.g., the Narcissistic Personality Inventory, Raskin and Terry 1988) which are then correlated with the contents of their social networking pages (typically Facebook). Using such methods, researchers have found that people who are more narcissistic are more likely to engage in social activity in online communities, and have more self-promoting content in their personal web pages (Buffardi and Campbell 2008; Mehdizadeh 2010). This reflects a 'uses and gratifications approach' to technology use (an approach borrowed from studies of more traditional media), where people use different forms of communication to meet their individual needs and motivations. The user is assumed to have an (already existing) set of traits which drive their engagement with technologies. The technology simply provides a mechanism for the expression of this pre-existing

personality (see, e.g., Skues et al. 2012; Ong et al. 2011), although technologies may have particular affordances which chime with users' wants and desires (photograph sharing, personal home pages, 'likes', etc.). Narcissism is only one of a whole range of different personality traits which have been the focus of research—although the so-called big five (extroversion, introversion, agreeableness, neuroticism and conscientiousness) constitute the bulk of this literature. Among the findings in this area are that: people who are extroverts are more likely to use social media (Correa et al. 2010); those high in neuroticism have greater use of instant messaging (Ehrenberg et al. 2008); extroverts spend more time on social network sites (Wilson et al. 2010), belong to more Facebook groups (Ross et al. 2009) and have more Facebook friends (Ong et al. 2011) than less extroverted users; and high neuroticism/low emotional stability are associated with internet addiction (Kuss et al. 2014).

The second headline illustrates a different approach. Rather than focusing on how individual differences in personality influence how people engage with virtual spaces, here social media and new technologies are seen as impacting on the balance of traits within individuals and across societies. The idea that social media and internet use is 'making us' more narcissistic suggests an anxiety about the ways in which Web 2.0 may be changing the personalities of young people. In this sense, the features of the technology (the superficiality of 'Facebook friends', the endless posting of selfies, responding to posts with a 'like' etc.) have an effect on users. This is a technological determinist approach. Researchers have claimed there is a 'narcissism epidemic' (Twenge and Campbell 2009), which places social media as part of a much broader cultural change in US society. Social networking sites are often seen as *causing* narcissism (i.e., often what receives media attention—despite mixed results in the academic literature). For example, in one experimental study participants who spent time editing and thinking about their MySpace page later reported higher levels of narcissistic personality traits than those who completed another online task, leading the authors to conclude that this 'can cause young adults to endorse more narcissistic aspects of their identity' (Gentile et al. 2012, p. 1932).

This personality approach dominates Cyberpsychology, but it has little to say about the subjective experience of self since it is concerned with objective measurement of personality traits (which may or may not be open to conscious awareness). The technological determinist stance, in which technology is seen as causing changes in personality traits, is often the starting point for this research, while the 'uses and gratifications' approach is better at recognising that the internet offers a range of different services (and affordances) which can be adopted in different ways by users who have different motivations and interests. However, the latter assumes that the personality of the individual already exists (and is relatively static) and the internet is merely a vehicle for expressing this pre-existing self. Moreover, the research is often quite negatively focused on the 'problems' caused by technologies (such as increased narcissism), rather than potential benefits. Indeed, some have argued that users' behaviour should be better understood as 'openness to communication' than narcissism to avoid such negative connotations (e.g., Mckinney et al. 2012). Research drawing on different theoretical traditions, such as symbolic interactionism, argues for a much more fluid version of the self-in-progress.

Facebook and the Presentation of Virtual Selves

Social networking tools (such as Facebook, MySpace, LinkedIn) and dating sites (eHarmony, Match.com, etc.) provide explicit opportunities to present ourselves to friends, acquaintances and the outside world, with all the pleasures and anxieties which accompany this. As a non-anonymous site, Facebook enables users to present themselves by displaying pictures in their online albums and 'wall posts' of their friends, describe their personal interests and hobbies, list their friends and social networks as well as giving a narrative self-description in their 'About Me' entry. These represent a continuum between an explicit 'telling' about the self towards a more implicit showing of the self (Zhao et al. 2008).

To make sense of the creation and sharing of personal home pages and profiles, many researchers have found it useful to draw on Goffman's foundational work on *The Presentation of Self in Everyday Life*. Goffman (1959)

outlined a dramaturgical metaphor to describe the process of self-presentation. Likening individuals to actors, Goffman claimed that when 'front stage' actors are consciously aware of performing for an audience and strive to perform their best selves by conforming to norms and social conventions. 'Back stage' these norms exert less pressure. Rather than seeing behaviour as 'driven' by inherent differences in character (like personality psychology), Goffman's theory is social—arguing that behaviour is driven by a self-reflexive self who attends to social norms in attempting to create a favourable impression which will be welcomed by others. This has prompted two overlapping areas of interest in Cyberpsychology: (1) how do people manage the presentation of their online selves and crucially whether this is any different from 'real life'; and (2) does the gap between the front stage and backstage mean there is a difference between the online self and the 'real' self. Both of these questions make assumptions about the 'real'.

A large body of research has been interested in establishing what kind of information is presented in different online contexts—typically involving content analysis of social networking sites (Zhao et al. 2008; Hum et al. 2011), home pages (Papacharissi 2002) or dating sites (Ellison et al. 2006, 2012), or whether gender (Hum et al. 2011; Haferkamp et al. 2012), race/ethnicity (Grasmuck et al. 2009) or particular personality characteristics predict what (or how much) information is revealed (e.g., Krämer and Winter 2008; Mehdizadeh 2010). Others have paid more attention to the *process* of self-presentation. A key difference with self-presentation online, according to Walther's (1996) Hyperpersonal Model, is that people have greater control over the presentation of their digital selves, which allows them to manage their online interactions more strategically. The affordances offered by the online spaces (such as the asynchronous timing of interactions, the emphasis on verbal and linguistic cues over nonverbal cues, disembodied communication, etc.) enable online self-presentation to be more malleable and subject to self-censorship than face-to-face self-presentation. People can take their time when posting information about themselves, carefully selecting what aspects they would like to emphasise while 'stigmatised' aspects of identity can remain undisclosed unless, or until, an individual is ready to share. This greater control over self-presentation

has prompted concern over the veracity of this information. Are carefully crafted self-presentations likely to lead to misrepresentation, or are online presentations more 'true' because they are (sometimes) free from physical identity cues? These ideas have been taken up by researchers seeking to understand the processes and effects of presenting digital selves created in virtual spaces and the relationship between these selves and a 'real' embodied self which interacts in the 'real' world.

A foundational paper in this area by Bargh et al. (2002) argues that two key features of the internet enable greater expression of the 'true self'—anonymity and interaction with strangers—which release people from the social norms and expectations associated with face-to-face communication. Drawing on a humanistic notion of self which is rooted in subjective experience, they suggested that we are motivated to express our 'true self' because 'we have a real need to have others see us as we see ourselves', and to validate 'hidden' aspects of ourselves so that we can integrate them into our self-concept (p. 36). Despite these humanistic roots, the researchers adopt a cognitive version of self (in which the self is a mental representation of our character, traits, behaviours, etc.) and conducted a series of experiments to 'measure' how much of their true selves people express when communicating online. Using a classic measure of cognitive accessibility, based on the idea that people will respond more quickly to a set of descriptive statements (responding either 'me' or 'not me') when the descriptions are consistent with their 'true self', they tested whether a participant's 'true self' would be more accessible after communicating with another person online rather than face-to-face. The 'true self' is qualities which people believe they possess but which they are not usually able to express, while the 'actual self' is qualities and traits people believe they possess and which they *are* able to communicate to others. They found that participants 'true self' were more accessible in memory after interacting online, and that there was a better match between the participant's description of their true self and their partner's description. They conclude that 'people are better able to present, and have accepted by others, aspects of their true or inner selves on the internet' (p. 45).

This popular line of research has been developed by those using the 'True self on the Net' questionnaire (Amichai-Hamburger et al. 2002). This includes questions about the extent to which people express their inner world to their friends in the internet environment—e.g., 'Do you think you reveal more about yourself to people you know from the internet than to real-life (non-Net) friends?' or 'To what extent would your family or friends be surprised if they were to read your internet email and newsgroup postings?' Using this questionnaire, researchers have found that:

- introverted and neurotic people locate their 'real me' on the internet, while extroverts and non-neurotic people locate their 'real me' in traditional social interaction (Amichai-Hamburger et al. 2002)
- individuals with a high tendency for expressing their true self on the internet are more likely to use Facebook for the purposes of establishing new relationships and managing romantic relationships (Tosun 2012)
- people with high levels of psychoticism use the internet for expressing inner aspects of the self, and over time may develop an obsessive passion for internet use (Tosun and Lajunen 2009)
- people who feel able to express their 'true self' online are more active on Facebook, have more self-oriented motivations for posting and post more personally revealing and emotional content (Seidman 2014).

This suggests that essential personality traits drive people's experience of expressing their 'true self' on the internet, and/or that people's use of specific platforms for expressing their self is driven by their inherent motivations.

In addition to the 'true self', Markus and Nurius (1986) introduced the idea of 'possible selves', our imagined future self or the person we might become under certain conditions, including our 'ideal self', the person that we aspire to be. Research on internet dating sites has consistently found that people present an idealised version of themselves in

their online profiles (Ellison et al. 2006, 2012). Most see these misrepresentations as exaggerations rather than blatant lies, with over half of online daters in one study admitting to lying about their looks, their current relationships, age, weight, socio-economic status and interests (Whitty 2008). Facebook users also present their hoped-for possible selves rather than their 'true' or hidden selves by emphasizing aspects that are socially desirable but not readily discernible in brief offline encounters, such as one's character, intelligence and other inner qualities (Zhao et al. 2008). At the same time, users often seek to de-emphasise parts of their selves they regard as socially undesirable, such as shyness, being overweight or stuttering.

By focussing mostly on how people *present* a seemingly pre-existing self to others, researchers have conceptualised this as a somewhat static, uni-directional process. They concentrate on the veracity of presentations as if a 'real' version of the self was objectively knowable, and draw too clear a distinction between virtual reality and real life as if these are experienced as separate entities. However, symbolic interactionists such as Goffman emphasise the reflexive aspects of self-presentation, arguing that feedback from others inevitably shapes and alters the person's view of themselves. A small body of research has begun to explore how idealised self-presentation may influence people's understanding of themselves. For example, in a cross-sectional survey of Facebook users, Kim and Lee (2011) found that there was a direct effect of positive self-presentation on subjective well-being, from which they inferred that Facebook users' happiness would be enhanced when their positive self-images are affirmed through self-presentation. Similarly, Gonzales and Hancock (2008, 2011) found that the selective self-presentation afforded by digitally mediated environments can have a positive influence on self-esteem. Therefore, online self-presentations can become integrated into how we view ourselves, especially when the presentations take place in a public, digital space. This phenomenon, known as identity shift, demonstrates that self-presentations enacted in online space can impact users' self-concepts. We will return to this idea of identity shift later in the chapter.

Much of the research on self-presentation focuses on the *content* of what is presented rather than on the *subjective experience* of presenting an online self. Relatively little attention is paid to exploring how individuals

manage the dilemmas inherent in presenting ourselves, and to understand our experience of trying to navigate the ambiguous space of the internet (as both real/unreal, private/public, etc.). Qualitative research exploring the presentation of self in online dating has revealed the tensions people experience in trying to present an 'ideal' version of themselves while maintaining authenticity, and the problems of 'reading' the presentations of others (Ellison et al. 2006; Whitty 2008). Although CMC potentially gives individuals more freedom to explore playful, fantastical or ideal identities that differ from their 'real life' self, in online dating people are typically seeking an intimate relationship with others that they expect to physically meet face-to-face. Online daters report that deception is commonplace and is the main perceived disadvantage of online dating. Daters are faced with the problem of both assessing the veracity of the claims made by others, and establishing the credibility of their own presentations. Daters construct 'rules of thumb' for assessing others (e.g., an inactive account indicates a lack of availability or interest) while applying these rules to their own behaviour (e.g., frequently making slight adjustments to the profile), and develop creative circumvention strategies as they post profiles, select individuals to contact and communicate with potential romantic partners to ensure authenticity (Ellison et al. 2006). The veracity of self-presentations is not just a matter of concern for researchers; it is part of the everyday experience of people engaging with online dating and other social media.

Similarly, in her ethnographic study of weblogs and in-depth interviews with the teenage girls who produced them, Bortree (2005) explored what they saw as some of the challenges and hazards of conducting interpersonal communication in a mass medium, and the self-presentation strategies used to negotiate a dual audience. The contents of the blogs were dynamic and changing but included talk about what happened during the day, what they had done or were planning to do over the weekend, what their family members were doing or what they were worried or upset about. While the girls appeared to be writing for close friends and saw blogging as a way to build intimacy (they used nicknames, linked to each other's blogs and disclosed vulnerabilities) they were aware that others might also be reading their posts. They warned this broader audience to skip blogs which might not be of interest,

recounted incidents in which unintended audiences had been upset by their blogs, and expressed uncertainty about who might be reading the blogs and caution about what to write. The bloggers appeared to have carved out for themselves, a private (and anonymous) space in which they believe they can express their opinions and thoughts freely without fear of adult interference, while at the same time recognising that blogging risks exposure. Whether space is private and anonymous is not simply a feature of the technological affordances, but is something which is experienced, managed and negotiated by users. Homepages, social networking sites, online dating platforms and blogs are spaces which are constructed as having a relationship to 'the real'. The norms and expectations of these sites and their users are that there is a 'real' person being presented. This is not to deny that people may set up fake profiles, exaggerate their socially desirable characteristics and otherwise engage in deception (and that this is a recognised possibility). Nonetheless, the social norms of these spaces mean that they are constructed as having a relationship to the real—these are real people interacting with other real people. Whether or not something is real can be treated as something which individuals themselves need to negotiate in an ongoing way.

Selfing Through Avatars

Entry into many online environments, from video games, to educational programmes, to virtual worlds, starts with the creation of an avatar. Avatars—typically understood as a visual representation of oneself within computer-mediated environments—attract particular attention from identity researchers because the mechanisms for self-presentation are highly malleable. Gamers can create human characters and endow them with skills and abilities, creating an avatar which is fiercer, stronger, braver and more honourable than they perceive themselves to be. They can choose weapons, battle with monsters, solve problems and make decisions about what course of action to take. They can customise the appearance of their avatar, including height, build, skin and hair colour, and gender, or can adopt a non-human avatar complete with fur, scales, claws or horns.

In her foundational work *Life on the Screen: Identity in the Age of the internet*, Sherry Turkle (1995) suggested that the relative anonymity and multiple venues for social interaction afforded by the internet created a kind of virtual laboratory for exploring and experimenting with different versions of self. Turkle investigated players' experiences of Multi-user Dungeons (MUDS)—multiplayer, role-playing games played in real time in virtual fantasy worlds populated by fictional human populations, fantastical races and monsters. In these MUDs, players gain specific skills or powers throughout the game by solving problems, completing quests and slaying monsters, while exploring these imaginary worlds. She argued that although the idea that people possess multiple senses of self or different personas is not unique to the internet, the internet enables people to take on and perform different personas online without fear of sanction or disapproval from others. In particular, the apparently disembodied nature of the internet allows people to transcend seemingly fixed markers of identity such as gender, ethnicity or dis/ability. Turkle's (1995) vision of the internet as a kind of social laboratory emphasised its potential for the exploration of alternative conceptions of self. Individuals could vacillate between numerous alternate identities at the click of a mouse as they flicked between different platforms and virtual worlds' realities. Rather than a fixed, stable and bounded self, Turkle argued that this reflected postmodern identities which are fractured, decentred, fluid, hybrid and continually in process. Turkle also drew on psychoanalytic ideas to argue that online identities allow for the playing out and solving of unconscious conflicts in the online world through fantasy. The virtual world could operate as a space for 'getting things done', working through personal concerns and puzzles of the self. Turkle's work also marked a shift towards alternative methods of studying identities in virtual worlds as her research was based on in-depth interviews with gamers, and ethnographic immersion in these spaces—methods which place the socially situated subjective experience of users centre stage. Turkle's ideas (although she later developed her arguments in a different direction) have been hugely influential in cyber studies.

Researchers have expanded Turkle's ideas and are interested in examining the identity exploration opportunities offered by game playing in a persistent, immersive online world. *Massively Multiplayer Online*

Role-Playing Games (MMORPGs) have several critical features that affect players' psychological experience, among which, are the characters that players create as an embodied representation of themselves—their avatars. The avatars are the players' physical embodiment of themselves—therefore they can be considered virtual selves. These researchers are interested in exploring the relationship between the self in the game (the avatar) and the real self. Some have done this by comparing the personality traits of players to the traits of their avatars. Players of the popular game *World of Warcraft*, for example, were asked to rate themselves, their character in the game and their ideal self, using a version of the Big Five Personality Inventory (Bessière et al. 2007). Rather than being separate, avatars were an amalgamation of the real and ideal selves, although players rated their virtual character as being more conscientious, extroverted and less neurotic than themselves—they were a better version of themselves. In another study in which participants were asked to 'think aloud' while creating avatars, although some participants created avatars to accurately reflect their offline self by displaying stable or idealised self-attributes, others exploited the diversity of customisation options to break free from the social rules governing self-presentation offline (Vasalou et al. 2008). Exploring self-presentation in Blogging and Second Life contexts by interviewing participants, Bullingham and Vasconcelos (2013) found that participants often attempt to recreate their offline selves online, rather than actively engaging with persona adoption. Findings such as this are often used to argue that researchers have over-emphasised the 'identity play' potential of virtual worlds and that identity processes are largely the same online and offline.

What this approach fails to capture is that players sometimes feel psychologically connected to their character, often keeping the same one for months or years. In-depth research with Second Life inhabitants revealed that users soon cease role-playing and become themselves—although they may behave slightly differently and emphasise or conceal particular traits online (Boellstorff 2015). Users can see their online selves as having equal status with their offline selves (Waggoner 2009). Waggoner found that avid video game players often treat avatars as extensions of themselves—describing their avatars as 'I', choosing

an appearance that matches aspects of themselves and behaving in the game as they might in real life. The choices they made as avatars reflected their real-world choices and desires. Avatars are treated as separate-yet-the-same. But these connections are not always straightforward or conscious. He concludes that if 'it is the human mind processing and reflecting on stimuli that makes them real for that individual's identities, and if a fantasy identity (like a *Morrowind* avatar) triggers real emotions and sensations, then the binary "real" vs. "virtual" that sets up fantasy identities as "not real" is inaccurate and in need of adjustment' (Waggoner 2009, p. 163). Starting from binary assumptions, as much of Cyberpsychology does, that 'real life' and virtual worlds are separate and distinct as are 'true' identities are distinct from digital identities, does a disservice to many people's experience of inhabiting virtual spaces. Waggoner (2009) criticises game theorists for uncritically accepting the idea of 'the real' even as they often try to explore the enduring impact of virtual experiences. HCI researchers, such as Carter et al. (2012), argue that most explorations of avatars have relied on a distinction between the 'user' (conflated with 'player') and 'avatar' (conflated with 'character') which misses complexity. In their research, they differentiated between the 'player' (the persistent, socially performed identity), the 'character' (the fictional identity within the narrative or setting of the virtual world), the user (the offline identity) and the avatar (the virtual visualization). They concluded that researchers need a more nuanced approach to exploring the relationship between different aspects of online selves. What mattered to most of the users Taylor (2002) spoke with was how much the representation allows them to immerse themselves in the environment—how much it feels 'right' and fosters their connection to an avatar. A large part of this feeling of a body being 'right' is tied to how well it allows people to construct, express and perform the identity they are seeking. The act of creating an avatar is in large part focused on getting to the 'that's me' stage. Ideas about avatars being 'almost autonomous' are typical. In one of the more complicated twists on the subject, some users have even come to identify their avatar as 'more them' than their corporeal body. While the avatar may express some aspect of the user, people often report a sense

that they can't quite control or predict what their avatar will do—what situations or identities will emerge (Taylor 2002). The issue of how to reconcile the different selves and bodies we find both online and offline is something users are always working though.

Researchers have also continued to explore Turkle's notion that the internet is a psychological space for getting things done. Picking up on the idea of 'identity shift' mentioned earlier, and the idea that we often present an ideal version of ourselves online, greater congruence between actual and ideal has typically been seen as psychologically healthy. Video game players, for example, can act in ways that are congruent with their idealised view of self, and can experience abilities and satisfactions that are difficult to access in everyday life (Rigby and Ryan 2011). The character is a fantasy creation—people can create characters who are braver, stronger, more good-looking, etc. than themselves (or can play out their dark side)—which can be credible since others may not know the player outside the game. Characters are the medium through which players experience social interaction in the game. As Rigby and Ryan point out as players gain experience in the game, their characters accumulate knowledge, skills and resources, gaining instrumental value over time. Przybylski et al. (2012) argued that video games are intrinsically appealing, in part, because they allow players to 'try on' different characteristics and to explore different aspects of themselves. In their research, they tested the idea that video games allow people to experience aspects of their ideal self. They focused on the convergence between the ideal-self (how people would like to experience themselves), the game-self (how individuals experience themselves when playing video games) and actual-self (how people are in their everyday lives). Using experimental designs and questionnaire-based research, they found evidence that convergence between people's experience of themselves during play and their concept of their ideal selves was related to higher enjoyment of play and more positive emotions after play. They concluded that the potential of video games to put players in touch with ideal aspects of themselves is associated with the games' motivational appeal and emotional impact. Moreover, the games that were most intrinsically motivating to players who felt a wide distance between who they were and who they would like to be were games that fostered game-self–ideal-self convergence.

Some researchers have focussed on the subjective experience of users in exploring whether and how virtual worlds *feel real* to the user such that an avatar *feels like* the user when they inhabit these environments. HCI researchers have offered psychologists a range of different concepts through which to understand how individuals may *experience* the virtual world, and how this may shape their sense of self—this includes embodiment, immersion, identification and presence. Immersion refers to feeling that one is actually inhabiting a virtual world it is 'the experience of being transported to an elaborately simulated place' (Murray 1997, p. 98). The place becomes *experienced* as real the more it is used, and users gain a sense of being real and of immersion in the virtual worlds through the use of a body in the form of an avatar (Taylor 2002). The goal of immediacy is to make the user forget that they are playing a video game and believe that they *really are* in battle with minions (or whoever the game adversary may be). The interface or medium becomes transparent (Bolter and Grusin 2000). When an environment is immersive and has immediacy the user experiences presence—the feeling of being there. Avatars are crucial to this experience:

> Through avatars, users embody themselves and make real their engagement with a virtual world […]. Avatars, in fact, come to provide access points in the creation of identity and social life. The bodies people use in these spaces provide a means to live digitally – to fully inhabit the world. It is not simply that users exist as just 'mind', but instead construct their identities through avatars. (Taylor 2002, p. 40)

Although virtual reality is often assumed to be 'disembodied', since the user's physical body is not immediately present and see-able by other users, the use of avatars as a medium for interaction has added complexity to the embodied experience of computer-mediated communication. Veerapen (2011) identifies 4 different ways in which the avatar and bodily self can be related: (1) avatar as object (as a distinct thing which the self directs); (2) avatar as prosthesis—an object which is an extension of the body/self which offers new potentialities (e.g., a blind man's stick); (3) the avatar as phantom limb—this does not extend the body but is a quasi-present body part of the person who feels sensations

through it as well as attempts to act in the world with it; and, (4) the avatar as equal—the body of the user and the body of the avatar need to come together to create a phenomenal experience. The body through which presence is being constructed is not simply the corporeal one, but the digital as well. As Childs (2011) notes, 'the sense of connection with an avatar becomes very strong, to the extent that what happens to the avatar, and the space within which it moves, can have an emotional or physical reaction on the person whose avatar it is' (p. 25). This level of connection is referred to as 'embodiment'. Rather than seeing the 'real' self as separate from the virtual self, Veerapen (2011) argues that 'the bodies of the user and avatar exist in symbiosis with each other to create the inworld experience, and consequently form a unique unified identity during the duration of the inworld experience' (p. 86). This symbiotic embodiment is generated both by the affordances offered by Second Life and the users' physical experience of looking. In Second Life users are encouraged to see their avatar as themselves, by describing the avatar as 'you', by adopting a point of view in which the user does not see the face of their avatar but sees the world from just above the avatars head, and by the location of the avatar at the edge of the screen. These features encourage the user to 'forget' the avatar is a different body and see themselves as united in a subjective position from which the world is seen. At the same time, many video games also rely on hypermediacy—where the goal is to remind the user of the medium. According to Bolter and Grusin (2000), these two apparently conflicting styles actually operate together. For example, when you shoot something in the game you press a trigger on the console. You are aware of the console. But like driving a car, as you become more familiar with the operation, some of these actions become more automatic. This grounding of presence not only consists of embodied practice, but of embodied social practice—and this raises important theoretical and design implications for multi-user worlds. Taylor (2002) argues that (a) presence enacts itself as an embodied activity (the avatar appears as a physical presence in space and time which can be moved), (b) practice of presence as a social activity (avatars communicate, interact and relate to others). These enhance the feeling of 'being there'. Avatars, in turn, shape and help make real how users internally experience their selves.

Conclusions

Psychological research, then, is very varied in its treatment of the notion of 'being yourself' online—from exploring broad social changes in personality traits, to work exploring the ways in which online identities and offline identities interact and fold in on one another in a series of feedback loops. As the work exploring the relationships between one's avatar and one's self perhaps makes clear, selves are constantly in production—being made, remade and made over—with each interaction and iteration in various contexts (both offline and online). Similarly, these contexts themselves are not static as spaces in which meaning-making about selves and identity take place. Virtual spaces are not static, not only do the technological affordances continually develop with new updates, plug-ins and extensions, but also the social conventions through which users make sense of online spaces and enact their use, are continually evolving. In this way, some spaces become coded as 'play' while others are coded as 'real'. Such spaces demand different kinds of identity work from those who wish to inhabit them.

Rather than denoting physical spaces as objectively more real than virtual spaces, the value of exploring the subjective experience of users is that this highlights the distinction between being and feeling. As Bortree's (2005) work on young bloggers demonstrates, virtual spaces can sometimes feel anonymous and private, even if they are not. One can feel as if one is present in an immersive virtual world full of goblins and dragons, even if one is not. This is not to suggest that feeling, affect or embodied experience should be raised up to a higher plane of authenticity or veracity, but to highlight that the user's experience of what is 'real' may or may not map directly on to decisions about what is real which are made by researchers. They also suggest that we need to be cautious about trying to draw conclusions about how the virtual world may influence the real world.

Finally, it is clear that much of this research takes a slice of our experience as users to examine in detail—our use of a particular avatar in one game we play, a focus on one (or a set) of personality traits and how this may be influenced by one form of online activity (such as social networking). Yet, our everyday experience of ourselves in much more

complex that this slice approach allows. We move between different virtual and material worlds routinely and sometimes at the click of a button. Although we may present ourselves differently in each of these contexts or may experience ourselves differently as we try out and play with different attributes, abilities and characteristics, research is rarely able to capture this in its complexity.

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4

Having a Social Life

When the Sony Walkman was introduced back in the 1980s, the sight of people using 'tiny' earphones in public sparked fears about the lack of common presence between people in public spaces. There was an expectation among some that using a Walkman would lead to isolation, detachment and narcissism (see Schönhammer 1989). The Walkman was seen as somehow breaking unwritten social rules by preventing people from engaging in spontaneous face-to-face social interactions. In the present day, we see these very same criticisms, albeit for different reasons, levied against mobile internet technologies. For example, people with high levels of social activity and more self-promoting posts on Facebook are judged by strangers to be more narcissistic (Buffardi and Campbell 2008). It seems that when a new technology could prevent or change traditional forms of social contact between people, we question the use of that technology. Despite this, the use of technologies for social interaction is increasing—in 2015, it was estimated that 61% of adults in the UK used the internet for social networking, increasing from 45% in 2011 (ONS 2015). On the one hand, it has been argued that this change in our social interactions has provided us with more opportunity to develop our social life and find people with similar

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interests. However, at the same time, there are cautionary tales about the risks of increasingly moving our social life onto the online world and the effects this could have on the quality of our existing friendships. This chapter explores how people are adapting to using online spaces to socialise and how people make sense of those friendships and connections that are either developed or maintained online. The aim of this chapter is to show how people are managing their social activities under new social circumstances within the context of their everyday lives.

There are several indicators that show people are increasingly using digital technologies to communicate and socialise with others. In 2012, text messages reportedly surpassed phone calls and meeting face-to-face as the most frequent way for UK adults to keep in touch. However, in the same year, there was a slight decline in the volume of text messages being sent in the UK (Ofcom 2012). At the time, it was suggested that this decline may be explained by the increase in adults owning devices such as tablets and smartphones. This rise in the use of internet-connected devices has continued, with two-thirds (66%) of UK adults claiming to own a smartphone in 2015, up from 39% in 2012 (Ofcom 2015). The ability to access the internet through a mobile device, with a few finger taps and swipes on a miniature screen, is likely to be changing where and when we communicate with others. Indeed, 26% of 16- to 24-year-olds use social media to communicate with others as soon as they wake up (Deloitte 2015). The smartphone has made it easier for us to find out what our friends are up to and exchange messages with them at any time of the day or night. While younger generations are more likely than older generations to have a social networking profile (93% of 16- to 24-year-olds compared to 49% of 55- to 64-year-olds in the UK, Ofcom 2015), the use of social networking is increasing across all age groups (ONS 2015).

It seems that more than ever we are choosing to diversify the way in which we communicate with other people through using the internet. Social networking platforms such as Facebook, Snapchat and Instagram to name a few have provided social spaces that facilitate social interaction and conversation. Although the above figures do not tell us about the specific ways in which people are engaging with these sites (e.g. lurking, clicking, posting, responding), it could be argued that all

users are involved in being part of these social networks at some level. Indeed, the value and existence of these social networking sites are due to the people who use and contribute to them.

Adapting to Online Conversation

People's desire to communicate and share through social networking sites has meant finding ways to adapt their conversational techniques for online channels. To understand how we have come to form social connections in the online world, we can look back at how theories of computer-mediated communication have developed over the past three decades. These theories offer insight into possible differences between the way people communicate online and in face-to-face social situations and the way people might achieve social connectedness in the online world.

When we socialise, in the traditional sense of the term, we meet and converse with another person or group of people with the use of both verbal and non-verbal forms of communication. For example, our utterances, facial expressions, body position and posture and the way we direct our eye gaze all combine to communicate key messages to others (Knapp et al. 2014). However, far from being a one-way process in conveying our own intentions and interests, the effectiveness of social interaction is dependent on simultaneously monitoring and accurately gauging others' levels of interest (Fichten et al. 1992). Our ability to interpret and effectively use verbal communication and non-verbal behaviour is therefore vital to the success of our social encounters. Given the richness of the signals we use to communicate in face-to-face encounters, it is perhaps not surprising that early theories of computer-mediated communication such as the 'cues-filtered-out' approaches argued that communicating through channels such as email would necessarily be less personal and less socially oriented (Sproull and Kiesler 1986). However, in the mid-1990s, theories of computer-mediated communication acknowledged the friendships and romances that were emerging from the use of Internet Relay Chat (IRC) and Multi-User Dungeon (MUD) games, and adjusted this view to suggest

that the key difference between face-to-face and computer-mediated communication was the *rate* at which social information was exchanged. Based on this view, proponents such as Walther (1996) put forward a Hyperpersonal Model with the idea that although there is less social information in messages conveyed via computer-mediated communication, people can adapt to the linguistic code used in these messages and make their messages sufficiently more personal over time, albeit at a slower rate than face-to-face communication. Subsequent early research examining the development of social relationships online supported this view. For example, Chan and Cheng (2004) compared online friendships (i.e. those that had been initiated and developed solely online) to offline friendships (i.e. those that had been established and developed in 'real life'). They found that for short-term friendships (i.e. those lasting up to a year), people tended to rate the quality of an offline friendship as possessing greater breadth, depth, understanding and commitment than an online friendship. However, for longer-term online friendships lasting over a year, the quality of the friendship was comparable to an offline friendship. Several other researchers have similarly argued that online social relationships can be as fulfilling and intimate as offline ones (Parks and Floyd 1996; Whitty and Gavin 2001).

The finding that close social relationships can develop in an online context suggests that people can overcome the limitations of communicating through an online channel and adapt their messages to imbue social meaning. Research has explored the range of devices that people use in order to achieve this. Perhaps one of the most notorious is the use of emojis and emoticons. An emoticon is a facial expression composed of keyboard characters (e.g. the Shrug ¯_(ツ)_/¯), while an emoji is a small digital image used to express an idea or emotion. In 2015, the Oxford Dictionary's word of the year was the 'tears of joy' emoji, suggesting that such forms of online communication have become a notable part of the English language. Studies examining the impact of emoticons on the way that we interpret text-based communication have presented mixed findings. While some research has shown that the use of emoticons in instant messaging (IM) is essential for accurate interpretation of another person's emotions and attitudes (Lo 2008), others have found that email messages containing emoticons do

not substantially enhance or change the interpretation of these messages (Walther and D'Addario 2001). However, given that these two studies were carried out in different parts of the world—an Asian sample in the former study and a North American sample in the latter—these conflicting findings may reflect cultural differences in the use of emoticons. In fact, Kavanagh (2010) has shown that bloggers from Japan use vastly more emoticons in their articles than bloggers from North America. Kavanagh suggests these differences may reflect the Japanese collective cultural ideology, where the meaning conveyed within face-to-face communication is found not only in the specific words used but also in the nature of the situation. In comparison, individualistic cultures utilise a more direct form of communication which relies on what is explicitly written down or verbally said (Triandis 1995) and therefore may not be so dependent on the use of emoticons to convey information. Alongside cultural differences in the use of emoticons, further research suggests that in using these devices people consider what is appropriate to the social setting. For example, Derks et al. (2007) found that adolescents used a higher frequency of emoticons in social-emotional contexts (i.e. an online chat with a friend about birthday presents) than in task-oriented contexts (i.e. an online chat with a classmate about the division of tasks in a school project). These findings suggest that the use of emotional expressions in online communication follows similar manifestation rules to its use in face-to-face communication, that is a greater tendency to express emotion when interacting with a friend and when it is appropriate to the social situation (Wagner and Lee 1999).

Given that online communication can vary from one-to-one interactions (e.g. Facebook messenger) to one-to-many interactions and intergroup discussions (e.g. Twitter, You Tube), the specific ways in which people interact in different online settings are important for understanding what facilitates social interaction online. Initial research looking at how people have adapted to certain online conversational settings examined transcripts from online chat rooms (Greenfield and Subrahmanyam 2003). In these types of online social environments, there are typically several topics being discussed in parallel and people are contributing to several conversations. In order to achieve conversational coherence, participants in a chat room need to be able to

determine who their conversational partner is and whether a message is a response to their prior contribution. Greenfield and Subrahmanyam (2003) found that participants in an online teen chat room adapted to the features of the chat environment by creating new strategies for communication. Such strategies included the use of numerals to signify that they wanted to talk to a particular person about a particular topic (e.g. '*Chat with me or im me press 420*') and the use of a distinctive form of script to differentiate themselves from other participants (e.g. with the use of colours, and capital or lowercase letters). More recently, in Twitter, we can see how individuals use distinctive forms of linguistic code to achieve conversational coherence. For example, the convention of using '@username' allows people to target a 'tweet' to a specific user. This strategy is particularly useful for Twitter which may be seen as a 'noisy' social environment with large numbers of tweets being posted in quick succession. Honeycutt and Herring (2009) have shown that use of the '@username' convention facilitates conversations with multiple participants in Twitter. Similarly, boyd et al. (2010) argued that the practice of 'retweeting'—where Twitter users re-post other users' messages—is not simply an act of restating another's tweet. Instead, the use of re-tweeting opens up a sense of shared conversational context where users are validating others' thoughts and showing that they are listening. The effect is that users are making themselves part of a broader conversation.

The above suggests that people are clearly using online communication in ways that could help to bring social meaning to their online conversations. However, the devices people use to facilitate social interaction in online settings do not occur in a bubble, and those messages we are reading, writing or re-posting are often aimed at developing our relationships with people for future interaction. Nardi (2005) argues that the online activity we use to create and sustain connection with others over time is central to our ability to communicate through online channels. She focuses on three relational aspects of communication that ready people for further communication: (1) Affinity—this refers to feeling a connection with other people and being open to interacting with others. Nardi believes this is achieved through the informal conversations we have online and the shared experience that occurs in a

common space when we are online; (2) Commitment—our expression of commitment to our relationships can be achieved simply by 'being there' and showing that we are engaged; (3) Capturing attention—this refers to the way we gain the attention of the person we wish to communicate with and negotiate our availability for interacting. In an online context, this is usually achieved through sending very brief messages to other people. Nardi argues that capturing attention is necessary before we can build affinity and demonstrate our commitment. By drawing on ethnographical studies of IM in the workplace, Nardi shows how these relational aspects of communication can be accomplished. For example, she describes the case of 'Rick' to demonstrate the sense of connection between co-workers who use IM. Rick states that he monitors his IM list to watch people's comings and goings: '…you get a visual image in your mind of that person and I feel closer to the people I work with as a result of that' (Nardi 2005, p. 93). Although Nardi's research focuses on the relations between people specifically in the context of the workplace, we can begin to see how connections between people might develop within an online space. Beyond these more casual relations, there is increasing evidence that our closer friendship relations are being formed, maintained and even thwarted through the exchanges we partake in online.

Developing Friendships Online

The spaces we use to 'hang out' with our friends are increasingly shifting towards online social spaces. Whether through text messages or social networking sites, more value is being placed on these online exchanges. There appear to be benefits of this for our existing friendships, and this seems to be particularly the case for younger age groups. It has been found that during adolescence, online communication is positively associated with the closeness of existing friendships (Valkenburg and Peter 2007), and communicating with peers through online channels appears to promote a sense of belonging to a friendship group (Davis 2012). However, the study of online friendship extends to those friendships that are initially developed in online social settings and not simply our

offline friends who we can talk to online. Research has highlighted the importance of trust development as a way of establishing online friendships. Henderson and Gilding (2004) explored the opportunities for building trust among chat room users who were previously unknown to each other. They found several sources were used to build trust and help establish online friendships. Firstly, a user's online pseudonym identity was used to establish their reputation with others online. Secondly, specific characteristics of online communication were used to build trust, and in particular, the words users shared online could create intimacy. Thirdly, users could show commitment through disclosing information about themselves, and finally, the willingness of the chat room users to put their faith in an unknown relationship was key for establishing trust and building an online friendship.

While traditional theories of friendship define this interpersonal relationship in terms of the degree of companionship, intimacy and affection between two people (Hays 1988; Wright 1984), the idea of an online friendship is far from straightforward. As described above, online friendships can refer to those that have previously existed, or continue to exist, offline, those that were developed online and move offline and those that were solely developed and continue to exist in an online space. In addition, the study of friendship itself is complex—people have multiple friendships that occur in multiple contexts, and friendships can be contentious as well as supportive (Hartup and Stevens 1999). Given the complexity of understanding friendship in offline contexts, questions around how friendships might develop online, the quality of those friendships and their impact are all important when we consider what it means to have online friends.

The Role of 'Self-disclosure'

Alongside spending time together, we often rely on our friends to provide guidance and assistance, to be available and loyal, to offer reassurance and encouragement and to be sensitive to our needs (Mendelson and Aboud 1999). To understand how such a friendship develops, Hartup and Stevens (1999) state that we need to consider those distinct

patterns of social interaction that characterise friendships. Friendships evolve through moving an initial encounter with another person to progressively deeper levels of personal involvement, and this involves more than just repeated contact with another person. Interpersonal processes such as *self-disclosure* are crucial. Self-disclosure refers to the way we reveal personal information about ourselves to others (Altman and Taylor 1973); it occurs more frequently and is more in-depth among friends than among acquaintances (Hartup and Stevens 1999). As a general rule, we tend to disclose more to people we like, and we like those who disclose information about themselves to us (Collins and Miller 1994).

Given the relevance of self-disclosure in building closeness and intimacy in traditional offline relationships, research studies have examined how this process plays out in an online context. Early theoretical work in this area argued that there was something qualitatively distinct in the way people self-disclose online. Researchers put forward the idea of a 'strangers on a train' phenomenon in which greater anonymity online and the resulting lack of individuating cues meant that people could self-disclose without constraint in an online social environment (i.e. Hyperpersonal communication, Walther 1996). These characteristics of the online environment were believed to lead individuals to share information about the self with more ease and less fear of social judgement, and in turn, this was expected to escalate the intimacy of online self-disclosures (McKenna et al. 2002). Initial research in this area offered support for this view; for example, Joinson (2001) showed that dyads within an online chat room setting disclosed a greater amount of personal information than dyads who interacted face-to-face. In addition, Coleman et al. (1999) found more intimate levels of self-disclosure within groups of individuals using a computer chat program compared to groups interacting in face-to-face discussions.

While the above studies suggest there may be differences in patterns of self-disclosure behaviour between online and offline social settings, it is important to point out that these studies were carried out with individuals who had been previously unacquainted, using a relatively anonymous, synchronous form of computer-mediated communication to examine self-disclosure behaviour. As such, this early work drew

conclusions about online self-disclosure based on interactions within a fairly limited range of online social environments. The social exchanges that take place in today's online social networking sites are likely to portray a very different pattern of interpersonal behaviour. Online social interactions now often support and enhance pre-existing offline relationships, and online identities often now tend to be less fleeting, and are instead more established and persistent. It seems likely that these interactions could actually mimic offline social settings more closely than has previously been assumed. In contesting the idea of excessive early self-disclosure in online social interaction, Nguyen et al. (2012) argue it is not the simple act of being online that affects how much people self-disclose about themselves; instead, several important factors can affect this interpersonal process. Patterns of self-disclosure behaviour can be predicted by individual variables such as personality and attitudes. For example, the personality trait of extraversion predicts the degree to which Facebook users will disclose personal information to others (Hollenbaugh and Ferris 2014). In research examining platforms other than Facebook, Attrill and Jalil (2011) found that people with a more positive attitude towards forming an online relationship are more likely to self-disclose online. In addition, Trepte and Reinecke (2013) argue that online self-disclosure is driven by the experience of social gratification. They found that closer online social ties and greater perceived relationship quality predicted the ability of social networking sites to reinforce self-disclosures. Importantly, this research suggests that disclosure behaviour may be influenced by the way an individual experiences a particular online social setting, rather than by specific features of online communication such as reduced audio and visual cues.

When We Disclose Too Much

It seems then that people are engaging in processes of friendship development such as self-disclosure during online communication, but certain factors influence the extent to which people choose to disclose to others. Research into self-disclosure is often based on the premise that self-disclosure is generally a positive act, and is a strategy used to build

supportive, emotional connections with other people. The benefits of self-disclosure can be found in people's online social relationships, where the amount and positive nature of self-disclosures have been shown to positively affect feelings of connection and intimacy in online social settings (Park et al. 2011). Further research examining female bloggers found those bloggers who disclosed more in their blogs (e.g. highly personal topics with emotional elaboration) had more online friends and were more satisfied with their online friendships than bloggers who disclosed less (Bane et al. 2010). However, the nature of what we choose to self-disclose varies considerably between individuals. Recently, there have been concerns over the kinds of information that people, and particularly young people, choose to disclose through social networking sites. These concerns are principally about people disclosing 'too much' information and disclosing aspects of their lives which could have a negative impact on their friendships, education and future employment.

In a study examining risky disclosure on Facebook, Christofides et al. (2012) found one of the key negative experiences reported by adolescents in terms of their negative experiences on Facebook was 'exposure or unintentional disclosure'. This referred to instances where either the participant or a friend had posted information or pictures that the participant would have rather not shared. While there are likely to be a number of reasons why people choose to make more risky self-disclosures through online social spaces, some research suggests that individual variables can predict the likelihood that people will self-disclose in this way. For example, pre-university adolescents who scored higher on a measure of trait narcissism (e.g. 'I find it important to stand out') and lower on a measure of social power (e.g. 'I can get others to do what I want') were more likely to post risky self-disclosures on their social networking timeline, with references to drinking, substance abuse and sexual behaviour (Hawk et al. 2015). Further research has shown how the disclosures people make on certain types of social media can have a negative effect on others. In a survey of young adults who used both Snapchat and Facebook, it was found that these two social networking sites differed in their potential interpersonal impacts (Utz et al. 2015). Snapchat allows users to send photographs or videos to their

friends, and these 'snaps' disappear after a few seconds. As such, posting through Snapchat reduces the need for self-censorship and the 'snaps' tend to be associated with more private forms of communication. The study showed that although Facebook was used more frequently and people had larger social networks on Facebook, Snapchat evoked higher levels of jealousy, particularly for 'snaps' involving a former romantic partner or an unknown potential rival. In some cases then, it seems that what is made possible by the online social setting can impact emotional experiences between friends using these settings.

The public nature of people's online disclosures, and the impact this can have on their friendships, is clearly an important issue when considering how people use online social spaces. Livingstone (2008) has highlighted the problems that young people now face in their attempts to manage their privacy online while also creating intimate social spaces to connect with their friends. The problem as she sees it is that while the notion of 'friends' is subtle, the idea of friends on social networking sites such as Facebook is binary (e.g. 'Friends' vs. 'Anyone'). Livingstone argues that this undermines adolescents' control over their online disclosures and also fails to capture the different degrees of privacy that they may wish to maintain. Despite these concerns, there is evidence that adolescents are able to successfully manage the privacy of their social networks. Drawing on her interviews with teenagers about their use of social networking sites, Livingstone points out that 'teenagers described thoughtful decisions about what, how, and to whom they reveal personal information, drawing their own boundaries about what information to post and what to keep off the site' (2008, p. 404). However, it has been suggested that it may be necessary for adolescents to personally experience the negative impact of certain online disclosures in order for them to take measures to protect their online privacy. This was shown in Christofides et al.'s (2012) study, where adolescents who reported more negative experiences on Facebook were more likely to have greater privacy knowledge and informational control.

The conflict between the need for sociability and the need for privacy in social networking sites has been referred to as the 'privacy dilemma' (Brandtzæg et al. 2010). In some cases, it seems that this has become such a dilemma that people have turned away from using sites like

Facebook. In particular, younger people claim they now use Facebook less because having large numbers of 'friends' makes the usage and sharing process so complicated (Brandtzæg et al. 2010). Similarly, research has shown that over an extended period of time, people increasingly demonstrate privacy-seeking behaviour on Facebook (Stutzman et al. 2012). It is likely that when a person's social network becomes too large, not only does there become too much social information to absorb, but also people start to exert more control over how they present themselves. Consequently, the social interactions that take place become less intimate or interesting because people only share or disclose a part of themselves to others. Given that the average number of Facebook friends is 338 (Pew Research Centre 2014), people's ability to manage these friendships with the level of intimacy and affection expected from a more traditional friendship network can be called into question when using social networking sites.

How Meaningful Are Online Social Relationships?

In 1992, a British anthropologist, Robin Dunbar, theorised that there was a limit to the number of meaningful friendships any one person could maintain. Dunbar argued that the size of the brain's neocortex biologically constrains the human social network size to between 100 and 200 people, that is people whom we know personally, trust and feel emotional affinity for (Dunbar 1992). Since Dunbar published his work, there has been much discussion, praise and criticism of his theory (see de Ruiter et al. 2011). However, more recent considerations of his original theory have questioned whether the size of people's online social networks could lift the limits imposed by these biological constraints. Given that social networking sites allow us to keep a log of all of the people we meet, potentially changing the way that we can handle our social interactions, are we able to maintain a greater number of meaningful relationships? From the research that has been carried out so far, it would appear the answer is no and that Dunbar's number is still valid to some extent. For example, in a study examining 250 million

Twitter conversations carried out across 6 months, the researchers analysed the weighted social networks connecting 1.7 million Twitter users (Gonçalves et al. 2011). Using a saturation process to pinpoint where the number of contacts surpasses the individual's ability to maintain a connection, they found a maximum level of social activity is reached from 150 to 200 contacts, in line with Dunbar's number. Subsequent research has shown that despite the use of the term 'friends' to describe the connection between users on Facebook, the number of meaningful relationships contained within this is limited. Dunbar (2016) asked users to state how many friends they had on Facebook, how many of these friends they considered to be close and how many of these friends they would consider seeking emotional support from. The findings showed that although the participants had an average of 155 Facebook friends, they considered only 27.6% of these connections to be close, genuine friendships.

The above research suggests that having a large online social network does not necessarily equate with having a greater amount of social support from that network. However, there is a suggestion that at least some of the connections in that network are valued, meaningful friendships. This is important to state as researchers have questioned whether people's online friendships are necessarily of a weaker quality than their offline friendships and whether such online ties are actually replacing higher-quality offline friendships (Valkenburg and Peter 2011). The so-called *displacement* hypothesis would argue that when we spend more time engaged with online communication we displace the time spent in interactions with our existing friends (Nie 2001). This hypothesis predicts that these online relationships will be lacking in key qualities that characterise offline relationships, such as affection and commitment. Early research comparing the similarities and differences between people's online and offline friends offered some support for this idea. For example, in a study of people who use MUDs (text-based, multiplayer games), Parks and Roberts (1998) found that users reported their MUD relationships to have lower levels of relational development than their offline relationships, in terms of levels of interdependence, understanding and commitment within the relationship.

However, it is difficult for us to apply the above findings to present-day internet use, particularly given that for many people there is often no clear-cut distinction between an online friend and an offline friend. More recent research seems to argue against a displacement hypothesis. For example, research in online communication among young people has shown that adolescent girls who socialise online with their friends report more positive friendship quality than those who rarely socialise online with friends (Desjarlais and Willoughby 2010). In addition, Davis (2012) found that the casual exchanges that adolescents communicate to their peers through settings such as Facebook and instant messenger help them to feel a sense of connection with their close friends. Such findings are more consistent with a *stimulation* hypothesis (Valkenburg and Peter 2011), that would argue spending time with your friends online allows you to further build on your relationships, and consequently increase the quality of those friendships.

When we dig deeper, the research findings are more complex than simply stating that people's online friendships are necessarily more superficial than their offline ones. A key shift in the last decade in people's experiences of online communication appears to be the transfer of social exchanges between online and offline social settings. With the rise of social networking sites, many people now use online social spaces to support and maintain established, meaningful friendships as well as form and develop new social connections. As such, when online and offline social networks blend and overlap, people's online connections can lead to offline face-to-face meetings, and people can integrate their offline friendships into online contexts. This has been referred to as 'modality-switching', and it highlights the shifting of interactions from one communication channel to another (Ramirez et al. 2015).

Modality-switching is likely to have specific effects on both the development and quality of online friendships. Initial work in this area has explored the effects of modality-switching on the development of close and supportive friendships between people. Antheunis et al. (2012) found that among users of Hyves, a Dutch social networking site, those with mixed-mode friendships (i.e. those that developed online but then extended to other offline social settings) rated the quality of those

friendships as similar to offline friendships (i.e. those that are developed offline and extend to online social settings). However, they found that online friendships, formed and maintained online, were rated as lower quality than offline friendships. Their results suggest that modality-switching by moving beyond a purely online social context may be important for online friendships to develop more meaningful and stronger ties between people. Further research on modality-switching in the context of online dating has shown that the switch from online to offline meetings can either enhance or stifle the dating relationship depending upon the time at which the switch happens. Ramirez and Zhang (2007) found that an early switch from online to offline (after 3 weeks) provided cues that enhanced relational outcomes (e.g. intimacy and social attraction). In contrast, a later switch (after 6 weeks) actually dampened relational outcomes, possibly because the face-to-face meeting contradicted those impressions that had been created over an extended amount of online communication.

While the above studies suggest a shift from online to offline is necessary to develop more meaningful relations between people, is it possible that meaningful relationships can be found in purely online connections? To some extent, the answer to this depends on how you define the term 'meaningful'. Researchers tend to focus on the quality of the online relationship in terms of meeting social needs (e.g. affection, trust, intimacy) and the security of the attachment. However, the extent to which online connections are meaningful has also been explored in terms of how supportive the relationship is.

Online Social Support Networks

Perceived social support within a relationship refers to the exchange of resources between individuals that are intended to enhance the well-being of those individuals (Shumaker and Brownell 1984). There is increasing evidence that people are using online spaces to obtain social support that is comparable to the type of support they might receive in face-to-face social encounters. However, this support is not just derived from pre-existing online friendships, but people who are previously

unknown to each other can aggregate in online networks to share information, experiences and empathy. Online support groups are publicly accessible websites that act as an avenue for individuals to discuss ideas, concerns and questions relating to a particular topic. These sites generally use message boards, where users can read and respond to each other's posts. The main aims of such sites are to reduce feelings of social isolation and help to normalise feelings of distress through social comparison (Eastin and LaRose 2005). Members of these groups often have diverse experiences, allowing people access to large amounts of information and resources. While the nature and focus of the group may be an important factor affecting the experience of social support, research suggests that levels of participation in the group can affect perceptions of how supportive the group is. People who 'lurk' within the group, perhaps by reading members' posts, but not actively posting to the site themselves, are less likely to experience the same level of social support and satisfaction with the social relationships in the group than people who are actively engaged with posting messages (Mo and Coulson 2010).

Research into online support groups has explored the different types of social support that people can gain through such groups. Coursaris and Liu (2009) analysed the content of 5000 messages in an online support group for people living with HIV or AIDS. They found the most commonly used forms of support were 'information' and 'emotional' support. Information support was evident in 41.6% of the messages where people provided knowledge, advice and feedback, to help others make decisions and reduce their uncertainty around their illness. Emotional support was evident in 16% of the messages. For example, people posting to the site used their messages to express physical contact, '(((((((((HUGS)))))))))', express their empathy and share similar experiences. Mo and Coulson (2014) discuss how participation in online HIV support groups can empower group members who may be experiencing social stigma because of their illness. They highlight several empowering processes that were conceptualised from interviews with members of HIV online support groups about their participation in such groups: the exchange of information between members, shared experiences and individual stories, the development of friendships and

bonding with other members, the exchange of emotional support, finding recognition and understanding, and being able to help others. Such research suggests that these groups allow the development of meaningful relationships between people in online social spaces.

However, it would be rash to conclude that the use of online support groups is advantageous to everyone who engages with these groups. Indeed, while Mo and Coulson (2014) found that interviewees in their study of HIV support groups described several empowering processes, they also found that participants articulated some disempowering processes that were a result of their participation in these groups. Participants in their study described the challenges of the lack of face-to-face contact between members which often made it difficult to convey their emotions. In addition, they described how they might sometimes feel personally attacked or ridiculed for their views, and expressed concerns over the accuracy of information posted by members. The effect of becoming over-reliant on the relationships formed through the group was also expressed as a risk, particularly in terms of participants' recognition that it may be reducing their investment in their 'real-life' support networks. Similarly, Malik and Coulson (2010) have highlighted the potential disadvantages of specific types of online support groups. In a study examining the effects of participating in online support groups for people experiencing infertility, over half of the people who took part in the study reported disadvantages to their engagement in these groups. They described reasons such as reading about other people's negative experiences, the inaccuracy of information shared between members, and the addictive nature of the group. Such findings show that meaningful and supportive social networks do not always develop in the context of online groups, even for those who have similar experiences to share. We can speculate here that in some cases a transfer from online to offline may be needed for the support network to become more meaningful.

Taken together, the research into people's online social relationships shows that under certain circumstances meaningful connections can develop and play out in online social settings. However, just as in the offline 'real world', these connections might not always be the intimate, supportive relationships we would like, and conflict and contention can

arise. As we experience more of our social relationships through digital media, an analysis of why so many of us are now choosing to socialise through online spaces may help us to further understand the complexities of online social behaviour.

Understanding Why People Socialise Online

Our attempt to understand the nature of online social life often questions why people choose to socialise through online spaces. It is likely that the motivation for socialising online will vary depending on the specific type of social platform used. For example, Weir (2014) has distinguished between people's motivations when using *popular* social networking sites (e.g. Facebook) and *niche* social networking sites. Niche social networking sites refer to those sites that are aimed at a specific population who have similar interests. For example, Ravelry is an online knitting and crochet community that allows its users to share their projects with other Ravelry users through uploading and downloading photographs, patterns and ideas. Weir found that people had distinct motives for engaging with this site, and one of the key salient motives for using Ravelry was to establish new friendships and make new connections. In comparison, her participants' key motive for using Facebook was 'because everyone else is doing it', suggesting a notable social pressure and social expectation to engage with Facebook. Such findings are consistent with earlier research on why people use Facebook. Lampe et al. (2006) found that people are less likely to use Facebook to initiate new connections; instead, they use it to learn more about their existing offline friends. They highlight the 'surveillance' function of such sites as a way of enabling people to track the actions, beliefs and interests of their social group.

This type of mutual surveillance has been viewed as a way of increasing a person's social capital (Kibby and Fulton 2014). Social capital refers to the resources people accumulate through their relationships with others (Bourdieu and Wacquant 1992). This concept emerges from Rational Choice Theory (RCT) where individual actors are seen '…as acting, or more likely interacting, in a manner such that they can

be deemed to be doing the best they can for themselves, given their objectives, resources, and circumstances, as they see them' (Abell 2000, p. 223). Two key aspects of social capital have been theorised to play a role in the benefits people gain from engaging in online social networking sites. These include bridging capital and bonding capital: the former is found in the 'weak' connections between individuals used for the purpose of sharing information and different perspectives on certain matters, while the latter reflects the resources gained from 'strong' ties between individuals in emotionally supportive relationships (Newell et al. 2004).

The role of social capital in online social behaviour has been examined across several studies. For users of Twitter, bonding capital has been associated with the number of followers a user has, while bridging capital is associated with the number of followees (Hofer and Aubert 2013). For university student Facebook users, those who spend a greater amount of time on Facebook, and have more Facebook 'friends', report greater offline bridging capital. This was demonstrated by how integrated into their university community they felt and their willingness to support this community (Ellison et al. 2007). The same study found that Facebook usage was positively associated with bonding capital. This was shown by the extent to which students reported feeling they could turn to others at their university for emotional and practical support. Findings such as these suggest a key motivator for socialising online may lie in the elements of social capital gained from engaging in social networking sites.

From the perspective of the above studies, it would seem that people's motivations for socialising online may be directed by the self-interest and self-profit in their online exchanges. This would imply that online social behaviour can be explained by the isolated decisions that are made by individuals. However, this makes it difficult for RCT and the concept of social capital to explain people's motivations for engaging with online social settings when their social exchanges do not appear to be purely related to their own interests. For example, online support groups often operate through people responding to posts when there is no immediate benefit to the individual. More recent ideas regarding what underlies online social behaviour have challenged explanations

based on RCT. For example, Pelaprat and Brown (2012) argue that 'when it disaggregates social phenomena into the sum of 'isolated acts of choice', RCT fails to understand the complex, diverse social meanings of behaviour'. As an alternative, they put forward the idea of *reciprocity* for understanding why people continue to engage in online social exchanges. This focuses in particular on the nature of those exchanges. Reciprocity refers to the gestures we make, through which an initial giving necessitates something being returned. Pelaprat and Brown describe the role of reciprocity in online exchanges through three key areas: (1) Symbolic exchange—this refers to the act of giving and reciprocating 'gifts', which draws us into a social relationship through which we show our intention to nurture a social bond; (2) Obligation—when an action from another person is directed at us, we enter into an obligation to recognise that action and reciprocate in return, and the effect is one of maintaining the relationship; (3) The ambiguous value of what is exchanged—when reciprocal exchanges between people have a long history, we cannot place a 'value' on what is given and taken in each exchange, and this ambiguity enhances the social relation because there is no equivalence between what is exchanged. Through these three processes, Pelaprat and Brown have emphasised how reciprocal exchanges facilitate and maintain social bonds, and this in turn helps us to understand why people can be so committed to their online social interactions.

In support of the notion of reciprocity as an explanation for online social behaviour, we can look towards the exchanges that occur through various types of online social settings and in particular those that occur in social gaming contexts. For example, Farmville is a social network game played through a Facebook account. Players take part in a type of farm management by harvesting crops, decorating their farms and raising livestock. The social interaction that takes places through Farmville is vital in players improving their farm. Other players can be used as farmhands, and players can send gifts and supplies to each other. Given that Farmville involves a high level of seemingly mundane responsibility and routine, researchers have questioned the popularity of the game and what motivates players to engage with it. One argument appears to be that the game is based on a web of social obligations which players

are easily caught up in; in short, 'people are playing Farmville because people are playing Farmville' (Liszkiewicz 2010). However, in an ethnographic study of Farmville through participant observation, Burroughs (2014) argues that the exchanges that take place between players are more complex than this. He focuses in particular on the exchange rituals that take place through Farmville, where players carry out farm labour on each other's farms, and such acts are published on a player's Facebook wall. Burroughs argues that 'social cohesion is formed, as these exchange rituals bind communities together through a system of reciprocity' (2014, p. 159). In Pelaprat and Brown's (2012) terms, the actions of other social gamers may become the symbolic 'gift' through which people enter into an obligation of turn-taking exchanges on these games. Burroughs points out that players experience feelings of closeness and friendship with other players as a result of the social reciprocity that takes place through Farmville. This implies that the reciprocity that takes place in certain online social settings is actually facilitating social bonds between people and driving their continued use of these sites.

Conclusion

In this chapter, we started by exploring the ways in which people have adapted to communicating through online channels and how they have overcome those limitations emphasised by early cues-filtered-out approaches that initially focused on the barriers of online communication. It appears that people do bring social meaning to those conversations and exchanges they hold in online spaces. However, we need to acknowledge the variety of ways in which people communicate online, particularly given rapid changes in features used within social networking sites and the popularity of some of these features (e.g. the way people might bond over dog filters in Snapchat). In addition, it seems clear that the way we experience an online setting will affect the interpersonal processes we engage in when we attempt to develop social connections with others. For example, the idea that we would simply disclose more when we interact in an online setting fails to take into account how the

individual is experiencing that setting, what the site is being used for, who they are interacting with, and any past or existing relations with those people. For us as researchers, it seems important to elucidate what drives people to engage in online social interactions and what makes those interactions meaningful.

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5

Being 'Sexy'

Avatars who act out an orgy in Second Life, bloggers who describe the intimate details of their (real or imagined) sex life, a gay man seeking a sexual contact online to meet for 'real life' sexual satisfaction, sexting a nude picture to a stranger, acting out what you want to do on a webcam, sharing a fantasy and masturbating in a chat room—are these all examples of cybersex? For Western societies, the accepted standard for sexuality is a non-commercial, monogamous relationship between two adults of opposite genders, who conduct their sex life in private, and practise sex which is primarily genitally and reproductively based. Sexual expressions which sits outside these sociocultural norms, or sexual bodies which cannot fulfil normative expectations, have often been perceived as threatening or troubling to society. Forms of computer-mediated sex, although they often habitually reproduce these heteronormative scripts for sex, are frequently seen as troubling as they have the potential to disrupt many of these expectations and can open up space for dissident, deviant, perverse and other forms of non-normative sexuality to become visible and knowable. These concerns are reflected in the largely problem-focussed literature which address the following areas of anxiety about the potential 'impact' of cybersex on sexuality:

D. Harley et al., *Cyberpsychology as Everyday Digital Experience across the Lifespan*,
https://doi.org/10.1057/978-1-137-59200-2_5

- The potentially compulsive/addictive use of the cybersex, and the impact of this on couple relationships, family, work and mental health (Cooper et al. 2000; Meerkerk et al. 2006; Wéry and Billieux 2017)
- The proliferation of cybersex among young people (including sexting, access to sexually explicit images, 'inappropriate' sexual information), the impact of these practices on the premature sexualisation of young people through the shaping of sexual values and behaviours (Boies et al. 2004; Mitchell et al. 2003; Kosenko et al. 2017; Vandenbosch et al. 2018), and the risks of sexual exploitation and abuse of young people using the internet (Wolak et al. 2008; Dombrowski et al. 2004; Wurtele and Kenny 2016)
- The use of the internet to facilitate causal sex and the relationship between this and sexual health, sexual infections, risk-taking (Cabecinha et al. 2017), especially among young people (van Oosten et al. 2017; Choi et al. 2016a; Sawyer et al. 2017) and men who have sex with men (Badal et al. 2018)
- The use of the internet to conduct commercial sex, online sex work and pornography (see Sanders et al. 2018; Weiss 2018; Moorman and Harrison 2016)
- The internet as a mechanism for engaging in sexual violence, harassment and the exploitation of adults (primarily women) (see Powell and Henry 2017; Hall and Hearn 2017; Choi et al. 2016b).

Worries about these kinds of activities are wrapped up in concerns about sexual exploitation and abuse and the affordances offered by online environments for criminal and/or exploitative use of vulnerable people including young people, women, migrants/refugees, and those disadvantaged by poverty. While not wishing to diminish the extent and seriousness of the ways in which virtual spaces are used for nefarious purposes, this chapter focuses on the consensual use of the internet for 'recreational' sex—sex for pleasure and enjoyment—among adults.

Cybersex is commonly understood as the use of the internet for sexual purposes. Yet, researchers increasingly distinguish between online sexual activities and cybersex. Online Sexual Activity (OSA) is an umbrella term which refers to any online activity which involves the

internet (Döring 2009; Grov et al. 2011). Döring et al. (2017) outlined seven categories of OSAs: sexual information, sexual entertainment, sexual contacts, sexual minority communities, sexual products and sex work. Despite increasing precision in categorising different OSA's, cybersex remains a popular term with ambiguous meaning. Some researchers argue that cybersex involves some kind of sexual gratification or the motivation to attain sexual arousal and satisfaction (Daneback et al. 2005) and has been described as the 'carrying on via computer proxy sexual activity through rich description with accompanying sexual arousal, often to orgasm' (Ross and Kauth 2002, p. 49). This definition would include solitary activity such as watching pornography or reading erotic fiction online while masturbating, yet places emphasis on text as the mechanism for sexual arousal. Others stress the partnered, interactive aspects of cybersex (Carvalheira and Gomes 2003; Daneback et al. 2005; Döring 2000). This excludes solitary sexual activity (such as masturbating while watching online pornography), even though such activity may involve sexual gratification.

Researchers often assume that the term 'cybersex' refers to a distinct set of activities, for example when they ask, 'how often have you had cybersex?' But, we do not know whether (and to what extent) researchers' definitions overlap with lay understandings of cybersex. When asked to define cybersex, US college students often give descriptions which involve two or more people interacting in real time, largely through textual descriptions of sexual activity (Shaughnessy et al. 2011). Two broad conceptualisations of cybersex emerged in their descriptions. The first, conceptualised cybersex as a reciprocal, dyadic, sexual interaction mediated by the internet which may include masturbation in response to the direction of a partner. The second, conceptualised cybersex as a sexual conversation that is arousing for at least one person involved (an emphasis on individual sexual outcomes). The authors argue that online sexual activities can be meaningfully separated into three categories: non-arousal activities (e.g. seeking sexual information online), solitary-arousal activities (e.g. viewing pornography online) and partnered-arousal activities (e.g. sharing sexual fantasies online). In this chapter, we focus primarily on cybersex as an 'interactive, erotic experience' (Waskul 2002, p. 200). Unlike masturbation, much cybersex

has a shared quality so that fantasies are externalised and mutually constructed with a 'real' person online in close to real time. Thus, cybersex has become positioned midway between arousal from viewing pornography and real (in-person) sexual contact. Three different phases of the internet open-up different possibilities for cybersexualities: Web 1.0 was the informational age in which sexually explicit material was posted for viewing; Web 2.0 brought the interactive Web in which social networking sites, webcams, chat rooms and forums offered the possibility of interactive cybersex; and Web 3.0 heralded the Immersive internet which offers opportunities to interact as avatars in immersive 3D worlds (Gilbert et al. 2011). These phases help us to understand the diverse affordances offered by different platforms and virtual spaces and how these can be taken up, moulded, tweaked and modified by users for the purposes of sexual arousal and pleasure.

Since the beginning of 2000s, there has been a steadily growing corpus of multidisciplinary research which gives an in-depth insight into people's subjective experience of 'being sexy' in virtual spaces which reflects the great variety of possibilities. This includes: work on using mobile phone apps (Choi et al. 2017) or internet chat rooms (Seal et al. 2015) to find sexual partners; sex blogging (Muise 2011; Tiidenberg 2013), the creation of queer or kink sexual communities (McKee and Randall 2017); sexualised fan-fiction and fan-art (Anisimowicz and O'Sullivan 2017); the exchange of sexual images through sexting (Döring 2014; Kosenko et al. 2017), webcams, videoconferencing, etc. (Waskul 2002; Koskela 2004); building and maintaining sexual relationships (Whitty and Carr 2006); and research on infidelity and online cheating (Whitty 2003; Cravens and Whiting 2016). Much is made of the opportunities offered by the internet to transcend embodied experience—to perform and represent bodies in whichever way the user chooses. This rests partly on the apparently disembodied nature of cyberspace, and partly on the anonymity offered by many online environments which open up a space between the body and the self in which bodily markers of identity can remain hidden while the self is presented. Moreover, digital technologies extend the spaces of sex/uality beyond the immediately proximate enabling sexual

encounters across physical distance, at the same time they intensify the experience of intimate encounters such that non-proximate intimate relations may *feel* more proximate (Cockayne et al. 2017). These affordances shape, and are shaped by, sexual experiences and encounters. In this chapter, we explore cybersex by focusing on two key overlapping themes within this literature. First is concern with the absent/present body in cybersex. Second is an exploration of the relationship between cybersex and 'real' sex. Underpinning both is the question of whether cybersex enables the expression of existing forms of sexuality, or whether it opens up new forms of sexuality.

The Absent/Present Body

Sex is assumed to be inherently about bodies—sweating, pulsing, writhing physical, material bodies. Bodies which are tangled up in, entering, or enveloping other bodies. Cyberspace, in contrast, is imagined as a disembodied and dislocated site of human interaction. The absence or presence of the material, physical body (in 'real' space and 'real' time) is taken as central to distinguishing 'real' sex from cybersex. In cybersex people interact without the immediate presence of bodies—i.e. through text-based communication in sex blogging, through text and via avatars in immersive virtual environments, or through photographs, videos or live streaming via a webcam. The internet is celebrated for offering opportunities to experiment with sex by 'engaging in it without actually doing it' (Ross 2005, p. 344). This notion depends on the belief that 'doing it' or 'real sex' necessarily involves the interaction of physical, material bodies (taken up in more detail in the next section). Yet, in each of these platforms the body is never entirely absent. As Gies (2008) notes, describing the internet as disembodied obscures the material and embodied lived reality in which technology operates. Users of virtual worlds are always aware of the angle and placement of their technological interfaces, such as the keyboard, mouse and monitor of the computer in relation to their (sitting, lying or slouching) body, ambient noise may intrude on their experience, and they may be using hands and voice to manipulate the virtual action. Users are constantly *experiencing the body*

as they engage with the technology (to greater or lesser extent), but the body is evoked or brought into the online experience in different ways, in different platforms and for different purposes. It is this which makes it an interesting space to explore. We explore how the body is 'brought into being' for the purposes of engaging in cybersex, by examining three different mechanisms—telling the body (through text, words and descriptions), visual showing the body (through images, sexting, webcams) and representing the body (through avatars).

Telling the Body

In many online environments, the physical body is dislocated from the social interaction. In Multi-user Dungeons (MUDS), for example, interactants are unable to draw on visible external markers of identity and the body is represented through text. The anonymity afforded by some platforms coupled with this disembodied style of communication allows an 'escape' from the body. Disability scholars have argued that since other people cannot see the body they are unable to judge it (and by extension the person) in relation to external characteristics; by representing the body through self-authored textual description, users can be who they want to be. Exploring computer use by disabled people in Australia, Browne and Russell (2005) found that having access to the internet was seen as an important sexual resource from accessing sexual health information, purchasing sexual aids and accessing sexually explicit material, and some described the benefit of being able to communicate with people without showing the physical self. Similarly, some (but not all) of the disabled participants in Bloustein and Wood's (2016) ethnographic study of *Second Life* chose to create avatars that appeared to be completely able-bodied. By harnessing the affordances of computer-mediated communication, users can reconstruct bodies in more favourable ways or eschew the body all together (Seymour and Lupton 2004). The uncoupling of identity from the body, and the anonymity of some online spaces, have also provided a way for people with stigmatised sexual identities, or who engage in non-normative sexual

practices, a mechanism for meeting others with similar tastes and predilections, or a space to 'try out' alternative sexual subjectivities. Queer sexual virtual space offers opportunities for people to explore their sexuality 'safely' (Ashford 2006). Chat rooms, forums and personal home pages provide anonymity, induction into community norms and practices or places to express sexual identities. McLelland (2005) describes these as spaces for 'expansive realization', where the Japanese gay men in her study can *become* gay men, since virtual spaces are set apart—if only temporarily—from the restrictions on offline identities. Hillier and Harrison (2007) make a similar point, when they suggest that internet chat rooms encourage young gay and lesbian Australians to 'try on' and 'test out' sexual identities without engaging in 'real' sexual practices.

Chat-based cybersex, claim Waskul et al. (2000), is an experience that simulates tactile sex through a non-tactile medium. Bodily experiences and the erotic are evoked through detailed intimate description. As such, text-based cybersex requires the use of different kinds of capabilities—the skilful use of vocabulary and ways of describing sexual activities which arouse the other person (Cypress Valkyrie 2011). This erotic communication transforms cybersex into something different from embodied sex—an experience that Waskul et al. (2000) call sexual 'outercourse' where semiotic icons (typed words, emotions and utterances) replace the physical act of sex. Participants co-author erotic scenarios, transforming a computer-mediated communication environment into an intimate, personalised space for sexual engagement. To be 'good', cybersex requires a great deal of sexual literacy and communication skills. Some have argued that this text-based communication about sex, produced directly by users, offers opportunities to assert different narratives about sexuality than might be available through more formal or institutional channels (such as popular media or sex education). Sex blogging among women has been variously explored as offering a safe space to discuss women's desire as active and embodied (Muise 2011), a mechanism for women to take back control over sexual information (Wood 2008), or as providing critical reflection on dominant femininity within the UK kink communities as well as detailed descriptions of non-normative sexual practices (Downing 2012; Barker and Gill 2012).

Yet, not all online, textual environments offer an escape from the body. The rapid growth of apps such as Grindr and Tinder which offer geographically based possibilities to find sexual partners for (typically) casual or 'hook up' sex demonstrate how swiftly text-based interactions turn to the body and the marketing of oneself as a specific kind of sexual self. In his analysis of gay men in Hong Kong, Jones (2005) explored how men quickly shift from text-based typed interactions to sharing photographs with each other. Bodies quickly enter into these interactions through a description of key 'stats' which follows conventions (height/weight/build). Indeed, bodies are often the main topic of (the very brief) conversation. Likewise, Tziallas (2015, p. 762) describes how users new to social networking app Grindr are invited to complete a profile which contains:

> an image, which can be left blank, and some basic information about one's physical appearance chosen from a set list of options, one's distance (if activated), and some personal written information—a title/name, a "headline," and a blurb. Users can inform others of their weight, height, age, ethnicity, body type, relationship status, and, new for the 2013 redesign, their 'tribe'. (Bear, Daddy, Poz, Twink, etc.)

The appearance of the body is routinely reported in relation to key conventions, and increasingly sexual identities, preferences and tastes are described through a checklist or catalogue of conventional types. Tziallas notes that Grindr also allows users to filter other users in relation to bodily appearance and sexual identifications. Consequently, individuals are required to market themselves and their sexualised bodies in ever more specific ways (Dowsett 2015).

Showing the Body

The potential (if not the reality) to transcend the body is eschewed by those for whom the attraction of cybersex rests on *showing* and visualising the body (via photographs, webcams, videoconferencing, etc.). People are increasingly engaged in producing images of themselves and

their bodies in ways which are to be read as 'sexy'—from the consensual exchange of erotic selfies or 'sexting' to the live streaming of 'sex shows'. In his study of gay men's use of 'hook up' apps, Jones (2005) notes that the rapid shift from text chat to the exchange of images or to webcam chat serves to make the body more present, and marks a shift in the interaction. This shift comes with risks and opportunities. The risks include loss of anonymity, risk of rejection, risk of photograph being 'stolen' and used in other ways (i.e. being used by another person claiming that it is an image of themselves), or risk that the photograph is not real. Images are less controllable, people can read off information from the body that the person cannot control—even if they have posed and staged the picture carefully. Jones notes that users mitigate against these risks by manipulating their image—for example, by providing torso shots with no heads to preserve anonymity. The shift away from textual communication to exchanging pics is typically interpreted as an indication that the person is 'serious' about wanting to meet up in person, and is a significant shift in the nature of the interaction. Yet, this kind of sexting—'sexually explicit content communicated via text messages, smartphones, or visual and web 2.0 activities such as social networking sites' (Ringrose et al. 2012, p. 9)—has typically been seen as a (concerning) practice, especially when adopted by young people.

Sexting by adolescents is typically positioned as a risky behaviour linked to sexual objectification, exploitation and violence, sexual risk-taking, bullying and criminal prosecution under child pornography laws (Doring 2014). Female adolescent bodies which are made visible and publicly shared through sexting are at the heart of this concern. Their bodies are rendered *too* present, *too* visible, or shared too widely. Moreover, young people are positioned as too naïve to understand the 'dangers' of losing control over how, and with whom, these images are shared. Critical scholars have noted that this concern arises in a misogynist culture which demands sexiness and celebrates sexual agency, while at the same time stigmatises and shames girls who express sexiness through sexting (Ringrose et al. 2013; Doring 2014). Yet, adults are much more prolific sexters than young people. Sexting is a customary part of contemporary relationship-building in which intimacy is routinely generated through a range of different channels (e.g. face-to-face,

via the telephone, and using emails, and text and photograph messages). Adults engage in texting to express sexual desire and affection, to flirt and have fun, to be 'sexy', to initiate sexual activity, to maintain relationships at a distance and to gain attention from a partner (e.g. Albury and Crawford 2012; Drouin et al. 2013; Burkett 2015) with very similar motivations being reported by teenagers (Henderson and Morgan 2011; Karaian 2012; NCPTUP 2008). Drawing on in-depth interviews with young adults (aged 18–25), Burkett (2015) found that sexting formed a mundane part of their lives used for fun, peer bonding and joking as well as in sexual contexts. Participants engaged in sexting for fun and flirtation as part of casual sexual (non-romantic) relationships, however this was not as common as sexting in the context of intimate, committed relationships. Sexting was seen as a form of flirtation or sexual teasing, a way of building sexual arousal or interest, or of enhancing/maintaining intimacy, facilitating sexual desire, arousal and pleasure, and as a form of sexual experimentation.

Adults engage in showing the body in online spaces, then, for the purposes of sexual arousal and gratification, and for fun and pleasure. Users are both object and subject (Waskul 2002). The self-produced nature of the images, together with this dual positioning as both subject and object, is regarded as central to the emancipatory potential of cybersex. Exploring the practice of taking sexualised selfies by 'not safe for work' (NSFW) bloggers and self-shooters on Tumblr, for example, Tiidenberg (2014) argues that users are both the subject who takes pictures and the object pictured. These images are usually fragments of bodies or headless pictures posted alongside other images and text-based blog entries. Taking selfies was experienced by users as an exciting autoerotic, exhibitionist practice and a mechanism for self-identity and community building. Self-shooters talked about the 'body positive' communities that were created by being exposed to a wide variety of images (e.g. of genitalia of various different size, shape and appearance), and receiving positive feedback (or seeing others receive such feedback) about images of their own body which they had posted. By sharing images of body parts which may have previously elicited shame, self-shooters are engaged in what Koskela (2004) calls 'empowering exhibitionism', in which people challenge narrow definitions of beauty and sexiness (Tiidenberg 2014). People use,

create and manipulate virtual spaces in order to challenge restrictive societal normal about sexuality, bodies and sexual practices often using images of the body to do so. Sexy selfies from older adults may directly challenge the idea that the elderly are asexual (Adams et al. 2003), and websites dedicated to amputee devotees challenging the popular idea that they are asexual and uninterested and incapable of being sexual may unsettle the construction of disabled bodies as sexless and desexualised (Solvang 2007). Similarly, Instagram and Tumblr are sites of vibrant activism around fat bodies which both challenge hostile cultural attitudes, and aim to eroticise fat bodies (Hester and Walters 2016; Kargbo 2013).

Scholarly interest in do-it-yourself (DIY) sexual representations has demonstrated that online facilities for sharing sexual imagery are changing sexual identities and practices. In their participant observation of 'body showing' using videoconferencing software in which people send and receive live video feed of each other and chat via text in a way which is reminiscent of peep shows, Kibby and Costello (2001) argue that the interplay between looking and being looked at is one of the key aspects of the eroticism of this platform. They demonstrate that sex entertainment where individuals participate in a cooperative leisure activity, and are actively involved in creating sexual representations, has the potential to rewrite gendered sexual relations. Women can both produce and consume pornographic images in a space where they are physically safe, free from censure, and protected from commercial exploitation. Site rules provide protection from harassment and create a sense of trust in the community so that participants will feel safe to 'express and enjoy themselves visually' (p. 355). Moreover, women take a more active role in requesting particular bodily displays from men who, in turn, learn to objectify and present their bodies for erotic consumption away from the ubiquitous 'crotch shot' or 'dick pic'. Exploring gay male social networking apps, such as Grindr and Scruff, Tziallas (2015) argues that they have succeeded not simply because they fulfil their tacit promise to connect gay men, but because they also operate as DIY amateur porn platforms. Noting that most academic work focuses on Grindr's user interface which does not allow for the exchange of nude pictures, Tziallas argues that this misses the way that the app is often used (in conjunction with other platforms)

for the display and exchange of nude images and/or the trading of 'cock pics' through a process of gamified surveillance. Gamification refers to the use of game design in non-gaming contexts with the aim of creating more engaging and immersive experiences. These social networking apps gamify the experience of searching out sexual (or platonic) relations. Game playing involves submitting to surveillance by others and manipulating the rules of display to achieve a sense of accomplishment and success by monitoring swipes as indicators of sexual allure. The history of exchanged images, he argues, become integrated into one's personal porn archive. Tziallas concludes, 'It's the labour, the game playing, the sense of accomplishment and success that hooks users and not just porn alone: neither game playing nor porn, but gamified porn' (p. 771).

Representing the Body

Finally, we consider cybersex which takes place between virtual bodies—sexual interactions through avatars. Avatars become a focal point for cybersex in these games since, in contrast to text-only communication, users can see their virtual body interact with one or more other bodies representing other users. Virtual bodies, the bodily form of an avatar, may bear little or no resemblance to the corporeal body of the gamer, and games may not have been developed specifically for sexual purposes. Deciding how to represent oneself and one's body in an immersive game is often one of the first tasks for new users.

Yet, despite this apparent freedom and ability to transcend the body, researchers have noted the limitations which are often inherent in the game design. Fashioning an avatar relies on the affordances offered in the game—there may be only so many different kinds of body to choose from, for example. Often, far from escaping cultural standards of 'ideal' appearance, avatars resemble offline selves but represent an ideal of aspirational self:

> Male characters are constructed with hulking, muscled bodies, while female characters are given lithe bodies […] The virtual construction of breasts and muscles compensates for the loss of materiality engendered by the virtualizing of the body. (Robinson 2007, p. 99)

Avatars can be, and are, eroticised through appearance. Avatars can be clothed or unclothed down to various levels of underwear. In their ethnographic study of sexuality in Second Life, Waskul and Martin (2010, p. 301) describe how avatars can be 'outfitted with menu-driven click-a-kink items and body parts', including a bewildering array of penis' which can be bought, worn and taken off at will:

> It comes with four basic skin colors, but is modifiable for any personal preference: "7 arousal states, cum and pee," "Adjust size, color, and angle," "show or hide hair, foreskin and piercing." With the Realasm Gold Cock, you can control the state of flaccidness and erection […]. With the click of a button, the Realasm Gold Cock squirts a stream of virtual semen—and unlike a penis in the flesh, the Realasm Gold Cock stays hard and orgasms for as long and as many times as desired. (p. 302)

Moreover, in immersive virtual worlds (MMORPGs), sex is often not at the centre of the action, indeed, some game rules prohibit sexual conversations. Yet, sex is still part of what happens in the game—and in the case of *Second Life* specific areas of the world are given over to sexual interactions. Cypress Valkyrie (2011) notes that emotes are especially important in understanding how cybersex interactions in MMORPGs are more complex than text-only cybersex. Not only do players have textual dialogue, but their virtual bodies (avatars) can act out erotic gestures. Where games were not specifically designed for sexual purposes, this meant there was some creativity in using emotes. Players could make emotes appear to be something beyond their original intention and accompany them with new customised text. The use of emotes added a new dimension to cybersex. Instead of solely relying on erotic text, avatars could perform gestures that mirrored solid world sex and signified physical touch (spanking, grinding, hip-thrusting and so on). In Second Life, sexual interactions have evolved such that users can purchase ready-made animation mechanisms which allow the user to simulate different sex acts. In Second Life, users are offered a menu of different computer-generated sex acts for solo, partnered or group sex with partners and an array of objects to facilitate this sex (pillows, dildos, etc.) (Waskul and Martin 2010). Yet, while avatars can be used to represent the body of the

user (accurately or not) and can be used to enact virtual sex acts (alone or with others), the gap between the user and the avatar, between the physical body of the user/player and the virtual body of the avatar, opens up some interesting questions about 'who' is doing and experiencing sex—we explore this in more detail in the following section.

Cybersex and/as Real Sex

Cybersex is a useful arena for considering 'the real' because of the role that the physical body is assumed to play in understandings of sex. Mainstream psychological research which looks at the 'impact' which cybersex has on 'real' sexual relationships and practices assumes that the two are entirely separate and distinguishable. This notion depends on the belief that 'doing it' or 'real sex' necessarily involves the interaction of physical bodies. Alternative research explores the internet as a liminal space between fantasy and reality and the *meaningfulness* of online sexual experiences (i.e. which may be experienced as real). For the purposes of this section, we will retain the phrase in 'real life' but readers should assume that this is always in scare quotes to demonstrate the problematic nature of this term.

A large body of research explores the use of the internet to seek sexual partners to meet in real life (IRL). For those who want physical sexual contact, the internet provides a way of 'dating' to ensure a degree of compatibility: virtual sex on the first date (Ross 2005). Unlike immersive virtual worlds, often the purpose of meeting people online is to foster sexual interactions in real life. There is an (often) explicit hope and expectation that individuals will meet to have an embodied sexual encounter in real life, and the internet acts as a filter to establish some common ground in terms of sexual attraction and preferences (Couch and Liamputtong 2008). Exploring the internet behaviour of Latino men who have sex with men in the USA, Ross et al. (2004) explored whether their beliefs about cybersex influenced their subsequent safety behaviour in real-life sexual interactions. They identified two different sets of beliefs about the internet. The first referred to finding cybersex attractive because it is perceived as both anonymous and

safe with regard to HIV transmission, the second valued the internet for providing better opportunities for meeting people in real life. Men who held the latter beliefs were more likely to report less safe sexual practices (such as having receptive oral or anal sex), whereas those who valued cybersex were less likely to report being drunk or high, or having insertive anal sex in real life. This distinction between people who engage in online sex before moving to meet in person, and people who enjoy cybersex in itself, was also found in other research (Carvalheira and Gomes 2003). Younger men, men who identify themselves as bisexual, and men who live outside the major cities were found to be more likely to visit internet gay chat rooms in a Swedish study, and that it is common to have the experience of meeting sex partners in real life through the chat rooms (Tikkanen and Ross 2000). Moreover, the chat room visitors are less likely to be tested for HIV and more likely to have had unprotected anal intercourse. Research which explores these connections between OSA and real-life sexual risk-taking is interesting, but despite being unable to draw causal relationships is often taken as evidence of the 'harm' associated with cybersex.

Mainstream research has noted that while anonymous spaces coupled with the broad variety of sexual practices and identities available on the internet offer a rich space to explore sexuality, it also may also have detrimental effects on real-life sexuality and relationships. Concern has largely been centred on the negative impact of compulsive OSA on individuals, their intimate relationships and their lives. Focussing on the impact on sexuality specifically, compulsive users of online sexual activities report decreased desire for real-life sexual activity (Cooper et al. 2004; Young 2004), and decreased desire for their real-life partner (Schneider 2000, 2003), leading to concerns that cybersex might be experienced as more satisfying than 'real' sex, thus displacing real-life intimacies. A study of over 8000 casual cybersex participants (Grov et al. 2011) found that women were much more likely than men to feel hurt and betrayed by their partner's use of online sexual activities, to see it as 'cheating', to feel pressured to perform sexual acts their partner had seen online, and to feel that their partners were more critical of their bodies. In contrast, men were more likely to report feeling less aroused by real sex than women. However, overall the majority of the sample reported no

negative effects on their sex lives resulting from engagement in cybersex. Gilbert et al. (2011) acquired detailed descriptive data on sexual practices and attitudes in *Second Life* (including the range of sexual practices, the number and types of sexual partners and the pace of sexual involvement) to assess whether accounts of cybersex from active participants of 3D virtual worlds support or contradict existing depictions in the popular media of reduced sexual satisfaction and increased speed of sexual contact. They found that people did have more sexual partners in Second Life, and the majority thought that things became sexual more quickly in the virtual world. But, much of this sexual activity takes place in the context of committed—not casual—relationships, and sexual activity was rated only 8/11 in terms of important aspects of being a Second Life resident. Moreover, most participants thought that their sexual activity in Second Life was similar to real life, and participants were more or less equally divided in terms of whether sex in Second Life was more or less satisfying than in real life. Research in other online immersive worlds has found that players did not value cybersex as much as in real life, and cybersex was a substitute in the absence of a real-life sex partner (Cypress Valkyrie 2011). So, a key strength of this research is that it attempts to explore connections and relationships between sexual activities online and sexual activities in other contexts. However, a limitation is the sharp distinction between the virtual and the real. The virtual is too often used to downplay online experience as 'unreal', disembodied, fake or imaginary.

A key attraction of the internet for many of us is precisely that it is 'not real'. Ross (2005) describes the internet as being a space between fantasy and action. A space where cybersex functions at a symbolic, imaginary level which may be experienced as a better form of expressing and fulfilling desire than 'real' (read embodied) sex. Yet, this imaginary sex is felt, experienced and sensed and known through the bodies of users—which begs the question as to why these experiences are labelled either as disembodied, or as not real, or both. For the male cybersex participants interviewed by Attwood (2009), the pleasures derived from sexual interaction carried out on text-based online services such as chat rooms and messenger services, rested on anonymity, the ability to speak openly about sex, break taboos and live out fantasies in a safe space.

Some men noted the particular pleasures of talking about sex rather than engaging directly in sex, or as one man put it, 'being sexy with someone' rather than 'having sex with them' (p. 286). While some men were concerned about the authenticity of the person they were interacting with (largely a concern that people who presented as female were *actually* female), they had little interest in their physical appearance since they were engaged with a 'fantasy projection' of how they imagined or wanted them to be. Waskul (2002) describes cyberspace as a liminal world—a world between reality and fantasy where the norms of ordinary life are suspended. As an example, he describes how televideo sex seems to be the same as other forms of semi-public nudity (like nudist beaches), where nudity breaks cultural norms in which the naked body is private not public. But these virtual spaces are unambiguously about sex—about seeing and being seen for the purposes of arousal (unlike the civil inattention of nudist beaches). As liminal spaces, televideo exchanges destigmatise nudity.

This playful, liminal, fantasy space offered by virtual places may create anxieties about the veracity of online personas (as discussed in Chapter 3), but it also offers up possibilities for exploring sexual identities and practices. Using avatars as a 'stand in' body and self, players can explore their sexuality, develop a repertoire of sexual skills and sensibilities, discover a variety of different erotic experiences and desires, and transgress the boundaries of social convention without necessarily encountering the censure or other negative consequences which might accompany acting this out in a way which is coded as real. One interviewee in Bardzell et al.'s (2014, p. 3946) study described his practice of using his virtual body to explore sexuality:

> My avatar has had threesomes, foursomes, been bound and flogged (didn't like that too much), tried out most pose balls [sexual animations], been bit by vampires, killed by orcs, harassed by angry lesbians (don't ask), just about anything but gay sex.

Similarly, scholars have noted how blogging and taking/sharing selfies can alter and shape sexuality in ways which expands an individual's understanding of their sexual selves. Tiidenberg (2013) found that

people who engaged in taking sexy selfies reported a widening repertoire of desires and an increase in their general open-mindedness about sex which she attributed to (a) constant exposure to sexual scripts different from one's own, and (b) pleasurable interactions/sense of community that meant the new information was easily internalised. Moreover, talking and posting selfies often led practitioners to develop an expanded sense of themselves as a sexual being (Tiidenberg 2014). For example, the eroticisation of 'hands' by audience members lead one interviewee to develop an understanding of himself as someone who has sexy hands, while another developed a sense of herself as sexy in the face of conventional readings of her body as too old or too overweight to be sexually attractive. Tiidenberg concludes that taking and posting selfies can be a therapeutic practice of accepting one's body and a way to create a safe place for exploring one's embodied identity as a sexual being. By posting pictures of the 'real' body, in a way which is staged, managed and made meaningful in self-authored ways, individuals can exploit the possibilities of online spaces to create and explore their bodies and their sexuality. Alternatively, users can adopt a 'stand-in' body in the form of an avatar to create and experience new sexual experiences which are felt in the material body even as they are enacted by a virtual body. In the following example, a woman describes her experience of cybersex chat in which she makes no distinction between her physical body and her avatar body:

> I like the feel of your touch too … the smell of your hair, the warmth of your breath on my lips, the softness of your skin as I caress your shoulders and arms. (Bardzell et al. 2014, p. 3947)

She writes as if she inhabits her avatar body, and as if her partner does the same. This contrasts with the example above, in which the interviewee describes his avatar as having threesomes and being gagged as if someone/something else were experiencing these things at a distance to himself. Moreover, the authors point out that these seemingly incompatible or opposite views are often held by the same individual—the avatar is both at times indistinguishable from their material body and at times entirely separate.

It is this potential separation of the virtual and physical body which make it possible to experience online platforms as carefree spaces which are released from the risks of embodied sex. Online spaces are celebrated as safe sites for experimenting with sexuality in ways in which the body is kept free from disease, pregnancy and social stigma, and for diversifying people's awareness of sexuality beyond the typically heterosexist representations (Ashford 2006; McLelland 2005; Hillier and Harrison 2007). Indeed, for those whose sexuality is marginalised, finding sexual expression on the internet may be experienced as a more real or authentic expression of sexuality. While the material, knowable, visible body is often taken as the ultimate measure of truth and authenticity, the invisibility of the physical body in text-based virtual spaces sometimes enables alternative forms of sexual expression. This tension between disclosure and authenticity is taken up by Bloustein and Wood (2016) in their ethnographic study of disability and identity in *Second Life*. They interviewed people who identified as having a physical disability in real life and who were part of an online community aimed specifically at disabled people. They explored the ways in which people were able to 'experiment with their own sense of embodiment' (p. 103), as well as their sexuality, while holding on to the value of 'authenticity'. Some felt that creating avatars with missing limbs or using mobility aids such as a virtual wheelchair would be more authentic, while others described SL as a place where they could escape their disability. Sometimes both options were explored by the same person. As one participant who always appears as a 'furry' but does not disclose her disability, explained:

> Regardless of RL identities, some people come here to escape the reality of the chair. They may accept in RL that the w/c [wheelchair] is a part of their identities, but, in SL, there can be roleplay, fantasy, escape. That's what I do. (Bloustein and Wood (2016, p. 111))

As the physical laws of time and space obviously do not operate in SL in the same way as in off-screen life, virtual worlds can present possibilities for users to transcend physical challenges. Furries, for example, are animal-based avatars. Cybersex opens up the possibility of engaging in sex as a non-human, it allows us to embody a different physical form.

Transgressive explorations of sexuality such as 'yiffing' or 'furry sex'—the practice of cybersex while in the form of animal avatars—evokes social taboos against bestiality and may be experienced as 'quite risqué' though no actual animals are involved (Bardzell et al. 2014). As one participant interviewed by Bardzell et al. (2014, p. 3947) describes in relation to her experience as a furry, such activities can complicate gendered conventions of sexual attraction and desire:

> My avatar is a female raccoon and I wear a tux. It was a dj and ball gown affair. There was a white fox at the club - male. He clearly did not realize I was a female until I pointed this out to him. We got very friendly after that, exchanging flirtatious IMs.

The layering of different gendered codes (a female human player, a female animal, in clothing coded as male interacting with a male animal who may or may not be operated by a male human player) makes for an array of different possibilities of erotic attraction. Noting that male players often adopt female avatars which are presented as 'hot' (sexualised) fantasy figure which may get hit on by other male characters, Cypress Valkyrie (2011) claims that these virtual bodies create various "combinations" between player bodies, avatars bodies and sexual acts. For example, a male player could control a female avatar and script a cybersex scene with another female avatar, which could be controlled by either another male player or a female player. This interaction is difficult to label within current understandings of sexual orientation. It could be falsely labelled lesbian sex between two avatars, heterosexual sex between two players, homosexual sex between two players, just cybersex or possibly not even labelled sex. Cybersex in MMORPGs illuminates our assumptions about sexual identity and sexual acts, which could allow for the possibility of multi-bodied, multi-gendered sex. While many studies of cyberculture (and many cyberparticipants) start from the assumption that the 'real' world is the epistemic starting point for thinking about the cyberworld, Saraswati (2013) invites us to consider a different approach. He proposes 'wikisexuality', which evokes the notion of sexuality as constantly shifting with every encounter. Following Waskul et al. (2000) rather than concerning ourselves with

the empirically 'real' persons or 'real' experiences of sexual arousal or pleasure *behind* the virtual sexual encounters, instead we might explore how persons create sexual encounters that are responded to 'as if they were real'. Through co-authored erotic fantasy with anonymous others, by playing with different forms of embodiment, and by trying on different sexual practices, identities and desires, many people claim to learn new sexual techniques, discover new turn-ons and experience sexual arousal in ways that they would not (or could not) experience in 'real' face-to-face sexual encounters. Although this might be described as 'fantasy' or dismissed as 'only virtual', it is experienced as meaningful, intimate and visceral—the material, experiential, sensing body is intimately bound up in these virtual trysts even in the absence of the corporeal body at the centre of the action.

Conclusions

Technologically mediated sex is not new; but new developments in technology can create opportunities for different ways of exploring, experiencing and embodying sexual arousal, desire and pleasure. Whether or not this represents 'new' forms of sexuality, or whether it simply illuminates other aspects of existing sexuality such that they 'stand out from their equivalent social sexual interactions' (Ross 2005, p. 342), is a matter of ongoing debate. Online spaces certainly offer new ways of 'doing' sexuality which both offer new possibilities, freedoms and entitlements to enact sexualities, especially those which have been marginalised, but it also generates new obligations and requirements—such as the requirement to perform sexuality (textually and visually) in ever more specific ways according to recognisable conventions and codes (Dowsett 2015).

The potential separation of the physical body from acts of sex, and the liminal space opened up in online worlds, raises questions about how much of ourselves do we need to put into our sexual experiences, and how much do our sexual experiences need to involve others? We can use an avatar to enact sexual practices, but to what extent do we need to identify with, or experience through, our avatar for this to be meaningful. We can create avatars which allow us a different form of

embodiment, but when our avatar looks less like our own physical body, does this lessen our ability to relate to, enjoy or experience pleasure in the erotic acts the avatar plays out in the virtual environment? Likewise, if we are interacting with the avatar of another, a fantasy or projection, does it matter if there is really a human user/player behind this avatar? One of the disabled participants in Browne and Russell's (2005) research was interested in exploring the sensual experiences which might emerge from technological advances such as virtual sex in a virtual body suit, which would remove the need for another person to be physically present and enable her to enact sexual practices which would be physically impossible for her. Moreover, the increasing ability of sex-bots software to simulate human expressions of intimacy and sexuality may extend sexual encounters beyond the human (or animal), making non-human object choice a distinct possibility (Cockayne et al. 2017). Indeed, if sex-bot technology continues to develop we may not be able to distinguish whether we have having technologically mediated sex with another human, or whether we have having sex with a non-human bot.

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6

Behaving Badly

The social spaces created by digital technologies appear to be an obvious benefit to humankind. However, it would be wrong to think of them as entirely benign. Social spaces that are mediated by technology are apt to distort well-meaning communications and invite opportunities for deception and abuse. Digital and networked technologies can create anonymous and depersonalised spaces which accentuate negative behaviours towards others in the form of prejudice and extreme expressions of emotion, as well as overt deception. In this chapter, we consider why this sort of 'disinhibition' takes place and trace the emergence of increasingly legitimised forms of deviant behaviour in technology-mediated spaces from flaming to identity deception and trolls. In addition, we consider the role of such negative influences in determining the nature of online communities and the values that prevail within them.

Online deviance may be thought of as the 'transcendence of rules, values or morals set out by a particular community' (Williams 2000, p. 97). In some online spaces, this may comprise behaviours that simply create an unfavourable impression, for example, posting overly emotional messages, mentioning taboo topics or bragging on Facebook and Twitter (Brody and Peña 2013; Hooper and Kalidas 2012). In more

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extreme cases, people's deviant online behaviour can push the limits of moral and social boundaries. This includes the use of aggressive and violent actions, such as online rape threats (Hardaker and McGlashan 2016) and the use of online 'revenge porn' (Stroud 2014). Some have argued that the sheer level of hostile behaviour that can be found online represents a culture of sadism in which people tolerate and even expect such behaviour or actions (Jane 2015).

A form of online deviance commonly reported is the experience of *flaming*. This hostile communication includes the use of aggressive, insulting and derogatory language, often expressed with the use of capital letters or a red script (Lapidot-Lefler and Barak 2012). However, views on the use of flaming are varied. While some research has shown that exchanges of flame messages can be experienced as entertainment for both individuals involved in the exchange, rather than being experienced as an offensive activity (Postmes et al. 2000), other research has shown that exposure to hostile online comments can increase a reader's own hostile cognitions (Rösner et al. 2016). Alongside these differences in the way flaming is experienced, there also appear to be a wide variety of reasons for why people engage in flaming behaviours. In a study of YouTube users, people who had experienced flaming in response to their videos and those who had sent flames completed a survey about communication on YouTube (Moor et al. 2010). The findings showed respondents cited several different reasons for flaming behaviour; these included conforming to perceived norms, reduced awareness of others' feelings, to offend for mere entertainment, and to express disagreement or an opinion. As such people have different understandings of why others engage in hostile online behaviour.

Explanations for why people behave in deviant ways when online will be discussed in more detail later in this chapter. However, it seems that to a certain extent, forms of online deviance such as flaming may become normative within some social spaces (e.g., on YouTube, see Moor et al. 2010, and 4chan, see Milner 2013), with people conforming to the norms set by others who post comments with a hostile nature. From the position of symbolic interactionism, the audience plays an important role in defining an act as socially unacceptable, with some arguing that 'the formation of deviant identity is predicated on

the internalisation of negative social labels conferred upon the individuals by the audience' (Maratea and Kavanaugh 2012, p. 103). In line with this, some research has referred to the idea of 'career deviants' who become immersed in subcultural groups that support and sustain deviant identities—subcultures that may have a common set of values, interests and interactional norms that cultivate a group identity. For example, in their analysis of the formation of online communities who participate in extreme online misogyny on Twitter, Hardaker and McGlashan (2016) argue that the discourses shared by low-risk users (i.e., tweets with insults/sarcasm) and high-risk Twitter users (i.e., tweeting threats/harassment) could facilitate a user's gradual escalation to high-risk and even illegal online interaction.

"Don't Feed the Trolls!"

While flaming solely refers to heated forms of online communication, the term *troll* has been used to refer to people who post subtle or unsubtle offensive messages to provoke an argument, or an emotional reaction, or lure others into pointless debate (Coles and West 2016; Jane 2015; Hardaker 2010). Such actions are viewed as deliberately deceptive, destructive and disruptive to online social settings (Buckles et al. 2014). Variously described as 'sadists' and 'tricksters', trolls are often characterised by their pointless and merciless disruption. The phrase 'I did it for the lulz' is often referred to by way of explaining the underlying intent, and suggests amusement derived at another's expense (Phillips 2012). In a study analysing strategies used by trolls, Herring et al. (2002) attempted to uncover how a troll could successfully bait and provoke other members of an online group. They identified ways in which a troll could provoke members of a feminist discussion forum through appearing outwardly sincere (e.g., '…if you come up with some solution that involves me changing my behaviour than please feel free to ask me'), through making statements that attract flames (e.g., 'I take the silence over the gender wage gap hoax to mean that no feminist here even wants to TRY to defend their biggest lie') and through attempting to provoke futile argument (e.g., 'If you don't like reading my stuff

then just DON'T ok? Now is that so hard, you "strong women"?'). Such comments show how the intentions of a troll are often targeted towards disrupting interactions and deliberately aggravating those who are interacting.

One recent line of research has attempted to pin down the personality profile of an internet troll through making links to the Dark Tetrad of personality—a group of personality traits including narcissism, Machiavellianism, psychopathy and sadism. Buckles et al. (2014) found that scores on the Dark Tetrad traits were highest among those who reported that trolling was their most enjoyable activity when posting comments online. However, they further found that sadism (e.g., 'I enjoy hurting people') held the most robust associations with trolling, with sadism leading to trolling behaviours because such behaviours are experienced as pleasurable. Further research into the personality of the internet troll has identified high scores on the Dark Tetrad traits of psychopathy and sadism are associated with trolling behaviours on Location-based real-time datings apps such as Tinder (March et al. 2017) and on Facebook (Craker and March 2016), while traits including narcissism and Machiavellianism have been associated with trolls in online gaming environments (Ladanyi and Doyle-Portillo 2017).

The above research suggests that to some extent, we can generalise across different types of social networks when attempting to understand people who troll. However, it is important to acknowledge that forms of trolling evolve and adapt to different online environments (Synnott et al. 2017). Karppi (2013) has pointed out that trolls are very good at using Facebook's infrastructure to generate affective responses, for example, by targeting and attacking Facebook memorial pages using so-called *R.I.P Trolling*. In addition, there is a difficulty in generalising across all trolling behaviour given that the intentions and motivations driving such behaviour are likely to differ across trolls. Indeed, Coles and West (2016) argue that neither the troll category nor the trolling action has a single fixed meaning. For example, within the context of online gaming, trolling behaviours are referred to as *griefing* or *grief play*. These online gamers deliberately disrupt the gaming experience of others, for example, by upsetting the arrangement and organisation of an event in the game (Foo 2008; Foo and Koivisto 2004). Bishop (2014) has also referred to

flame trolling as an abusive form of trolling whereby someone initiates a seemingly sincere conversation but others are drawn unwittingly into a useless discussion. Bishop distinguishes this from *kudos trolling* which is intended to entertain others in a community, usually through a more transgressive form of humour. However, the intention behind this form of trolling may not be immediately obvious to the person on the receiving end of the trolling behaviour, as Bishop notes, what may be offensive to one person may be entertaining to another.

Coles and West (2016) explored the differing uses and definitions of trolling among online posts by users who directly discussed the nature of trolling. Within their analysis, they identified several repertoires to show how people make sense of trolling within online communities. They found that for people who regularly post to online spaces such as forums, trolls are constructed as being easy to identify within the forum, and because of this, trolls are viewed as being unsuccessful in disrupting such spaces since they can be controlled and disempowered by the forum users. These attempts to disempower a troll were often understood as 'trolling the trolls', and Coles and West refer to this as a repertoire of vigilantism in which members of a forum could counteract the effects of trolls by engaging in what is seen as a legitimate and honourable form of trolling against out-group targets. Coles and West's findings also showed that people differentiated between traditional and modern-day forms of trolling, and this is often linked to how unpleasant trolls are perceived to be. Through alluding to traditional forms of trolling, people constructed the idea of 'proper' trolling in which there was an art to being a troll, and a troll's skills of manipulation were seen as being sophisticated, 'as they craft a skilful facsimile of a conversation in order to entrap their conversational partners' (p. 238). This is similar to Donath's (1999) idea of the troll as 'a master of identity deception' who attempts to pass as a valid member of an online community by understanding and applying the style of speech characteristic to that particular community. The troll's identity and true motive are therefore not revealed until this trap is set. Coles and West argue that this form of trolling can be contrasted with a more modern-day form of trolling described as 'illiterate' and 'offensive', and constructed as something merely unpleasant and undesirable where it involves simply name calling and using insults.

The above ideas map onto how the term 'trolling' is believed to have changed over time. Bishop (2014) uses the term 'classical trolling' to refer to trolling as it was understood in the 1990s, Bishop argues that classical trolling was carried out for the community's consensual entertainment, to build bonds between users. Bishop distinguishes this from 'anonymous trolling', as a form of trolling that has been popularised by the mass media in the 2010s. This is a form of trolling that is carried out at the expense of someone for that person's own sick enjoyment. Similarly, the term 'shitposter' is used more colloquially to describe a person who regularly posts worthless, meaningless or nasty things onto discussion boards or forums.

Why Do People Behave Badly Online?

In attempting to understand why people might engage in trolling behaviour, some work has drawn on the perceptions of those who have directly experienced trolling behaviour themselves, outlining what they see as the motivations behind such behaviour. For example, Shachaf and Hara (2010) explored the motivations of trolls on Wikipedia from the perspective of Wikipedia editors and concluded the main factors that directed and energised the behaviours of trolls were: boredom, revenge for being blocked from the online community, attention seeking, enjoyment and entertainment. In addition, research exploring trolling behaviours within the online virtual world, Second Life, found that avatars believed such behaviours were driven by the need to assert power, particularly over others who lack knowledge of the Second Life world (Chesney et al. 2009). The avatars interviewed further believed that the online environment provided a 'safe' and easy place for others to bully in, and that this was helped by a sense of anonymity and the lack of consequences following antisocial actions. Similarly, Foo (2008) has suggested a number of factors that may motivate trolling behaviours (or grief play) within online games. These motivations include those influenced by other players (e.g., vulnerability of a new player), those influenced by other grief players in the game (e.g., to gain respect from other grief players), the grief player's own desires (e.g., for enjoyment or to feel powerful) and those that may be influenced by the game itself (e.g., anonymity within the game environment).

The role anonymity plays in fostering deviant online behaviour has been more explicitly outlined by Suler's (2004) online disinhibition effect theory. In explaining why people may behave differently online than in face-to-face situations, Suler draws on the social process of disinhibition, whereby behaviours that would normally be inhibited actually increase under certain circumstances (Diener 1979). In some online settings and for some people, this disinhibition can be relatively benign, for example, an increase in the tendency to self-disclose or give support to strangers when online (Coursaris and Liu 2009; McKenna et al. 2002). However, online disinhibition can also be toxic, revealing itself in the use of harsh or rude language, and in more extreme ways such as hate speech and the use of online threats (Hardaker and McGlashan 2016).

Suler (2004) identifies six factors which can intersect and interact with each other to cause online disinhibition: (1) *Dissociative anonymity*—the anonymity inherent in our use of online social spaces allows us to distance ourselves from our behaviour. Many social networking sites allow people to adopt a contrived username (e.g., a Twitter handle), and some bulletin boards (e.g., 4chan) allow people to post anonymously without needing to register their personal details. Suler argues that when people have the opportunity to separate their actions online from their offline identity, they feel less responsible for those actions; (2) *Invisibility*—in many online settings, people cannot physically see or hear each other, and Suler argues the absence of verbal and non-verbal social exchange means people worry less about what they say to others and what others' responses will be; (3) *Asynchronicity*—given that online social interaction often does not, or does not need to, take place in real time, Suler suggests people may break from the social norms of conversation because they do not have to respond to someone's immediate reaction. In some cases, they can even choose to not respond at all, and 'run away' from a message that may be perceived as emotional or hostile; (4) *Solipsistic Introjection*—the people we interact with online become imaginary characters in our own intrapsychic world. Those people are represented by our own personal expectations, wishes and needs, and we might assign them a visual image and a voice in the absence of these cues. As such, Suler argues that our online communication can 'evolve into an introjected psychological tapestry in which a person's mind weaves these fantasy role plays, usually unconsciously and with

considerable disinhibition' (2004, p. 323); (5) *Dissociative imagination*—the online world can conceivably be a 'different' world. Through adopting an online persona and creating imaginary characters that inhabit this online space, Suler suggests people may perceive this space as something distinct and set apart from the social norms and expectations of the offline world; and (6) *Minimisation of Authority*—given the absence of cues that might indicate a person's status and power (e.g., the social setting, physical appearance), the equalising effect of being online combined with the lack of authority within online spaces means that people may be more willing to speak out or misbehave.

Since Suler's (2004) online disinhibition effect theory was published, there has been rapid advancement in the different online channels and social networking sites available to people who wish to communicate online. Despite these developments, research continues to support Suler's theory, particularly for understanding the role of anonymity in toxic disinhibition. For example, the use of real name accounts on social networking sites (e.g., Facebook) is associated with lower use of offensive words than either pseudonym SNS accounts (e.g., Twitter) or pseudonymous accounts such as those used for news website comments (Cho and Acquisti 2013). Several other researchers adhere to the view that online anonymity enables greater hostility towards others in online environments such as social networking sites (Hardaker and McGlashan 2016), and in online video games (Fox and Tang 2014). However, it is important to bear in mind that there are different levels of anonymity, and it has been argued that a crucial aspect of anonymity is *unidentifiability*. Lapidot-Lefler and Barak (2012) argue that this dimension of anonymity is broader and more personally significant than simply whether or not someone knows our name. If we are unidentifiable online, it means aspects of our personal details (e.g., gender, age and ethnicity), our appearance and our facial expression may also be unknown to others online. In a study examining the effects of an online sense of unidentifiability, Lapidot-Lefler and Barak manipulated participants' levels of anonymity (absence or presence of personal identifiers), their visibility (absence or presence of a webcam), and their eye contact (absence or presence of webcam at eye level) when using instant messaging software with a partner. Each participant within a pair was asked to convince their partner that a life-saving drug was needed for

someone close to them, but as only one participant in the pair could receive the drug, each participant needed to convince their partner to concede. The researchers then measured the number of expressions of flaming behaviour in the instant messaging discussions, and found that only eye contact had a robust effect on flaming behaviour. While levels of anonymity and visibility did exert some minor influence, eye contact had the greatest impact on participants experiencing less flaming behaviour when they engaged in eye contact over a webcam.

The above findings are consistent with studies that have shown anonymity is not always associated with hostile behaviours online (e.g., Postmes et al. 2000; Yen et al. 2011). However, the findings are also consistent with the observation that reducing levels of anonymity by increasing visibility does not necessarily entail that people will be more restrained in their online behaviour. For example, in online video chat services such as Chatroulette, pairs of users are randomly matched through a webcam connection. Therefore, while users can remain anonymous in as much as they can withhold their name or profile, they are very much visible to each other. Through Chatroulette and other similar video chat services, many of the users engage in sexually explicit misbehaviour such as flashing and nudity, and users frequently present themselves to a public audience in shocking and exhibitionist ways (Xing et al. 2011). The existence of such forms of social media, and the way in which they have been adopted by their users, suggests in understanding why people misbehave online we need to look beyond the environmental conditions of online communication—clearly, in the case of Chatroulette, increasing the visibility of its users has not revealed more inhibited behaviour. Instead, we need to take into account the norms and expectations that will vary between different social networking sites. For example, sites such as 4chan—an image-board network where users are not required to register or assign themselves a username—are notorious for their mischief-laden posts. While this level of anonymity has provided the conditions for 4chan's 'anything goes' reputation, the *idea* of anonymity and anonymous speech has also become the culture of the site (Knuttila 2011; Milner 2013) creating expectations for trolling behaviours. Indeed, in describing 4chan, Milner (2013, p. 68) states that 'trolling is its guiding aesthetic'. As such, the reputation of the site creates a level of deviancy which is further endorsed by the users as a group.

Antisocial or deviant behaviour may therefore be better explained by the expected social norms of a situation (Postmes and Spears 1998). Following the Social Identity model of Deindividuation Effects (SIDE, Reicher et al. 1995), an identity switch from personal identity to social identity (i.e., a process of depersonalisation) can happen when a group is perceived as more salient than the individuality of its members, and anonymity can function to enhance group salience by reducing attention to individual differences within the group (Lea et al. 2001). Based on the SIDE theory, when personal identity is salient, an individual adheres to their own standards and norms; however, when a social identity is salient, anonymity will increase the normative influence of the group. The outcomes of an interaction may therefore depend on the norms a group subscribes to. Denegri-Knott and Taylor (2005) have argued that the SIDE approach is better equipped to explore an understanding of online deviance because it highlights the role of the norms a group subscribes to and the meaning of deviancy endorsed by the group.

Recent research studies support the SIDE approach to understanding online deviance. For example, Moor et al. (2010) found evidence to suggest that after seeing a large amount of flaming on YouTube, people come to perceive flaming as normative behaviour within this site, and may conform to this norm by engaging in flaming themselves. In addition, Synnott et al. (2017) used an ethnographic approach to examine the behaviours and strategies of a group of Twitter trolls who posted abusive and antagonistic messages directed at Kate and Gerry McCann—the parents of abducted child Madeleine McCann, taken from a holiday resort in Portugal in 2007. While the group did not self-identify as trolls, they constructed their social identity as a group of 'justice seekers' who collectively believed the Madeleine McCann case was a cover-up of child abuse. Their trolling strategies included spamming discussion threads with nonsensical statements, personal attacks and the use of offensive images. Synnott et al. argue that the anonymity of the trolling group combined with the salience of their social identity formed the conditions which led to group driven antisocial trolling behaviour.

Reactions to Online Deviance

While the above discussion suggests that identification with a group can facilitate deviant online behaviour, the degree to which members of online spaces identify as a group can affect their responses to the occurrence of deviance within such spaces (Nicholls and Rice 2017). This may be particularly the case when the deviant behaviour is perceived to question the social identity of the online group, and is believed to reflect negatively on the image of the group. Ditrich and Sassenberg (2017) draw on the idea of *identity subversion* to explain why an online group may reject deviant behaviour. They examined how members of a Facebook group react to the online deviance of an in-group member. Using simulated Facebook groups, they manipulated the content of group discussions to include: a 'no-deviation condition', where all members of the Facebook group adhered to a group norm, an 'accepted deviation condition', where a focal member of the group consistently violated the group norm (e.g., by personally attacking people and posting ironic content) and this behaviour was accepted by other group members, and a 'unaccepted deviation condition', where the focal member's deviations were not accepted by other group members. Their key findings showed that group members excluded and derogated a deviant from their group, and that this was primarily because the person's deviant behaviour was believed to subvert the group's identity (e.g., by fundamentally changing what the group stands for). The reactions of group members can be seen as demonstrating a reinforcement of group norms by attempting to eliminate negative influences.

Studies such as Ditrich and Sassenberg's may go some way to explaining why online groups are able to regulate the occurrence of deviant behaviour. Williams (2000) states that reactions to online deviance are specific to each community, and as such, each community will have its own method of control for curtailing online deviant behaviour. For example, many forums such as Reddit have adopted a system of voting users up or down, allowing the users themselves to exert control and moderate content. Many sites often assume an approach to controlling trolling behaviours based on shared responsibility between the

site's developers, individual users and the community (Chesney et al. 2009). Rules for normative behaviour within online groups are often either explicitly established (through a list of the site's values, clear rules or user agreements) or are implicitly established by the group and emerge through day-to-day interactions. However, attempts by forums' members to exclude or reject a person whose behaviour is deemed to be deviant to the group are not always successful. Herring et al. (2002) explored the ways in which a feminist group responded to a troll on a discussion forum. While the group were in agreement that the troll had undermined the group's norms and values, there was no agreement on how to respond to the troll's behaviour; that is, either shunning the troll through ignoring and refusing to respond or banning the troll through administrative procedures. Herring et al. suggest the lack of agreement on how to respond led to attempts to reason with the troll, which further led to an escalating conflict in which the troll ultimately had succeeded in disrupting the group. Although this may suggest control at the level of administration was needed, policy-driven regulation does not always prevent trolling behaviour. For example, Cho and Kwon (2015) compared policy-driven regulation of antisocial behaviour online (e.g., through the use of anonymity control mechanisms such as requiring users to follow a real name policy) and voluntary approaches (e.g., opting to link online activities to a social networking site to promote a culture of self-disclosure). They found that policy-driven regulation did not reduce, and could even increase, flaming, while a voluntary approach significantly decreased examples of flaming. Such findings suggest top-down approaches to controlling deviant behaviour are limited, and user-driven strategies may be more beneficial.

Alongside reactions at the group level, wider societal reactions to deviant online behaviour have been discussed by several theorists. In particular, the effect of mass media communications around trolling behaviours can have implications for public opinion and actions towards trolling behaviour. Bishop (2014) has argued that the way in which the media portrays internet trolling has created a moral panic around the idea of trolls to the extent that 'the word "troll" has achieved the demon status of other transgressive terms like "terrorist"' (p. 11). Others have argued that through condemning the actions of trolls, the media are feeding

the trolls, and therefore contributing to the initiation and sustainment of trolling behaviour. Through her research into Facebook Trolling and 4chan, Phillips (2012) maintains that trolls and the media form a symbiotic circle, in which trolls are encouraged by media coverage of their behaviours, and their resulting activities encourage further media stories.

The Significance of Trolls

The majority of research on trolls and online deviance tends to focus on the potential of trolls to do great harm and on ways of identifying or countering trolls. For example, de Seta (2013) asserts that 'research dealing with trolling…is characterised by a suspicious approach to online social environments, often treated as breeding grounds for inflammatory interactions' (p. 305). The presence of trolls is widely believed to inhibit the development of online communities, by making it less likely that new people will join and making community members less likely to trust outsiders (see Donath 1999). However, other researchers have asserted that our attempts to understand online deviance have been limited by our need to view online behaviour through offline lenses, alongside a moralistic assessment of what good and bad behaviour are (Denegri-Knott and Taylor 2005). In a departure from this, an alternative line of research has explored the productive function of trolls in the ecology of online communities. For example, Escartin (2015) found that trolling served as a form of online behaviour regulation, allowing the testing and reinforcement of the boundaries of 'proper' online behaviour. Similarly, Herring et al. (2002) found that conflict that had been escalated by a troll actually led to a reinforcement of an online group's identity since it sparked them to renegotiate what was appropriate and what their limits on disruptive behaviour actually were. In some ways then, it seems that trolling behaviours play an important role in helping to define online communities.

In addressing ways of dealing with and reacting to trolling behaviours, some have questioned the effects of attempting to exclude norm-deviant behaviour from online communities. Ditrich and Sassenberg (2017) caution that rejecting or blocking those who are considered by the

community to be deviants could actually 'contribute to a one-sided, overly homogenous view of the world' (p. 39). Some evidence exists to demonstrate this, particularly within political discussion groups where attitudes and positions within the online group can become more and more extreme (Anderson et al. 2014). Others have argued for the importance of exploring the *intent* of the trolling behaviour before making decisions about whether to block or take action towards those perceived as being a troll. Kirman et al. (2012) discuss the fuzzy boundary between what may be seen as acceptable and unacceptable behaviour, and argue that within this fuzzy boundary lies playful misconduct or mischief. A mischievous user does not intend to do harm, but does intend to challenge the social norms of the online community. Kirman et al. refer to this as 'mischief as an act of performance' for users who want to challenge the status quo, and subvert technologies to use them for purposes that were not originally intended by the designers. One example of this can be seen through impersonation and satire on sites such as Twitter, where accounts such as @Queen_UK exploit Twitter and allow performance mischief. Such social mischief allows users to explore the boundaries of social acceptability by exploring and renegotiating the possibilities of the site to create new or unexpected social experiences. Kirman et al. accept that for some users the intent behind breaking this social contract is harm. For example, within online gaming worlds, Foo and Koivisto (2004) have highlighted the emotional distress caused to other online game players when certain players violate the spirit of a game through actions that are solely for their own benefit and are detrimental to others (e.g., harassment through slurs and spamming in chat messages, purposeless player killing, or intruding into a space perceived to be private to another player). However, Kirman et al. suggest we should expand our understanding of trolls to include varying forms of more mischievous activities to emphasise the divide between sociopathic and playful behaviour in online social spaces.

Our attempts to understand trolling may in part be thwarted by trying to carry out research on such an elusive form of research participant. Phillips (2012) alludes to this problem in her own research with trolls when she states that it is difficult to actually carry out research on trolls because we do not know who trolls are, and the researcher cannot be sure about the validity of the data they collect when their respondents

remain anonymous and are interviewed online. Shachaf and Hara (2010) further demonstrated this difficulty when describing their own data collection techniques in their study of Wikipedia trolls. They originally intended to interview trolls but stumbled across several challenges in their task of recruiting them—they kept their identity hidden, operated anonymously, would not provide contact information, and were often blocked from the site once identified. In the end, they opted to interview Wikipedia editors about the behaviour of trolls on their site. However, it is not only the data collection methods that make it difficult to research trolls and trolling behaviour, but our attempt to lump together so many different practices under one umbrella term labelled 'trolling' has restricted our understanding of deviant online behaviour, particularly from a cross-cultural perspective. For example, de Seta (2013) states that there is no specific term used in Chinese internet culture that covers the meanings of the word 'troll'; however, the practices of trolling (e.g., satirical, ironic, deceptive, aggressive and humorous) are all present in Chinese online interactions, but these are referred to using a wide variety of terms (e.g., spraying and fishing). de Seta argues that to understand a phenomenon like trolling, we need to look beyond asking 'what is a troll?' and instead look at what people define as such when they engage in communal interaction or experience interactional disruption in different user cultures. To add to this complexity is the suggestion that many people now express themselves online using techniques and practices that would traditionally have been associated with trolling (e.g., the use of memes), Leaver (2013) argues that these behaviours are often misinterpreted as trolling behaviours, particularly by a media that continues to present trolls as extremist.

Conclusions

Clearly, there is no single fixed definition for what it means to be a troll or engage in trolling behaviour. The term troll has changed over time, from past references of those with masterful skills of manipulation to a more modern understanding of trolls as those who are merely belligerent. Trolling behaviour has evolved and adapted to different contexts of

online environments, and the intentions and motivations driving trolling behaviour are likely to differ between different trolls and different online spaces. Cyberpsychology has attempted to understand those who choose to engage in trolling behaviour by picking apart the underlying personality of the troll, and by defining the ways in which online environments provide the conditions for people to engage in trolling behaviours. This chapter has attempted to build on these ideas by exploring, beyond conditions of anonymity, how the norms and expectations of an online space could influence online deviancy, and how deviancy might be endorsed by an online group through identification with the group. In addition, this chapter has explored how we respond to trolling behaviour. The way we experience online deviancy ranges from offensive to entertaining, and while this may influence the way we subsequently react to trolls, it is likely that our own emotional responses will reinforce trolling behaviour. Given the reciprocal nature of emotion, when people become aggressive or offensive online, strong emotions can become amplified over time, as reflected in research that shows the way hostility can amplify between users online. Clearly, we need to look beyond the environmental conditions of online spaces to understand why people engage in online deviancy—people may be lured by the nature of the online environment to behave in deviant ways, but they rely on an emotional response from the audience to perpetuate their role as a deviant or troll.

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7

Being Alone

Digital technologies are commonly seen as a way for us to connect with others and avoid being alone. The proliferation of social networking sites over the last 10 years attests to the idea that people are using digital technologies because of their need to seek affiliation with others and their desire for social interaction. For some, it may be that the possibilities provided by online social connections are an opportunity for belonging and companionship, helping them to overcome the experience of loneliness or social anxiety in the offline world. However, there are arguments around whether a preference for online social interaction can be socially liberating, or can actually set the stage for what might be termed 'problematic internet use (PIU)'. Alongside the lure of digital technologies to avoid 'feeling alone', they can also be used as a way to actively distance ourselves from others and provide us with a means of 'being alone', even when we are not physically isolated from others. For example, the use of Mp3 players and solitary gaming to disengage from the social can potentially aid emotional well-being. This chapter will therefore further consider how certain types of technologies and the services provided by them can be used to create our own contemplative spaces, giving us a place of solitude in what may otherwise be considered a crowded space.

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Feeling Lonely and Being Online

The idea that our use of technology is somehow associated with our experience of loneliness has been widely researched over the years (Moody 2001; Morahan-Martin and Schumacher 2003; Song et al. 2014). On the one hand, it has been argued that excessive use of certain types of digital technologies can isolate us from 'real'-world social interactions with our family and friends, and as a result increases our experience of loneliness (e.g. excessive use of online gaming, Lemmens et al. 2011). This argument is based on the assumption that loneliness is associated with lower levels of offline social activity. However, loneliness has been defined in various ways. Some definitions do highlight the degree of social contact as a key factor, arguing that 'loneliness exists to the extent that a person's network of social relationships is smaller or less satisfying than the person desired' (Peplau and Perlman 1979, p. 101). Others maintain that loneliness should be defined in terms of social and emotional loneliness, with emotional loneliness referring to 'a feeling of emptiness and restlessness due to the lack of intimate relationships', and social loneliness referring to the 'feeling of boredom and marginality due to the lack of meaningful friendships or a sense of belonging to a community' (Moody 2001, p. 394). This represents an important distinction in the experience of loneliness between feeling part of a wider social network, and the sense of having someone in your life that you can turn to in times of need. In this respect, emotional loneliness, but not social loneliness, has been more readily associated with greater use of the internet in both older adults (Sum et al. 2008) and younger adults (Moody 2001). It seems that while using the internet can foster a sense of social connectedness with others so we feel less socially isolated, our need for more intimate attachments with others may be left unfulfilled.

In explaining the link between digital technology use and loneliness, while the above research suggests such technologies may be increasing our experience of loneliness, an alternative view is that lonely people are drawn towards using them in the first place. Morahan-Martin and Schumacher (2003) compared students who scored high and low on a self-report measure of loneliness and found

that students with high levels of loneliness were more likely to prefer online communication to face-to-face communication, found it easier to make friends online, used the internet for emotional support, and were more likely to go online when feeling isolated, depressed or anxious. More recent studies have shown in younger age groups (children and adolescents aged 10–16 years), those who self-identify as being lonely are more likely to use online communication, and are more likely to communicate about personal and intimate topics online (Bonetti et al. 2010). Overall, the findings from these studies suggest that online communication may have a heightened attractiveness for people who generally experience loneliness. Indeed, a recent meta-analysis examined studies of the relation between loneliness and Facebook use (Song et al. 2014). They tested a causal model of the direction of relationship between these measures and found that, rather than Facebook use leading to experiences of greater loneliness, loneliness led people to use Facebook more frequently. Their findings were therefore in line with the idea that people experiencing loneliness engage in more frequent use of online communication.

Several ideas have been put forward to explain why someone who is feeling lonely may be drawn towards spending a great deal of their time on social media sites. One of the most cited reasons is that the sense of social connection that comes from being on these sites is used to compensate for a lack of offline social relationships (Pittman and Reich 2016; Skues et al. 2012). In addition, certain features of social media sites (such as the ability to share photographs) may go some way to fulfilling people's social needs. For example, Oeldorf-Hirsch and Sundar (2010) have shown that people's use of online photograph sharing is driven by their desire for close relationships (e.g. to keep up with each other's lives, relive memories, and communicate with each other). In line with this, Pittman and Reich (2016) have argued that only image-based platforms (such as Instagram and Snapchat) have the potential to ameliorate loneliness because of the enhanced intimacy they offer. They found an association between the use of image-based platforms and lower levels of loneliness, while the use of text-based platforms such as Twitter was associated with higher levels of loneliness. While

it is difficult to ascertain the causal direction of the relationship here, Pittman and Reich argue that photograph sharing can recreate the intimacy of social presence within an online environment and that such intimacy is necessary as a protection against loneliness.

Research examining the link between loneliness and use of social media tends to focus on frequency of usage rather than on what the person is actually doing online. However, Yang (2016) has pointed towards the need to move away from how much people are using social networking sites, and instead consider the way in which such sites are being used to understand their role in the subjective experience of loneliness. In examining the use of the social networking site, Instagram, among undergraduate students, Yang found that those who more frequently use Instagram to interact with others and to browse through the site report lower levels of loneliness. However, more frequent use of Instagram to post information that is not directed towards specific people was associated with higher levels of loneliness. Yang reasons that people who repeatedly post on such sites and do not receive a response from their followers may feel lacking in their ability to gain the attention of others. If this happens repeatedly it seems reasonable to assume that people may feel isolated from their followers. Yang's explanation is consistent with the suggestion that people's online social contacts may not always be an effective replacement for their offline social interactions (Yao and Zhong 2014) and suggests there will be differences between people in the extent to which social media use can actually meet people's social needs.

The question of whether people are able to use the internet to satisfy those social needs that are not being met in the offline world has been explored in relation to social anxiety. People who experience high levels of social anxiety typically fear their ability to make a positive impression on others in real-world social situations, and as such, they are more likely to avoid social encounters and experience loneliness (Clark and Wells 1995; Leary 1990). However, it has been suggested that when people who would usually have high social anxiety interact online, they experience less anxiety during these interactions (Yen et al. 2012) and may even appear less anxious to others (High and Caplan 2009). As a result, people who have high social anxiety tend to report a preference for online communication, such that they would rather talk with

others online and through text messages than via face-to-face conversation (Pierce 2009). In some respect this points towards the idea that digital technologies can provide a safe arena for people to communicate with others, allowing them to develop and practice social skills without the same perception of social risk they might otherwise experience in offline social interaction (e.g. the risk of negative evaluation from others). Indeed, Lee and Stapinski (2012) argue that people with high social anxiety perceive online communication as a safer way to interact because they feel they have greater control over the social situation. In support of this view, research has shown that for individuals who experience social anxiety in offline social settings, spending more time online is associated with perceptions of stronger social support and greater comfort with online interactions (Erwin et al. 2004). In addition, within the context of gaming, World of Warcraft players report they experience less loneliness and social anxiety in an online virtual environment than in the 'real' world (Martončik and Lokša 2016).

There are several reasons why someone may feel safer interacting through a computer-mediated channel and have a preference for online communication. Perhaps most importantly for those who experience great anxiety about how they are coming across to others during social situations, the lack of physical presence when interacting over digital technologies allows people more time to think about how to present themselves and what to say to others. Following Walther's (1996) Hyperpersonal theory, in online communication where there are reduced visual, auditory and contextual cues people may feel less self-conscious during social interaction. In line with this, within online social settings with text-based communication, people tend to be less self-conscious and more willing to engage in conversation with others than in face-to-face settings (Roberts et al. 2000; Wang et al. 2011). However, while these findings suggest interacting online provides a more comfortable environment for people to engage in social interactions, it is less clear whether this opportunity to practice social skills then transfers to offline social settings. Some have argued that certain aspects of online communication could provide people who tend to be socially anxious with an outlet to maintain relationships, which could then have an indirect effect on other areas of their lives (Green et al. 2016). Others

have argued that only those who already have strong social skills will benefit from their online social interactions. For example, the 'rich-get-richer hypothesis' (Kraut et al. 2002; Lee 2009) suggests that individuals who are sociable and are socially competent in their interactions with others are more likely to use the internet in a way that solidifies their pre-existing peer relationships. However, we need to acknowledge there are varying levels of online communication, and people are likely to differ in how comfortable they feel interacting within these. For example, Facebook has both public (e.g. status updates, wall posts) and more private (e.g. direct messaging) forms of communication. Research exploring these different ways of communicating online has found that people with high levels of social anxiety only feel less inhibited when using private forms of communication on Facebook because of the potential for control over the audience, and the increased level of privacy and trust with the audience (Green et al. 2016). Thus, theoretical work that focuses on comparing online and offline forms of communication may be too simplistic to capture the complexities and wide variety of ways in which people can communicate in online social settings.

Problematic Internet Use

The role digital technologies play in either alleviating or exacerbating feelings of anxiety and loneliness is unlikely to be uniform across individuals; there may be benefits for some (e.g. building social skills), while for others there could be more negative consequences (e.g. compulsive or excessive internet use). A number of research studies have shown that both social anxiety and loneliness can be associated with excessive and unhealthy use of the internet (Lee and Stapinski 2012; Morahan-Martin and Schumacher 2003; Yao and Zhong 2014). In recent years, the term PIU has been used to refer to the existence of a social phenomenon whereby people are unable to control their use of the internet, and this in turn causes marked distress and functional impairment in their daily life (Spada 2014). The conceptualisation of PIU is complex; on the one hand, people are spending more time using the internet as it becomes more a part of their lives, however, the circumstances

under which this translates as problematic or addictive behaviour are less clear. While there is a lack of consensus over how exactly to define what constitutes PIU, most definitions point towards use of the internet that adversely affects offline life. Such adverse effects include neglecting existing relationships, marital or family problems, difficulties at school or work, and health issues (Niemz et al. 2005; Milani et al. 2009).

Several theories have attempted to explain how PIU develops and how it is maintained. For example, Caplan (2003) argues that a preference for online communication among people with poor social skills can set the stage for PIU. Caplan states that this online preference draws people away from their 'real'-world relationships and responsibilities, and over time it becomes harder to control their internet use. Similarly, Davis (2001) suggests that the social context of the individual should be considered in understanding how PIU develops. His model of understanding PIU emphasises how social isolation and a lack of social support can lead to spending vast amounts of time on the internet, with no direct purpose. However, Davis additionally highlights the role of both distal and proximal contributory causes of PIU in this model. Distal causes refer to the way an underlying and existing psychopathology (e.g. depression, social anxiety disorder, addiction) becomes associated with a certain type of online activity in the development of PIU (e.g. compulsive gambling is directed towards online gambling). In addition, the model refers to proximal causes as the maladaptive cognitions people may hold in their thoughts about the self and thoughts about the world. Davis suggests the example of cognitive distortions people may hold such as 'The internet is the only place I am respected', and states that such cognitions are automatically enacted in the presence of the internet. This model therefore emphasises the need to consider what preceded the development of PIU, alongside a person's current thoughts and feelings.

The above theoretical work suggests that internet addiction could be the result of psychosocial problems, of which could include, but are not limited to, social anxiety and loneliness. A number of research studies offer support for this (Kim et al. 2009; Odaci and Kalkan 2010). For example, Lee and Stapinski (2012) found that social anxiety was a significant predictor of PIU, and this relationship was partially

accounted for by an individual's negative expectations about face-to-face social interactions. In addition, using an approach which drew on the insights and perspectives of young adults and health providers, Moreno et al. (2013) developed a framework emphasising that psychosocial factors such as loneliness and isolation could be key risk factors for the development of PIU. However, further research confirms that PIU may additionally exacerbate existing feelings of loneliness. Yao and Zhong (2014) showed that rather than providing a relief from negative psychological feelings, PIU increased feelings of loneliness over time suggesting a vicious cycle between loneliness and addictive internet use.

While it is clear from the burgeoning literature on PIU that excessive use of the internet can be dysfunctional for many people, the research in this area heavily focuses on personality correlates and negative physical and psychological consequences of PIU. This approach has been useful to some extent but it often fails to contextualise the issue of PIU. Loneliness and social anxiety are just some of a large number of psychological vulnerabilities that have been associated with PIU, others include depression and well-being (Marino et al. 2018), self-esteem (Niemz et al. 2005) and suicidal ideation (Kim et al. 2006), to name a few. In fact, the sheer array of factors found to be significant predictors of PIU has led theorists such as Kardefelt-Winther (2014) to argue that 'in terms of theory building the psychological approach has not contributed much to a better understanding of why some people keep using the internet despite experiencing problematic outcomes' (p. 352). Kardefelt-Winther moves away from the idea of PIU as compulsive behaviour resulting from various psychological vulnerabilities and instead suggests that PIU is more usefully understood as compensatory behaviour, whereby the internet is used to cope with difficult life situations. In his theory of compensatory internet use, Kardefelt-Winther suggests that negative life situations can give rise to a motivation to go online to alleviate negative feelings. He gives the example of an individual who experiences a lack of social stimulation in his life and is motivated to go online to socialise; such motivation is facilitated by internet applications that afford socialising such as social networking sites. Although the individual may get the desired social stimulation in the short term, in the long term he may become dependent on the internet

for social stimulation, and the amount of compensation required to attempt to alleviate negative feelings may lead to addiction-like symptoms. However, Kardefelt-Winther argues that for others this compensatory behaviour may be beneficial and may not necessarily lead to problematic outcomes (e.g. a few hours of compensatory internet use as a means of escape in response to school—or work-related stress). For example, some people who identify as socially fearful use the internet as a form of low-risk social approach and a way to rehearse their social behaviour and communication skills to help improve their interaction with offline, face-to-face, social environments (Campbell et al. 2006).

There is an argument that internet overuse and the 'symptoms' associated with this overuse could represent a normative shift in the way people communicate with each other, rather than representing something more pathological. A better understanding of the contexts, purposes and motivations for internet use will help to elucidate this. Through understanding the context of an internet user's life, the affordances provided by the online activity they choose to engage in, and their motivations for going online, we can better explain excessive use of the internet and the possible negative outcomes of this, without necessarily framing the behaviour as pathological. While it is likely that in some cases psychosocial problems (e.g. social anxiety) will play a role, contextualising the motivation for internet use could allow us to see whether its use is potentially effective or problematic.

Being Alone with Digital Technologies

In understanding what it means to be alone and the feelings that accompany this experience, research commonly focuses on the negative side of solitude (i.e. loneliness). However, the need to be on our own can sometimes be a positive experience and may even be essential for our well-being. For example, from late childhood to early adolescence, children increasingly spend more time on their own, and this reflects a desire and voluntary choice to be alone (Larson 1997). Importantly, this research further shows that this time spent alone is associated with increases in a positive affective state among adolescents. Similar findings from adults

show that the ability to comfortably spend and use time alone is significantly related to less depression and greater life satisfaction (Larson and Lee 1996). Digital technologies have an important role to play in the time we spend on our own. There are many examples of what might be thought of as solitary activities carried out using digital technologies (e.g. Mp3 music listening, watching YouTube videos, eReaders, solitary video game play and meditation apps). These are all examples of how we might use digital technologies in a way that allows us to spend time alone, but the idea that these activities are predominately solitary experiences might be questioned, particularly if we define solitude as a situation in which people have no immediate possibility for social interaction. For example, an adolescent using Minecraft to build complex constructions out of cubes has access to a multiplayer mode where she/he can interact and communicate with other players. There is an assumption therefore that certain forms of technology are inherently social, and it could be argued that it may not actually be possible to experience solitude with all the possibilities for social connection that digital technologies entail. However, having possible access to others is not the same as the immediate presence of others, and within this chapter, we define solitude as 'a state characterised by disengagement from the immediate demands of other people' (Long and Averill 2003, p. 23). This definition acknowledges that we often experience 'being alone' against the backdrop of our social relations, that is we can experience solitude while still being aware of the connections we have to other people.

Theoretical work on the benefits of solitude has the potential to show us what people might gain from using digital technologies to engage in solitary activities. Long and Averill (2003) identified several positive aspects of solitude including: (1) the opportunity for *freedom* to engage in desired activities, this includes both freedom from the demands and expectations of social constraints, and also the freedom to use solitary time in a constructive way; (2) as a means to facilitate *creativity* through allowing opportunities for imaginative involvement, reflection and reconceptualisation of the self; (3) as a place to experience *intimacy*—through feelings of connection with another despite being alone, the absence of the person can actually strengthen the feeling of closeness; and (4) the increased possibility for *spiritual* experiences and to focus

on spiritual concerns. The aim of the following section is to show how more positive aspects of solitude might be experienced through the use of different types of digital technologies. In particular, the following sections will discuss this in relation to the use of Mp3 players, gaming experiences and technologies designed for contemplation.

Being Alone with Mp3 Players

Mp3 players are portable music players that allow a user to download, store and then listen to music files while on the move. As Bull (2006) has stressed, people who use mobile listening technologies are unified by their desire to listen to music they have personally chosen, on their own terms, and when and where they want to. People can therefore use mobile listening devices, such as the Apple iPod, to create a space of solitude within different types of environments. In his research, Bull has shown how people use Mp3 players in their office space to create a solitary experience in which to work and how people attempt to negotiate crowded urban environments by using mobile listening to retreat from the chaos and uncontrollability of urban life. There are obviously limits to how solitary these experiences might be, and depending on where a listener is there is the possibility of being interrupted. However, it has been argued that the Mp3 player itself can act as a control over interaction with others, with headphones acting as a 'do not disturb' sign that signifies to others the listener is in a private space (Bull 2006; Skånland 2011, 2013).

The idea that mobile listening technologies may allow freedom from the demands of social constraints, and allow people to control aspects of their environment, has been explored in qualitative research with people who live or work in urban environments and regularly use Mp3 players. Simun's (2009, p. 922) research with individuals living in London showed that Mp3 players allowed its user to create 'uninterrupted personal sound bubbles', and importantly for people who live in urban environments, they provided a means to control the auditory environment. Similarly, Skånland's (2011) research with Mp3 users emphasises the 'bubble' created by the music as a private space where listeners can be left alone. For example, one participant stated, 'I shut out the world a little.

It's only me listening to that music; it's only me who knows how I feel then and there…no one asks you unnecessary questions, you're more at peace' (Skånland 2011, p. 25). This freedom from social constraint therefore gives listeners a sense of control over their immediate environment.

Simun (2009) suggests that the ability to control and disengage from the environment is an empowering process, allowing listeners to reconfigure their relationship with the spaces they navigate. Some have taken this idea further to suggest that Mp3 players can provide their listeners with more spiritual or other worldly experiences. Bull (2006) has written on how such devices can give their listeners a feeling of 'specialness' while on the move. Through being able to aestheticise their surroundings, Bull argues that listeners could transcend 'the often-mundane reality in which they were placed' and give it personal significance and meaning (2006, p. 135). Interestingly, recent qualitative research into the use of mobile music technologies while running has shown that listening to music while running can allow a temporary release from reality (Kerrigan et al. 2014). The authors of this research argue that the musicalisation of running can be characterised as a hedonic experience in which runners are escaping the stresses and humdrum nature of life. As such, the way that people engage with Mp3 players may help to change how they construct their relationship to the outside world and may even transform their current experience.

The ability to reconfigure current experience is consistent with the idea that mobile listening devices can be used to regulate and manage our own thoughts and feelings. For example, Bull (2006) has argued that not only do people select what they listen to according to their mood, but they use their personal sound bubble to control 'internal chaos' and channel unwanted thoughts. This view is consistent with research that shows solitary music listening can be stress-reducing when people use it for the purpose of relaxation (Linnemann et al. 2016). In addition, it has been shown that Mp3 players can act as a coping resource, making everyday experiences more manageable and even helping people to redirect their thoughts away from more destructive ruminative thinking styles (Skånland 2011). Taken together, the above research suggests that some forms of digital technologies, and the disengagement from the social they provide, may in fact make an important contribution to our emotional well-being and our ability to cope with everyday life.

Solitary Gaming

In understanding people's motivations for playing video games, Sherry et al. (2006) revealed six principal motivators for gaming; these included playing for competition, challenge, social interaction, diversion, fantasy and arousal. Within this list of motivators, there seem to be reasons that relate to social gratification and others that relate more to personal or ego-centred gratifications. It seems likely that different player modes within games could be associated with different types of motivations for engaging with them. Many current video games allow people to choose between a solitary game play mode and multiplayer modes where gamers either play with strangers or people they are familiar with. In addition, in some games a multiplayer mode may not be possible, and the game may be seen as being played in a truly solitary manner. While existing research has explored the opportunities and experiences provided by social game play (see Domahidi et al. 2014), less research has focused on the effects and experiences of solitary gaming. Initial research comparing solitary and social gaming suggests when people play games alone they display more aggressive tendencies than when they play cooperative video games (Jerabeck and Ferguson 2013). However, following Long and Averill's (2003) theoretical work on how solitary experiences provide freedom from social constraints and can facilitate creative opportunities, it seems possible that people could experience these more positive aspects of solitude through solitary game play.

Are there specific reasons why people might enjoy or dislike the different modes of gameplay available within a game? Vella et al. (2016) explored this question within the context of solitary and social game play, and how these forms of game play might impact on the player experience. In relation to solitary play, they found that gamers specifically drew on reasons such as feeling more immersed in the game, being able to relax and escape from the world, the absence of pressure to play the game well in front of others, and to avoid unpleasant social interactions with other gamers that can be experienced during game play in multiplayer modes. These reasons were not mentioned by gamers who engage in social game play, suggesting that they exclusively explain what might drive people towards solitary gaming. However, it is important to note here that social

gaming is not necessarily engaged in for social reasons. In understanding individual differences in game genre preferences, research has shown that the social side of gaming and the opportunity to meet others tends to be a byproduct of playing multiplayer games, rather than the goal for engaging in this type of gaming. Instead, gamers drew on more ego-centred gratifications such as personal interest in exploration or improvement of competence rather than social gratification (Scharkow et al. 2015).

In further research exploring solitary game play, Vella et al. (2015) compared people who played video games socially (e.g. online or offline with strangers or familiar people) with those who played games on their own. They examined differences between these groups in their emotional responses to playing games and measured aspects of their well-being. As might be expected, Vella et al. found that solitary game play was characterised by greater experience of autonomy, suggesting that players were free from the limitations of social obligation while playing. In addition, this experience of autonomy predicted higher levels of well-being for solitary players. They also found that solitary play was associated with a stronger sense of presence. In this context 'presence' refers to 'the sense that one is *within* the game' (Ryan et al. 2006, p. 350). Although it could be argued that people who are more susceptible to immersive gaming experiences are more likely to play on their own, this finding could also suggest that people who play on their own may experience a more immersive form of game play than people who play video games socially.

Digital Technologies for Contemplation

In many ways the idea that we could use digital technologies for contemplation seems counter intuitive, and few would think of turning to their smartphone to enable themselves to engage in a period of deep, reflective thought. Indeed, Carr (2010) argues that the way we are using the internet is preventing our minds from thinking deeply or creatively. He predominately focuses on such activities as browsing and information searching and refers to such activities as 'technologies for distraction', which chip away at our capacity for concentration and contemplation. Similarly, Turkle (2011) discusses how we have created

a culture that has decreased the time available for us to sit and think uninterrupted. Turkle takes this a step further to argue that we are 'tethered' to our technological devices, in a way that means these devices are increasingly coupled to our sense of our bodies and minds, and as such, it is increasingly difficult for us to function independently of their demands. However, while Turkle may argue that our use of devices such as smartphones has stripped us of the time that we might have spent daydreaming or mind-wandering, others would argue that the way we often use the internet in fact reflects this need for unfocused mental activity, and that there are examples of people using the internet and their smartphones for more contemplative and reflective purposes.

The idea of 'contemplative computing' or 'slow technology' challenges the view that digital technologies are necessarily distracting and demanding, and instead puts forward the proposal that technology can be used for self-discovery, and even spirituality. The term techno-spirituality has been used to refer to technologies that can be used to facilitate spiritual practices, and in some cases encourage experiences of awe, wonder, transcendence and mindfulness (Bell 2006; Buie and Blythe 2013). There are several recent examples of technology being used to support such spiritual experiences, and meditation applications like Headspace and Buddhify may help to facilitate meditative practices (Mani et al. 2015). While research on techno-spirituality is still in its early days, there is some evidence to support its efficacy. Vidyarthi and Riecke (2014) describe *Sonic Cradle* as a system designed to experientially motivate and teach mindfulness meditation. Users lie in a type of hammock in the darkness to give the feeling of being comfortably suspended, they can then control and shape sounds heard around them through their breathing. The aim is to bring the users' awareness towards how the sound is being shaped by their breathing, and ultimately to teach them how to re-gain this focus in their daily life. Vidyarthi and Riecke analysed interview data about people's experiences using Sonic Cradle, to see whether their experiences were comparable with previously documented beneficial effects of mindfulness meditation. Their findings showed that their participants consistently reported subjective elements of mindfulness, including reference to imagery, bodily sensations and time distortions. Although the conclusions drawn

from such research can only be tentative, further research supports the idea that certain types of technology can be used for meditation practice. Buie and Blythe (2013) analysed comments posted in response to meditation videos posted on YouTube. They found that while many of these comments were 'remarks about the videos' and 'responses to other comments', the largest overall category of comments described 'subjective experiences and feelings' undergone by the commenter while viewing the video. These comments suggested that viewers found the videos effective in terms of helping them to relax, feel calm and sleep; to help them focus on or carry out other activities; and to experience a feeling of being 'elsewhere'.

Conclusions

This chapter has brought together the ways in which we might experience being alone when we engage with digital technologies. In exploring the links between technology use and loneliness, it seems that broadly addressing whether technology use increases or decreases our experience of loneliness perhaps oversimplifies what people experience when they engage with different types of technologies and social networking sites. Clearly, there are differences between the sites and platforms where people socialise online, and these could differentially affect our experience of intimacy and our sense of belonging. An approach that focuses on linking loneliness to how frequently we use a particular technology fails to account for why people are drawn towards that technology, what it is that people are doing online and how the technology is being used. For example, do certain people find it easier to interact online, is it a place where feelings of loneliness can dissipate, or are certain people becoming increasingly dependent on the technology as a way to escape from or connect with others? This chapter has also acknowledged the ways in which technology can be used to carve out spaces for being alone, as a deliberate attempt to disengage from the social, but also as a way to reconfigure our current experience, which could even have potential

benefits for our mental well-being. However, while it seems that such solitary activities may carry beneficial effects for the individual, we should acknowledge that our desire to use technology in a solitary way could negatively impact on our connections with those around us in the immediate physical environment. Our attempts to transform our current experience through the use of technology need to be understood within the context of where, and who else is present when, we choose to engage with that technology.

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8

Growing Older

Older People[1] and Digital Technology

Digital technologies like mobile phones, computers and the internet only started to become a significant part of everyday life in the 1970s and 1980s, and at that time, it was still possible to reach retirement without ever having been part of any digital revolution. Since then, these technologies have become increasingly common in the workplace and at home. Some form of digital interaction now underpins most everyday activities whether it be shopping for groceries, paying bills, accessing a bank account or completing government forms to pay taxes (UK Government 2012). It has become increasingly difficult for older people to accomplish these activities without some digital literacy. At the same time, major elements of news, entertainment, civil and social life have also migrated to online and mobile platforms. The internet provides greater access to radio and television programmes as well as

[1]Research can be quite variable in terms of how it defines an 'older' person. In this book we are concerned with the psychosocial life stage that characterises later life (e.g. Erikson and Erikson 1998) and are generally commenting on this age range. In most developed societies this is signalled by retirement age (e.g. in uk it is 65+ for men and 64+ for women).

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linking viewers to other online sources of connection through social media. Interacting with younger family members is also more likely to happen through some form of digital connection particularly if there are great distances between family members. Older people who are not online and have not developed the necessary digital skills are now likely to be at a distinct disadvantage in terms of their involvement in society as well as their access to specific financial and social opportunities. Digital exclusion of this kind can exacerbate some of the economic and social inequalities already experienced by older people, and this is still the reality for millions of older people (Van Dijk 2005).

Although an increasing number of older people are going online and using mobile phones, there is still a sizeable minority that continue to live without recourse to these technologies. In the UK, 82% of those aged 55–64 are now online (compared with 73% in 2011) and 65% of those aged 65–74 (compared with 55% in 2011). At the same time, only 44% of those over 75 are online (compared with 26% in 2011) (OfCom 2017, 2011). In the USA, internet access and use is slightly higher with 79% of 65- to 74-year-olds online and 52% of those over 75 (Pew Internet 2017). Meanwhile, in Europe, there are variations across the continent with higher use in the more industrial northern countries like Denmark (76% of 65- to 74-year-olds) and Germany (47% of 65- to 74-year-olds), but lower internet penetration in the southern countries like Greece (12% of 65- to 74-year-olds) and Italy (19% of 65- to 74-year-olds) (EC 2014). Mobile phone ownership has been more popular among the older generation with 88% of 55- to 64-year-olds now owning one in the UK, 75% of 65- to 74-year-olds and 60% of over 75s (OfCom 2017). Again there is slightly higher ownership in the USA with 94% of 65- to 74-year-olds and 61% of over 75s (Pew Internet 2017).

While there is a clear trend towards ownership and use of these new technologies, it is well known that older people are likely to resist their adoption (Rogers 1995). The reasons for them avoiding the internet may be down to cost, age-related impairments, a lack of experience with similar technology, poor education, a general distrust of the internet (van Deursen and Helsper 2015) or a perception that such technologies are unlikely to be relevant or beneficial to their lives (Selwyn et al. 2003).

Those who have encountered computers during their working lives may have relevant skills but retain some ambivalence towards using them in retirement. Social contact seems to be the most significant motivation for becoming digitally connected especially when younger relatives are already online (Hill et al. 2008). The most likely to be digitally excluded are the 'oldest old', (i.e. those over 75) who have never used computers before and are already experiencing social isolation (Czaja and Lee 2007).

Government policies aimed at getting more older people online tend to focus on the economic and social benefits of digital inclusion (UK Government 2017; EC 2016), while Cyberpsychology research also emphasises the social and psychological benefits of digital technology in terms of their potential for reducing social isolation and increasing well-being (Heo et al. 2015). Neither of these approaches consider the possible negative psychosocial impacts that may accompany adoption some of which have already been well documented among younger age groups. For instance, there is no mention of problematic patterns of use or increasing digital dependency as risk factors for older users. As well as these post-adoption issues, it is likely that older people will experience some fear or 'technology anxiety' when they first encounter new forms of digital technology, hampering initial use and adoption (Czaja et al. 2006; Kurniawan 2008). User interfaces, which are often designed for a younger demographic, can also complicate first encounters (Curran et al. 2007).

What Purpose Do Digital Technologies Actually Serve for Older People?

Ageing brings with it an inevitable process of physical and cognitive decline. Energy levels reduce, physical dexterity is lost, senses become dulled, remembering and processing information becomes harder, and the ability to multitask diminishes (Farley et al. 2011). These 'diminishments of ageing' can frustrate initial encounters with digital technology and hinder the establishment of lasting competence with them. However, digital literacy can provide older people with new ways to adapt to the ageing process, and this can help them to maintain independence and well-being through this period of their lives (Czaja et al. 2006).

Opportunities for social interaction and self-expression are also likely to diminish with increasing age as we become less physically mobile and unable to travel long distances to socialise. An older person's peer group is also likely to reduce as their generation of family and friends starts to die. While the ability to establish and maintain social ties may be complicated by the ageing process, digital technologies do offer ways of maintaining existing social connections and establishing new ones, continuing the process of psychosocial and self-development.

Cognitive Adaptation

Gerontologists have identified three distinct ways that older people adapt to cognitive decline with increasing age: through *selectivity*, *compensation* and *optimisation* (Baltes and Baltes 1990). Digital technologies offer ways to support these different adaptations and mitigate against cognitive decline. Here, we explore these adaptations to ageing as ways of understanding older people's digital engagement in lieu of cognitive decline.

Selectivity describes the way that older people will tend to narrow their life goals as they get older in order to focus limited energy and attention on fewer, more important, meaningful or perhaps achievable goals. This may express itself in terms of a narrower focus to daily activities or the number of friends they are willing to keep in touch with: all with a view to quality rather than quantity. For some older people, this may involve the initial decisions to adopt new technologies like the internet or mobile phones. For those who are already tech-savvy selectivity may be expressed through the specific choices that they make once connected, i.e. what apps or websites they use or what kinds of people they choose to interact with once online. While older people should not be considered as a homogenous group (Gregor et al. 2002), they do tend to have a narrower set of uses for the internet and mobile phones than their younger counterparts (OfCom 2017) and these uses often relate to their ageing status. Common motivations for older people to start going online are to do with communication and social support, pursuing leisure activities, seeking certain kinds of information (Wagner et al. 2010) and completing everyday tasks. Mobile phones on the other hand are often adopted as 'safety devices' which allow

continued independence from the home in spite of increasing frailty or fears of falling (Plaza et al. 2011). Numerous studies have shown the importance of computers, the internet and mobile phones as enablers of communication and social support with friends and family members, particularly where distance is an obstacle to closer everyday contact. Older people seem to prefer digital forms of communication that allow full expression of their personality and enable them to develop close emotional connections with those they are communicating with (Lindley et al. 2009). They are likely to engage in *socioemotional* selectivity (Carstensen et al. 1999) while using digital communication devices, which prioritises long-standing relationships with family and friends and the development of emotional intimacy and trust as part of communication. What others have referred to as 'strong ties' (Granovetter 1983) or 'bonding' forms of social capital (Putnam 2000). These socioemotional choices contrast sharply with those of the youngest generations who are more likely to favour brief (perhaps even superficial) interactions and opportunities for making new friends (Brandtzæg and Heim 2009); relationships which are referred to as 'weak ties' (Granovetter 1983) or 'bridging' forms of social capital (Putnam 2000).

Socioemotional selectivity underpins much of older people's use of mobile and computer-mediated communication (CMC) and is evident in their preference for the telephone, for voice calls over text-based communication (Pecino et al. 2012), their long-standing appreciation of email as a medium for considered writing (Lindley et al. 2009) and more recently their reluctant involvement in social networking sites (SNS). Most older people are put off by what they see as the trivial and narcissistic nature of SNSs like Facebook (Lehtinen et al. 2009), but some do stick with it, favouring a passive consumption of their family's content rather than the public sharing of their own lives (Harley et al. 2016).

Selectivity also comes into play when older people use the Web as an information source. The most common things that they seek information about are related to their life situations with ageing bodies and retired lifestyles. Health concerns are the most common starting point for older Web users, with them checking physical symptoms or seeking clarification after visits to health professionals. These searches are likely to be about the medical diagnoses they have received, the prognoses, prescribed drugs or treatment (Medlock et al. 2015).

Retired older people are more likely than younger generations to have spare time but probably less money to invest in leisure pursuits (Van den Bogaard et al. 2014). This means they are likely to spend time online researching products, services and travel options before committing to an online purchase (Vroman et al. 2015). Older people who adopt the internet in later life are initially distrustful of it as a place to conduct financial transactions but very quickly start to see the benefits of online shopping or banking which does not involve leaving home (Sorce et al. 2005). The internet has also proven itself to be a valuable resource for supporting existing offline leisure activities both as an information source and as a place to meet and interact with those who have the same hobbies or interests (Vroman et al. 2015). Research has shown its significance in supporting genealogy research (Weatherall 2000) and in assisting plans for travel and tourism (Nimrod 2012).

Compensation describes how older people adapt to ageing by replacing their own diminished capacities in certain areas of their life with some kind of external (perhaps digital) support. This may involve taking more written notes to aid memory or using a hearing aid to compensate for poor hearing. Digital technology is commonly enlisted in a similar way; for example, a mobile phone's address book and alarm functions may be used as memory aids (Kurniawan 2008), or an older person may start shopping online if their mobility reduces (Vroman et al. 2015). Indeed, accessing the internet may be viewed as the compensatory activity par excellence giving older people the ability to connect with other people, services and information even when their state of health or mobility may curtail activities outside the home. Perhaps, the other most obvious way that older people compensate for their own failing capacities is by relying on other people to help them out. The internet and mobile phones are significant to older people in providing ways to access practical and emotional support from family and friends even if they live far away. The internet can also provide opportunities for establishing new relationships and accessing certain forms of social support (e.g. Wright 2000b; Xie 2008b). We consider the possibilities for these kinds of relationships in more detail when we later consider psychosocial development.

Optimisation involves using and developing existing skills to the best of one's ability in order to sustain those same capacities for the future. Offline activities such as crosswords, sudoku and card games are all used in this way to exercise memory and maintain cognitive capacity. In the digital era, apps and video games are beginning to be used in a similar way and there is evidence that digital interaction can play a role in optimising older people's cognitive abilities. Just browsing the Web and using email can have a positive impact on older people's cognition, increasing an older person's speed of processing, their selective attention, cognitive flexibility and short-term memory (Vance et al. 2007; Slegers et al. 2009). Although early engagement with computers and the internet can provoke anxiety, this seems to be one of the pay-offs.

Video games seem to hold similar potential, and although they are often seen as a stereotypical young person's activity, there is a growing trend for people to continue playing video games as they age with 27% of over 45s (and 11% of over 55s) playing them in the UK (ISFE 2012) and 26% of over 50 s in the USA (ESA 2017). Some game playing is a deliberate attempt to mitigate against physical and cognitive decline although video games may also be used for entertainment purposes or as a way of socialising (IJsselsteijn et al. 2007). The particular cognitive effects will depend upon the type of game and the nature of the digital interaction within it. Simple action games like Pac-Man or Tetris will improve an older person's reaction times (Goldstein et al. 1997), their processing speed and visual spatial skills (Zhang and Kaufman 2016a). More complex action games like first-person shooters (e.g. Call of Duty) will also improve attentional control, multitasking, task switching and visual short-term memory (Anguera et al. 2013; Stern et al. 2011). Real-time strategy games (like Civilisation or Rise of Nations) involve long-term planning and can improve broader cognitive processes related to executive function, memory and reasoning (Basak et al. 2008).

This whole appreciation of computer games as a 'cognitive optimiser' for older people has even spawned a new area of software development known as 'brain training' (e.g. Nintendo's Brain Age brainage.nintendo.com and the Lumosity app www.lumosity.com). Studies show that such games can also improve executive function and processing speed, but not attention or global cognitive status (Nouchi et al. 2012).

Despite these apparent cognitive gains (as with children), there is some debate about how or whether they transfer beyond the digital context and into everyday life (Boot et al. 2013; Stanford Center on Longevity and Max Planck Institute for Human Development 2015). Older people's selectivity may also be an issue here. It seems that older people prefer to play games that are easy to learn and play, but also challenging, i.e. the kinds of puzzles and strategy games that have limited transferability (Salmon et al. 2017). However, even with these misgivings, it seems that games can still be beneficial. Playing video games often invites a more playful attitude towards using computer technology which can help older people to deal with their underlying anxieties (i.e. technology anxiety) about learning to use digital technologies (Webster et al. 1992).

Digital Engagement as an Opportunity for Ongoing Psychosocial Development

It should be remembered that the process of getting older is not just about dealing with the 'diminishments of ageing'. It is also a period of ongoing psychosocial development where an older person's place in the world is being redefined, their relationships transformed and new ways of being start to emerge (Erikson and Erikson 1998). While this is by no means the exclusive domain of digital technologies, they can and do provide older people with new avenues for creatively expressing themselves, for staying connected to others as well as opportunities for establishing new roles and identities.

For most older people, any digital transformation of their social relationships is likely to come through their existing family and friend networks (Lindley et al. 2009; Chang et al. 2015) with digital connections helping them to stave off loneliness, strengthen emotional bonds, establish caring roles within the family and affirm new generational identities (Siibak and Tamme 2013). Rewarding social relationships are significant in determining ongoing happiness and subjective well-being for older people (Myers and Diener 1995), and grandchildren can be particularly important in this regard. They are a major source of pride for older people

and can give them a sense of purpose in retirement, often motivating initial adoption and use of digital technologies and media (Luijkx et al. 2015). Studies show grandparents striving to accommodate their family's digital preferences so that they can maintain good contact with them. They will use email (Harwood 2000), blogs (Harwood 2004), Skype (Harley et al. 2016), Facebook (Jung and Sundar 2016) and photo and video sharing SNSs like Facebook and YouTube (González et al. 2012) in order to do so.

Increasingly grandparents are using digital media as vehicles for expressing and receiving love, affection and relational solidarity within their families (Harwood 2004). When family members are geographically dispersed, these forms of connection allow important events, family knowledge and everyday awareness to be shared. Parents will post about their young children and share photos of them (e.g. birthdays and walking their first steps) in order to keep grandparents abreast of developments in their lives (González et al. 2012). In this way, grandparents are kept up to date with their younger family, but they will use more direct digital means themselves to show affection, express kinship and offer advice. They may also act as custodians of family tradition using digital media to impart a sense of family values, share family stories, memories and knowledge (Harwood 2004). A family's digital interactions tend to be 'asymmetrical' in the sense that each generation has its own digital preferences. While younger family members are usually quite happy to post family content in the public forums of Facebook or YouTube, grandparents are less so.

When it comes to publicly 'open' SNSs like Facebook, Twitter or YouTube, older people generally have a very different take on their use. They will use them to keep in contact with family or as points of contact for offline groups like film societies or bowling clubs (Harley et al. 2016). They may even look up old friends and family, but they are much less likely to use them as a place for expressing themselves or making new friends as younger family may do. In fact, SNS use remains a minority activity among the older generation. In the UK, only 31% of 65- to 74-year-olds have a social networking profile and 18% of the over 75s (OfCom 2017). In the USA, 45% of 65- to 74-year-olds and 20% of over 75s (Pew Internet 2017) are using SNS, while similar north–south

variations persist among 65- to 74-year-olds in Europe with the following adoption of SNS: Denmark 29%; Norway 27%; Sweden 33%; Iceland 53%; France 9%; Germany 6%; and Greece 4% (EC 2014).

Grandparents are more likely to initiate contact with their families through more interpersonal, one to one forms of communication media such as the telephone, email, Skype or Facebook messaging (Harwood 2000). Moments of simultaneously shared enjoyment are also possible online through blogs (Harwood 2004) and video games (Chen et al. 2012). Relationships between grandparents and grandchildren are particularly important as they provide opportunities for gaining knowledge and awareness of other generations that may be hard to find elsewhere in everyday life (Vanderbeck 2007). Intergenerational contact of this kind gives both parties an opportunity to revise their stereotypes of the 'young' or 'old' on the basis of direct contact with a known relative. These relationships can reduce negative perceptions of ageing and patronising tendencies in the young (Nelson 2005). At the same time, they give grandparents an opportunity to confront their own stereotypes about the young and learn about youth culture. This can have a positive impact on an older person's well-being, helping them to feel young (Harwood 2000).

Other research shows that the internet can act as a 'third place' (Oldenburg 1999) for older people, providing convivial spaces where they can spend time with others outside of the family in much the same way as they might do in a pub or by joining a society. Indeed, this could be a particularly important opportunity for those older people who do not have family connections available to them. Online communities, SNSs and online gaming communities can all act as third places where older people can make new friends and take social 'risks' (Harley et al. 2016). The kinds of relationships that emerge in this way are often significant sources of fun and companionship (Nimrod 2009), being based on principles of shared enjoyment and equality, principles that may not be part of family relationships (which often come with responsibilities and obligations) but significant for an older person's well-being none the less (Rook 1990). Studies of elder-specific online communities show that while interactions are often framed around intellectual stimulation and shared interests relating to being an older person (e.g. retirement, family, health, work and study, recreation, finance, etc.), this usually

takes place with an overriding sense of fun and good humour (Nimrod 2009; Xie 2008a). Explicit fun activities are used to foster this attitude with trivia, word games and limericks encouraging playful interactions (Nimrod 2010). In one Chinese community called OldKids, they even sing for fun as part of their group voice chats (Xie 2008a).

Although relationships formed inside these online communities tend to be based on companionship, they may also develop into more significant sources of emotional support. During difficult life events, they can offer a 'sounding board' to talk through troubling personal and family issues (Wright 2000b). Offering moral support, encouragement and sympathy, these communities can help to lower the experience of life stress for their fellow members (Wright 2000a). As relationships become more intimate, they tend to migrate from the public forums to more intimate and personal modes of interaction such as synchronous instant messaging and video chat (Xie 2008a). In some cases, community members even get to know one another face to face leading to more tangible and immediate forms of support (Xie 2008b; Harley et al. 2016).

Online games can also act as third places for older people where they can meet, socialise and collaborate with others as part of gameplay. Studies looking at older people's involvement in massively multiplayer online role-playing games (MMORPG) such as World of Warcraft show that although existing family and friends are still likely to be very present as part of these online collaborations, new friends are also likely to emerge while playing the game together. Overtime gaming companions may develop their relationships beyond the game and into real life (Zhang and Kaufman 2016b; Schiano et al. 2011).

Older People and Their Digital Selves

Although computer anxiety may be a stumbling block for some older people, those who persevere and acquire a competence with computers and the internet will develop their own online presence. This can increase their self-esteem and reinforce a broader sense of self-efficacy in the rest of their lives (Karavidas et al. 2005). Each online context presents an older user with new and unique ways to present themselves to

the world, offering varying degrees of anonymity and opportunities for self-expression. At best these can give voice to aspects of the self that are inhibited by immediate social situations, bound by age-appropriate expectations of family or by the limited social opportunities that derive from long distances, ill health or poor mobility. They can also be places where deception and idealised notions of the self may emerge. The socio-technical nature of these interactions has distinct implications for how an older person's digital selves will develop.

As we have already highlighted, SNSs like Facebook and Instagram are not great forums for older people to express themselves in. These platforms have made a virtue of sharing 'transparent' digital profiles where one's physical appearance and age are congruent with the 'real' person. While the availability of this real-world knowledge has helped to create a sense of safety for younger Facebook users, we should remember that this builds on a model of social interaction that was developed for and by young adults. Facebook was initially designed as a social network for undergraduate students. Even now the majority of Facebook users (59%) are aged between 18 and 34 (Statista 2017), and the average age of a Facebook developer is likely to be around 29.6 years of age (Stack Overflow 2016). This age bias has brought in some of the ageism that is endemic in broader society with ageist stereotypes commonly being expressed in the more public spaces such as Facebook groups (Levy et al. 2013).

While younger Facebook users are keen to engage in social comparisons with their peers because they want to meet new people, start relationships and fit in, older Facebook users are unlikely to do the same (Ozimek and Bierhoff 2016). When older internet users encounter SNSs, they recognise them as places for the young, and this explains their lack of enthusiasm for them and their aversion to self-disclosure in these public platforms (Nosko et al. 2010).

Older people are more willing to 'put themselves out there' online when they are interacting in more anonymous spaces where they feel that they have the freedom to express themselves without age-based judgment or when they know they among their peers. Virtual worlds and online games like MMORPGs provide avenues for older people to express themselves online. In these contexts, users create avatars to represent themselves in the virtual world, and this allows different aspects of

the self to be explored that are not based on age. Previous research with younger players of MMORPGs has shown how important identity 'play' can be for enjoyment of the game, allowing personal dilemmas to be worked through by role-playing (Turkle 1995). Studies of older people's use of virtual worlds like IMVU and Second Life show that although roleplay is part and parcel of involvement, it is less significant to older users. They are more likely to treat such spaces as extensions of their real life offering an opportunity to meet real people rather than as a form of escapism (Siriaraya and Ang 2012). Their approach to identity play is more about fitting in and will tend to emphasise generosity and politeness in communications with others (Martey et al. 2015). The avatars that they choose tend to stick close to their actual human form rather than alternative genders or fantastical beasts but interestingly are likely to be based around a younger persona (Ducheneaut et al. 2009). This may reflect some form of ideal self, an internalised form of ageism or even a wish to not engage the ageist stereotypes of younger players, but this is difficult to ascertain from existing research (Martey et al. 2015).

Older people are more likely to disclose personal details when they are in elder-specific online communities and in online support groups pertinent to older people's concerns. In these spaces, self-disclosure is essential for developing friendships and establishing emotional support (Pfeil and Zaphiris 2009). Blogging is another area of digital engagement that older people will sometimes explore for self-expression online (Argamon et al. 2007; Harley and Fitzpatrick 2009a). Blogs are a form of online diary which allows the author to be highly reflective and simultaneously to broadcast their thoughts to the world. Studies show that blogs can be particularly beneficial as a focus for older people engaged in 'life review' (Harley and Fitzpatrick 2009a), a process of reminiscence identified by Erikson and Erikson (1998) as central to later life. Through life review, an older person revisits major life decisions and events and re-evaluates who they are in the present. At best this process allows them to come to terms with past difficulties and integrate them into a revised view of the world and their place in it. At worst it can lead to rumination and regret. Blogging provides a means for documenting one's life history and reflecting upon its significance (to others and oneself) at the same time.

YouTube video blogger (or vlogger) Peter Oakley is one example. When he was 79, he started vlogging as a vehicle for his life review, telling the story of his life to a YouTube audience under the pseudonym of Geriatrc1927 (https://www.youtube.com/user/geriatric1927). In his vlog, he recounted tales of his World War II experiences, his family growing up and his lifetime fascination with motorbikes (Harley and Fitzpatrick 2009a). For Peter who was living on his own after his wife had died with limited mobility, this was a transformative experience that continued for 8 years until his death in 2014. Peter's 'life review by vlog' helped him to come to terms with his life situation and boosted his self-confidence. It gave him an opportunity to explore other forms of self-expression that went way beyond life review, recording songs, performing comedy sketches and cookery videos. His vlog put him in touch with people of all ages across the planet, and over time, he developed a number of close friendships with other YouTubers with them visiting him at his home. He also developed something of an 'elder' role within the YouTube community responding to teenagers' concerns about modern living showing the value of an older people's presence in such a youth-dominated medium (Harley and Fitzpatrick 2009b).

Research into identity in later life shows that opportunities for expressing oneself through different social identities can be important for maintaining the integrity of the self as one gets older and a sense of well-being (Haslam et al. 2009). As we age, these opportunities diminish as social opportunities and work roles disappear. It seems that involvement in virtual worlds and blogging platforms has potential in this regard.

Understanding Older People's Digital Engagement in Context

As well as bringing technological advancements in daily living, the process of industrialisation has brought particular demographic changes to the developed world. People in these countries tend to live longer while at the same time they are having less children. We now have 'ageing societies' with a disproportionate number of older people in relation

to the younger generation and concerns over how this may affect intergenerational dynamics (Harper 2014) and the experience of ageing. Industrialisation has also increased the processes of economic migration with greater family dislocation and intergenerational segregation. Different generations tend not to live together or in the same neighbourhood anymore meaning that younger generations are now less likely to be directly involved in the care of their elderly relatives (UN 2007). These demographic changes mean that older people are at risk of being more socially isolated than ever before in their local communities (McCarthy and Thomas 2004). When social isolation turns into loneliness, it can have a corrosive effect on an older person's physical health and psychological well-being (Tomaka et al. 2006). Long periods of loneliness are likely to lead to depression (Cacioppo et al. 2006), cognitive decline (James et al. 2011) and even a shortening of life (Rook and Charles 2017). Issues such as poor health and mobility, spousal bereavement and family estrangement can further compound the effects of loneliness.

Governments are particularly concerned about how they will manage the increasing care demands of these rapidly ageing populations. One of the ways that they are hoping to address this is by encouraging the uptake and use of computers and the internet by the elderly as a way of reducing loneliness and encouraging more informal modes of care and support (UK Government 2017). There is evidence of course that digital connections can reduce loneliness (e.g. Fokkema and Knipsheer 2007), and clearly, many older people themselves are motivated to use the internet for social support. However, it is important to be clear about what part digital technology can play in addressing loneliness and to not be drawn in by technologically determinist arguments. The underlying issues are as much about people as they are technology and as scholars of cyberpsychology we should be wary of asserting any simple social or psychological 'effects'.

At present, some of the 'risks' of this digital imperative (i.e. getting more older people online) are not fully acknowledged or well understood. It is assumed that those older people who eschew the digital world do so out of ignorance and are missing out on obvious benefits. However, Cyberpsychology research has already shown that there are

risks involved in going online that have been largely ignored in relation to the older generation. We know for instance that increasing internet dependency can negatively affect sleeping patterns, mood, anxiety and loneliness (Kuss et al. 2014), but we know very little about how older people deal with such issues. In fact, an overreliance on the internet as a source of social contact can sometimes reflect the loneliness in a person's 'real' life rather than any substantial change in daily human contact (Yao and Zhong 2014; Sum et al. 2008).

Finally, there are concerns about whether older people will have an equal voice in the now dominant forums of SNS where 'transparency' and a willingness to share personal details in public are the new norm. Digital exclusion is no longer about having the right equipment to access the internet or having the prerequisite skills to surf the Web. Participation in everyday life now depends upon this new attitude to sharing that most older people find difficult to swallow.

Conclusions

In this chapter, we have examined the changing experience of ageing in the digital world. With digital technologies now pervading every aspect of daily life, it is becoming increasingly difficult for older people to exist without some form of digital literacy. Digital technologies clearly provide older people with opportunities for dealing with some of the psychological dilemmas of ageing through selectivity, compensation and optimisation (Baltes and Baltes 1990). They also provide new social opportunities which allow older people to maintain contact with their distant family and friends as well as places to meet new people and have fun. However, the ability of digital technologies to solve the problems inherent in ageing societies is limited. Cyberpsychology should work towards informing government policy on the risks involved in greater digital inclusion.

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9

Dying

> Struggling to cope with the tragic loss of her partner Ash, and after discovering she is pregnant, Martha reluctantly decides to try a new online service in which a virtual reality 'Ash' can be created out of information gleaned from his online communication s and social media profiles. Now Martha feels she can communicate with her dead partner, first through instant messaging and then (when she uploads videos and photos) by hearing his voice over the phone as she updates him about the pregnancy. When Martha panics after the phone is damaged and she loses touch with the service, 'Ash' tells her about the next experimental phase of the service – a synthetic body into which the programme can be uploaded. But, after creating an android 'Ash', Martha is uncomfortable with the android's pliability and lack of habits and traits which characterised the living Ash. Martha finds herself stuck – unable to destroy 'Ash' but unable to live alongside him.

This a synopsis of 'Be Right Back' from the British Science Fiction anthology series *Black Mirror* created for television by Charlie Brooker, which depicts the dark and unanticipated consequences of new technologies in the context of death and grieving. Although fictional, the themes in this programme reflect some of the issues about death and dying which Cyberpsychology is grappling with including: the

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persistence of digital identities beyond physical death, mechanisms for maintaining relationships with the deceased after death and the implications of new technologies for the process of mourning and grieving. Although an android afterlife is not yet commonplace, online memorials within Social Networking Sites (SNSs) and specific digital memorial sites are an increasingly popular way for family and friends to grieve over the deceased. British newspaper *The Telegraph* reported that the number of Facebook profiles of dead people could outnumber those of the living by 2098 (assuming Facebook lasts that long, Horton 2016). In a survey of 240 US undergraduate students, 54.4% of all respondents had a deceased person in their online social network, and 25.8% of the entire sample reported some type of SNSs grieving behaviour after the death (Egnoto et al. 2014). Such practices allow the possibility of interacting with the absent presence of the deceased beyond physical death.

Interest in online memorialising and grief is multidisciplinary incorporating research from sociology, psychology, media and cultural studies, death studies, sociolinguistics and human–computer interaction studies. This research is broad in scope and explores the affordances of different technologies and platforms for doing grief work, the ways in which online spaces as sites for sharing experiences of bereavement shape practices of grieving and how different processes of memorialisation may change cultures of death and dying. The research is dominated by investigations of memorialisation on SNSs—most notably Facebook (Kern and Gil-Egui 2017; DeGroot 2012; Marwick and Ellison 2012; Pennington 2013) and to a lesser extent MySpace (Carroll and Landry 2010)—but also incorporates other platforms such as memorial websites (Clark et al. 2004), Web cemeteries (Roberts 2004), online grief support groups (Varga and Paulus 2014; Davidson and Letherby 2014), Twitter (Bautista and Lin 2015; Sanderson and Hope Cheong 2010; Karamshuk et al. 2017), Instagram (Gibbs et al. 2015), Blogging (Andersson 2017) and YouTube (Harju 2015). While some of these sites are specifically intended to deal with death (such as Web cemeteries), and may be formal or institutional (e.g. the UK Ministry of Defence's online memorials to soldiers killed in Afghanistan), others (such as social networking sites) are primarily used for other purposes and are populated by user-generated content. Research has explored the online mediation of particular kinds of death

such as suicide (Krysinska and Andriessen 2015; Bell et al. 2015), cancer (Andersson 2017) or perinatal loss (Davidson and Letherby 2014), or the use of such media by particular groups of mourners such as mothers (Perluxo and Francisco 2018), young people (Williams and Merten 2009; Keim-Malpass et al. 2015) and fans (Harju 2015). Virtual memorials can include memorial webpages, funeral home guestbooks and memorial groups on SNSs.

Methodologically, the vast majority of research examines the (primarily textual) content of online material from mourning sites and social media using a variety of analytical tools such as content analysis and discourse analysis (e.g. de Vries and Rutherford 2004; Varga and Paulus 2014; DeGroot 2014; Krysinska and Andriessen 2015). While this work is illuminating, and we examine some of it here, our focus remains on the smaller body of work which explores people's *subjective experience* of engaging in online memorialisation and grief work. We look first at people's experience of online grieving and consider the debates about the ways in which the internet may facilitate 'healthy' grieving by providing mechanisms for coping with bereavement and the possibility that online grieving may become problematic by provoking prolonged or complicated grieving. Secondly, we examine how online practices of memorialisation and grieving may be changing death norms by shaping rules about how to grieve. Finally, we briefly consider the ways in which using online and mobile technologies we are invited to prepare our digital legacies as lasting representations of selves which continue to be present beyond physical death.

Grieving Online

Research exploring processes of grieving (the strong emotions resulting from the death of someone to whom we feel connected) often start from the premise that bereavement provokes a series of intrapersonal changes, to which individuals must adjust in order to restore a sense of equilibrium or well-being—known as 'grief work' (Stroebe et al. 2005). This includes managing strong emotions (anger, sadness, guilt, etc.) as well as giving meaning to the loss, establishing a different relationship with

the deceased, enabling the expression of emotions, accepting the death, adjusting to life without the deceased and saying goodbye before moving on (Egnoto et al. 2014). Rituals (such as funerals or wakes) and practices of memorialisation (obituaries, gravestones, etc.) are thought to play an important role in the process of grieving and of coping with loss. Although often considered an individual experience, grieving is subject to a range of sociocultural norms or 'grief rules' which govern (among other things) who should (or is entitled to) mourn, how grief should be expressed and for how long (Doka 1999). The rise of varied forms of online memorialising and sites for expressing and sharing grief has sparked research which often centres on the question of whether (and in what ways) online memorialising helps or hinders the grieving process.

Research which examines the content of online memorial practices explores what people do in these contexts. For example, in their content analysis of over 200 memorials found on the largest Web Cemetery (*Virtual Memorial Gardens*), De Vries and Rutherford (2004) characterised the memorials as written mainly by women, writing as children who had lost a (often male) parent at a relatively young age—mirroring the findings of an earlier study (Roberts and Vidal 2000). The memorials often assumed the form of a letter written to the deceased, some resembled Eulogies/Obituaries in which authors tell stories and others were short, more formal tributes which resembled gravestone messages (e.g. 'A dear little baby who didn't have a chance but is still remembered by his family', p. 22). The authors also identified a number of recurrent themes within the memorials: expressions of sadness or of missing the deceased, information about the cause of death (especially in the case of the death of a young person or a sudden/unexpected death), infrequent mentions of religious belief and finally reference to the deceased watching over the living, and mention of the promise of a reunion with the deceased were often made together (although infrequently). While this research gives insight into what people do in online memorialising, it tells us little about the subjective experience of sharing and communicating death and bereavement. Research which asks people how and why they engage in online memorialising explores the technological mediation of grief work.

Community

Research exploring how bereaved people make use of social media to engage in memorialisation and 'grief work', suggests that opportunities for expressing and sharing grief, with a strong focus on social and emotional support, mean that people often experience online spaces as an extremely positive mechanism for coping with their bereavement. This research not only explores the sense of community generated by memorialising on social media sites, but also examines online support groups which are set up with the express purpose of supporting people with grief. In particular, this research explores how online communities can be used to navigate—and perhaps circumvent—the grief rules operating in 'real life' which define who can grieve (typically family and close friends), how to grieve (privately following culturally appropriate expressions) and for how long (often conceptualised as a discrete period of mourning which comes to an end).

In an analysis of over 500 messages posted to internet grief websites, Swartwood et al. (2011) concluded that the majority of posts featured some form of self-disclosure which they conceptualised as geared towards an exchange of hope. Initial posts attempted to elicit a response from others, and subsequent posts offered hope, but were also designed implicitly or explicitly to bolster the writer's own hope. They identified four different types of responses:

1. Telling one's story—describing the personal circumstance of, and psychological reactions to, one's own loss and connecting these to the experiences of the original poster and providing advice or comfort.
2. Validating the grieving—talking about the universal nature of grief, normalising the grief experience, giving permission to the writer to behave in socially undesirable ways and reducing the stigma of grieving.
3. Offering resources—including information about the grieving process or how grief may change over time, recommendations for books,

other support groups, poems, spiritual or religious guidance, suggestions for self-care.
4. Offering psychological support—offering love and affection, acceptance and understanding, and acknowledging the writers' difficult emotions.

In a quantitative content analysis of over 1250 posts to Dutch language online forums for people bereaved by suicide, Schotanus-Dijkstra et al. (2014) similarly reported that the content of online posts was dominated by sharing of personal experiences, often with emotional expressions of grief, with help offered in the form of expressions of support or empathy, providing advice, 2015and recognition of the universality of grief. These themes are reflected in research which explores the perceptions and experiences of those who use online forums. In their study of Facebook users, Rossetto et al. () found that feeling a sense of **community** (connection with others who were also bereaved) was a key benefit. Facebook enabled users to feel connected to friends and family even if they were at a geographical distance, facilitating the giving and receiving comfort/support, and bearing witness to grief (public and open sharing of grief which could be comforting or disturbing) 'Facebook functioned as a type of public journal or diary in which people could read how others were grieving and could express and display their own thoughts and feelings' (p. 985). A survey of suicide survivors who used online support groups found that the most important features of the support group were: offering help to cope with the pain and sadness of loss (85%); having a safe place to discuss taboo topics (84%); and sharing information and experiences (84%) (Feigelman et al. 2008). Interestingly, many sought a variety of other sources of support to help them with their grief—such as face-to-face group support and bereavement counsellors—and that engaging with these alternatives did little to diminish their participation in online support groups. In particular, the 24/7 availability of online support groups was highly valued, and those who sought internet support experienced greater suicide stigmatisation from their families and acquaintances than those who sought face-to-face support. Similarly, in their study of online support groups for parents who had lost a child, Hård Af Segerstad and Kasperowski (2015) found

that the affordances of the online groups most valued by parents were the ability to have a closed group which offered a 'safe haven' in which members could share experiences of group members, 24/7 accessibility for those experiencing acute grief, and that mourners could see that grief changes over time.

As demonstrated above, investigations into grief-related internet support forums have focused primarily on child loss, suicide survivors and younger bereaved people as these mourners may experience what has been called 'Disenfranchised grief'—grief that is not socially acknowledged or accepted and which consequently commands inadequate social support because of a lack of empathy for the loss. Examples might include what are deemed as inappropriate objects of loss (such as the death of a pet, grief for an unborn child, the death of a celebrity or public figure), deaths which may be socially stigmatised (such as death by suicide, AIDS, miscarriage) or mourners who are seen as not entitled to grief (such as children, people with cognitive impairments and people who are not close relatives). As Doka (1999 cited in Harju 2015) points out, '[t]he concept of disenfranchised grief recognises that societies have a set of norms—in effect, "grieving rules"—that attempt to specify who, when, where, how, how long, and for whom people should grieve' (p. 37). A key advantage of the internet for those experiencing disenfranchised grief is the large number of specialist online memorial sites which offer support to specific groups of mourners. For those experiencing disenfranchised grief, connecting with others online is valued as a way of having their suffering recognised by others. For example, in-depth interviews with 11 women who had lost their children due to accidents or prolonged illness revealed that Facebook represented a space in which they could feel accepted and where their expression of grief was tolerated in a way which was not acceptable to their family or community (Perluxo and Francisco 2018). While family seemed to withdraw from offering social support, in the virtual space of Facebook this support was forthcoming from other mothers who had also experienced the loss of a child. The death of a child, for example, is often regarded in most contemporary Western societies as an unspeakable contravention of the 'natural' order of things and is therefore shrouded by social invisibility, and parental grief is often stigmatised. Exploring online grief sites for

bereaved parents in Sweden and Denmark, Christensen and colleagues (2017) examined the practices of both de-tabooisation and tabooisation of expressions of grief which took place in these communities. They found that closed groups are often experienced as a kind of 'safe haven' (see also Hård af Segerstad and Kasperowski 2015). Community norms, such as the use of special language within the group (such as referring to deceased children as 'angels and parents as 'angel mother'), serve to demarcate the virtual space from the outside community. Strong expressions of grief which persist over time, expressions of parental care or indications of a continuing relationship with the deceased are often seen as problematic or unhealthy by the external community, but are accepted and normalised by the online community. However, the 'rules' about what is, or is not acceptable, are still debated within the group. For example, whether it is acceptable to share photographs of dead children has been debated repeatedly in some of the closed online groups included in their research. Some members argue 'if not here, then where', reinforcing the idea of a safe haven which includes such photographs, while others arguing that such images are painful to view and disrupt their ability to engage with the group and undermine its status as a safe haven. As the authors suggest, bereaved parents struggle not just with mourning the loss of a child, but also with claiming their right to do so. Newcomers to an online grief support group were found to construct their initial posts to display their eligibility for membership by formulating unusual stories of loss, describing uncontrollable emotional and physical states and engaging in 'troubles telling' in which others were described as failing to understand their grief and so justifying their entry into the group (Varga and Paulus 2014). These initial posts served to contest the 'normal' grief rules and to seek validation of 'non-normal' grief in these online spaces.

Preserving Memories, Building Narratives

People describe their use of online memorialising as providing a way to make sense of the death of a loved one, remember the person, draw memories together in one place and pay tribute to them

(Bell et al. 2015; Perluxo and Francisco 2018; Rossetto et al. 2015). Personal profiles on SNSs are sometimes conceptualised as repositories for memories catalogued in a timeline of photographs, posts and links through which they are connected to family, friends and acquaintances. For the bereaved, these repositories of information provide an invaluable resource for representing the life of their loved one and operate as a public and enduring representation of their identity. For mothers who have lost a child through suicide, for example, Facebook was found to offer a highly valued form of **preservation**, a way of protecting and archiving memories of the deceased (Rossetto et al. 2015). Facebook is prized because it enables the sharing memories and photographs to an extent not possible in a traditional funeral, and can be repeatedly visited in a similar way to a grave. Likewise, the bereaved mothers in Perluxo and Francisco's (2018) study valued online memorials as a mechanism for 'remembering the child', including building a positive picture of the child as well liked and remembered. For these mothers, being able to explore the child's information—for example accessing timeline information about what the child was doing on a particular day, or videos, photographs and comments—were especially precious. The immediacy of this data, its temporality and the fact that it is put together by the person themselves are important features of this experience. Having opportunities to talk about the deceased, to see them in a positive light and to position them as having a good life (even if this was short as in the case of children) is an important part of making sense of death (Perluxo and Francisco 2018). Facebook memorials are spaces for constructing a positive version of the identity and personality of the deceased (Bell et al. 2015). Bell, Bailey and Kennedy (2015) note that for parents sharing positive memories and telling happy stories about the person's life may be especially important when a child has committed suicide which is sometimes considered to result in a spoiled identity, as this offers an opportunity to generate a positive identity narrative. However, others have noted that online memorials frequently focus on one or two traits—such as 'she was a good mother' or 'he was a fun lad'—which are repeated and amplified by different commenters and lead to a one-dimensional representation of the person (Marwick and Ellison 2012). While these functions might have traditionally been filled

(at least in part) by ritualised events such as funerals, online memorialising has three important features which make it a different, if not entirely unique, space for grief work: firstly, the communicative affordances of the internet make it possible for many diverse people to share in memorialising the dead, secondly the permanence or seemingly indefinite temporality of material stored gives the representation of the deceased greater significance, and finally, the shared and/or public nature of the posts. These technological features not only create opportunities for the bereaved to engage in grief work, but also bring a number of challenges.

The collective nature of meaning-making in online memorialising means that people other than the immediate family can contribute to developing narratives about the identity and lifestyle of the deceased. Family members can sometimes gain an insight into the person which may not have been possible in life (Rossetto et al. 2015). But, this feature of internet mourning can also create challenges and difficulties for the grieving. Marwick and Ellison (2012) note that while the communicative affordances of the internet (e.g. opportunities for feedback and other user-generated commentary) may be welcome, they are less controllable than a tightly written obituary or eulogy. Moreover, 'context collapse' (where people from different groups meet and interact) in online spaces may lead to conflicting ideas about how the person should be presented and remembered. Parents in Perluxo and Francisco's (2018) study noted that one of the downsides of online memorials was seeing unpleasant or unwelcome things about their child, and others have observed that the process of creating and negotiating an identity for the deceased can be difficult on a public forum like Facebook where lots of people may be contributing to the construction (Bell et al. 2015). In their grounded theory analysis of memorial sites on Facebook, Marwick and Ellison (2012) explored whether and how mourners manage context collapse and the multiple audiences for memorial sites. They found that although public memorial pages bring together people from many aspects of the deceased person's life (from close friends and family to acquaintances and strangers) who may have had different experiences

with the deceased, the comments posted were overwhelming positive and supportive. Context collapse only resulted in conflict when the values of different audiences conflicted, or when someone commented negatively about the deceased. For example, when a post suggested that a person's suicide was a selfish act (a view very different from that of other audience members), further posts serve to reinforce the norm that only positive posts should be made, and strengthened the hierarchy of legitimacy where close friends and family members have more 'right to grieve' and should have more control over the representation of the deceased.

Finally, this task of maintaining a representation of the deceased is also a profound responsibility. People who experienced the death of a friend with a social networking site described feeling accountable to the deceased and to other survivors in curating a memorial site and spoke about the challenges of trying to meet these obligations (Brubaker et al. 2014). Brubaker et al. (2014) introduced the notion of 'digital stewardship' to describe taking on the responsibility of caring for and crafting an online legacy on behalf of another. Stewardship of post-mortem accounts involves four primary duties: honouring the last requests of the deceased, providing information surrounding the death, preserving the memory of the deceased and facilitating memorial practices of survivors. Participants talked of their anxieties about 'getting it right' in meeting the final wishes of the dead, of acting legitimating on behalf of the deceased, about respecting their privacy and about the difficulty of trying to meet the needs of different survivors. The public nature of online memorials can also bring other, perhaps unexpected obligations. In one out of six of the case studies presented by Bell et al. (2015), a mother spoke about posting 'inspirational' material (e.g. messages, quotes, poetry) on her son's memorial site, hoping that this would support his more vulnerable friends. She also reported becoming involved with suicide prevention charity work via the memorial site in order to fundraise and promote awareness. Feeling responsible for other mourners may be part of this stewardship, and the obligations of stewardship may be intensified since digital archive of such information creates representations of the deceased that could exist indefinitely.

Continuing Bonds

As noted earlier, one of the 'coping tasks' faced by the bereaved is negotiating a new relationship with a loved one following death. Although there has been a shift in the grief literature from understanding grief as a process of 'moving on' and 'letting go' of the dead (Kubler-Ross 1969), towards a holding on to and a reintegration of the dead into the job of living (Klass et al. 1996), the idea that ties with the deceased need to be cut remains firmly rooted in the 'rules' for grief work. Openly maintaining a relationship with the dead is widely discouraged and may be pathologised as a sign of 'unresolved' or 'complicated' grief (Matthews and Marwit 2004). This is often at odds with the beliefs and desires of the bereaved who may work hard to maintain a relationship following death, which is recognised in the so-called continuing bonds model of grief (Klass et al. 1996). Nonetheless, literature looking at the role of social media and new technologies in the process of grieving starts from the premise that death prompts a process of grieving in which the relationship established with the deceased is redefined.

Continued presence of the dead is one of the most profound and important functions of online memorials for those who use them. In her analysis of messages on Facebook memorial group walls, DeGroot (2012) found that grieving individuals utilise Facebook memorial groups in order to reconnect with the deceased. Members can upload photographs and post messages on the group's 'wall' (an online message board), which is a public space where messages that are seen by other Facebook members. Using grounded theory to explore what kinds of messages are posted, DeGroot found that people often write messages directly to the deceased as if they could read and understand such messages—known as 'Transcorporeal Communication'. Often these messages would express sadness, love or a sense of loss (e.g. 'I love you' or 'I miss you'), would recount a memory directly to the deceased ('do you remember that time when …'), would explicitly mention feeling the deceased's presence, would give updates about everyday happenings, would give thanks to the deceased ('thank you for being a friend'), would make promises or requests ('I promise to look after your sister') or would suggest an

eventual reunion (see also Kasket 2012; Irwin 2015). Younger people tended to do posts which directly communicated with the dead using an informal style often associated with social media use (older people posted 'condolence letter' style). Posts often spoke as if the posters believed that the dead would receive the message (Kasket 2012). Although communication with the bereaved mimics interpersonal communication, it occurs entirely *within* the bereaved since the exchange takes place between the bereaved and the imagined presence of the deceased. Yet, even though the deceased are unable to communicate, the internet allows for high levels of immediacy, affection and idealisation of the dead person. Historically, when alerted that an account owner had died, many online services automatically deleted user accounts and content. In late 2009, Facebook introduced their 'Memorial Profile' feature—in which an account can be memorialised rather than deleted. However, if they have access to the necessary passwords, the bereaved can choose instead, or in addition, to keep active the 'in-life' Facebook account of the dead (Bell et al. 2015; Perluxo and Francisco 2018). In this last instance, levels of immediacy are high since mourners can update the deceased status and send messages as if from the deceased. SNSs, such as Facebook, offer mourners the opportunity to give the deceased an ongoing presence in their lives, and many sites remain very active years after the person's death (Bell et al. 2015). Feeling the continued presence of the person, and being able to communicate with them, was an important source of comfort to the bereaved and was a key motivation for using Facebook as a place of mourning and memorialisation (Bell et al. 2015; Bailey et al. 2015; Rossetto et al. 2015). The continuing bonds experienced by mourners can also be inferred from the frequency and persistence of posting messages and visits to the profiles and the updating of the deceased on everyday happenings long after death. Interviews with people who had continued their Facebook connection with a friend who had died found that they attempted to maintain bonds with the deceased by using emotional expressions, posting memories of the deceased, noting the deceased's presence, providing updates, indicating appreciation for the deceased, making promises or requests and mentioning an eventual reunion (Pennington 2013). Kasket (2012) notes that mourning

on Facebook differs from dedicated memorial sites/virtual cemeteries in two key ways which promote a sense of continuity. Firstly, mourning takes place in the same 'space' as former interaction with the living rather than in a separate site, and secondly, interaction continues with the same representation of the person created during life. In interviews, participants talked about how Facebook was experienced as a particularly effective way of feeling close to the dead (as opposed to visiting graves) since Facebook posts remained visible to the mourner allowing them to better imagine them as also visible to the dead, and written posts were described as more tangible than thoughts about the dead. As one of her interviewees said:

I feel she will see it if it's on her wall. [If I were to leave a letter for her at the gravesite] …when I can't see what I've wrote to her, I feel like she won't be able to see it too… (p. 66).

Although continued bonds are often conceptualised as an intra-individual process (see DeGroot above), the public, shared and communal nature of online memorialising invites us to consider the importance of the community for continuing bonds. Seeing other people 'talking' directly to the dead, feeling the presence of the dead in their everyday lives and updating the dead on everyday events reinforces and strengthens the sense that the person is 'still here' and serves to normalise a continued relationship with the dead.

However, some have argued that the potential for continuing bonds and the immediacy of internet communication can be problematic. Social media can give rise to what Rossetto et al. (2015) call the **coping paradox**—the idea that social media can both help and hinder the grieving process since it can provoke both loss-oriented stressors (i.e. concentration on the loss experience itself) and restoration-oriented stressors (i.e. struggle to reorient to a world without the deceased). These dual stressors create additional burdens for the bereaved may struggle to reorient to the world without the deceased in a context of continued bonds and emotional expression. Some of their participants found expressions of continued presence odd or uncomfortable or felt the person was trapped in a virtual world. Unexpected pop-ups could be experienced as intrusive/unsettling, which some felt prolonged the intensity of grief and made it difficult to move on.

Grieving Rules Online

In addition to the interest in processes of grieving and bereavement, scholars have also explored how the rising use of online memorials might reshape the norms around death, dying and grieving. This includes norms about whether grieving should be public or private, norms about whether grieving is limited to those with whom we have close ties and norms about what is considered sacred or profane.

Public Mourning

While the emergence of specialised online groups and virtual cemeteries in the 1990s arguably changed mourning practices very little, according to Walter (2015) the user-generated content of social media coupled with its mobile technology-enabled ubiquity represents a significant shift. He argues that this marks a transition from the norm of private mourning (which characterised the twentieth century) to more public forms of mourning in the late twentieth/early twenty-first century, while online mourning represents a return to some aspects of community mourning which were typical of pre-industrial times. Facebook memorial pages (like other forms of user-generated content) embody the characteristics of scalability (content has enormous potential audiences), persistence (content does not expire sometimes even if it is deleted from the site), searchability (it is indexed and easily accessed) and replicability (it is easily copied, re-posted or combined with other content), making them potentially very public. These networked technologies have led to the emergence of what Boyd calls 'networked publics': spaces and collectives where people interact through technology (Boyd 2007). The communities of mourners are generated most noticeably in online grief support groups, but also on SNSs . Online memorials arguably take news of an individual's death beyond the immediate family, making it possible for a range of people to mourn the dead. Being able to share news or learn information about a death was one of the key benefits of using Facebook in the context of death identified by participants in Rossetto et al.'s (2015) research.

Participants described Facebook as easy way to let people know information quickly, and to reach larger numbers of people, in a way which eased the burden of having to tell lots of people. Yet, the quasi-public nature of the internet means that announcements about a death are communicated not only to friends and family, but also to larger audience who may or may not have any personal connection to the deceased (i.e. weak ties). This public accessibility serves to unsettle the norms of grieving as these run up against the social norms of SNSs and other online platforms. The 'context collapse', which means that diverse social groups with differing ties to the deceased are brought together in one virtual space, means that norms about appropriate grief and acceptable forms of memorialising are being negotiated and navigated by users.

Mourners grapple with both benefits and challenges of the public and private aspects of Facebook memorials. On the one hand, the public accessibility of memorial sites enables the quick and effective transmission of practical information about funeral arrangements, news of the death and so on (Marwick and Ellison 2012; Rossetto et al. 2015). Transmission of such formal pragmatic information is often viewed as a legitimate use of Facebook (Sabra 2017). Family members often pay close attention to the level of engagement with the memorial site by others. A high level of activity in the immediate period following death is often perceived as providing validation of the deceased's popularity and as reflecting the meaningfulness of their life, which is experienced as comforting (see Perluxo and Francisco 2018; Bell et al. 2015). Equally, however, when/if activity on the site starts to decline, mourners are left wondering whether people have forgotten or have ceased to care about the dead (Bell et al. 2015). Moreover, public displays of mourning were generally perceived as an indication of the importance or meaningfulness of the life of the person—commenters note the number of people contributing to a page or the number of 'likes' a page receives (Marwick and Ellison 2012). However, common practices on SNSs and the norms of mourning do not always sit comfortably together, as ideas about what is tasteful and respectful are deliberated in public spaces. While the number of 'likes' is a technical affordance which is read as indicative of popularity or status, and while it is common for Facebook users to attempt to generate large numbers of likes for particular issues, Marwick and

Ellison's (2012) analysis of posts on Facebook Memorial pages revealed that such 'cheerleading' and emphasis on quantifiable metrics are often openly contested on social media. 'Context collapse' means that different audience members—some of whom are close family and others of whom have weak ties to the deceased—may be drawing on different norms to engage in meaning-making around death. Similarly, some participants in Sabra's (2017) study found it difficult to comprehend how people could post messages which expressed strong intensities of grief at one moment and at the next post light-hearted images more typical of Facebook (a photograph of their cat, next meal, etc.). Some felt that such emotive content was not appropriate on Facebook which they saw as a platform for entertainment requiring little emotional engagement. Life-affirming content or content which indicates that the mourner is successfully managing grief work and is coping despite their loss was considered more in keeping with the norms of Facebook and therefore more legitimate (see also Walter 2015 for discussion of a positivity norm in Facebook memorialising). Others saw such a sharp juxtaposition between such posts as signalling that the expression of grief was inauthentic. For example, participants in Sabra's also talked about what kinds of deaths it might be appropriate to post about on Facebook (typically the untimely death of young people or deaths in unusual circumstances) and which are not (the death of the elderly). Finally, Walter (2015) reports that the public nature of Facebook may mean that some people may feel under pressure to commemorate or show respect for people whose passing they may not mourn, or when they did not wish to show this publicly. The public face of Facebook means that people sometimes feel that their mourning behaviour is being monitored and judged.

The Grieving Hierarchy

Norms about who should be involved in the grieving process (typically considered to be close family or those with strong ties) are challenged by the public accessibility of online memorials which are often available both to those who knew the deceased and to strangers who happen across the site. Within the mourning hierarchy, close family and friends

are situated above more distant relations and strangers. The higher the position of the person in the mourning hierarchy, the greater tolerance they are afforded by other Facebook users for sharing emotional expressions of grief (Sabra 2017). Conversely, the lower the position (or the more distant the relationship or the weaker the ties), the less legitimacy is afforded to the user.

Whether the contributions of what have become known as 'bandwagon mourners' (Rossetto et al. 2015), 'emotional rubberneckers' (DeGroot 2014) or grief tourists (Marwick and Ellison 2012)—people who post on memorial pages despite not have any close ties to the deceased—are welcome is contested. The mothers in Perluxo and Francisco's study (2018) talked about perceiving Facebook as impersonal and detached, with the lack of direct contact with people and the existence of many 'onlookers' leading them to feel that the level of support offered by Facebook friends was superficial and lacking authenticity. Some people express uncertainty about whether it is appropriate to post comments on a memorial site of acquaintances, having to weigh up whether they know them 'well enough' for their comments to be welcome by family members or those with closer ties. The young people who had lost a Facebook friend in Pennington's (2013) study often interacted with their Facebook profile 'silently'—visiting but not posting—either because they felt that grief was something to be expressed privately rather than publicly, or because they did not feel they have 'the right' to post on the page because they were not close enough to the deceased. Facebook users in Sabra's research (2017) claim that those with weak ties should not express strong emotions of grief online as such expressions are hollow or inauthentic and that such people offer support which is superficial rather than meaningful. Users are having to navigate 'feeling rules' as grief is being expressed in this different context which has its own rules and social norms.

Moreover, when people with weak ties use Facebook to pay tribute, to give thanks and to pass on their condolences to the family, some regard these public statements as attention-seeking or flaunting emotions in a way that is not genuine. In her analysis of messages posted on 10 Facebook memorial group walls by 'rubberneckers' (people who were unknown to the deceased), DeGroot (2014) found that people claimed

some kind of distant acquaintanceship to the deceased, witnessed the death or had experienced the death of a close one who had died in a similar way. In other words, they provided a context to claim an association with the deceased. Rubberneckers also mentioned their own emotional states as well as offering their condolences to the bereaved. Although the term rubbernecking has a negative connotation, emotional rubberneckers are not always seen as negative, and DeGroot claims that rubbernecking may be a means by which people cope with a death and engage in communal grieving to cope with their grief-related feelings.

The Sacred and the Profane

The intersection of norms of virtual spaces and social norms for mourning which occur in online spaces also serve to both trouble and reinforce distinctions between the sacred and the profane. We explore three examples which illustrate this: (a) the practice of taking funeral selfies and the public response to this, (b) the practice of 'trolling' memorial sites, and (c) the treatment of death in gaming communities. Firstly, following a media storm over the Tumblr Blog 'selfies at funerals' (Feifer 2013 cited in Meese et al. 2015) and images of the then US President posing with the Prime Ministers of Denmark and the UK at memorial service for Nelson Mandela, researchers have begun to explore this practice in more detail. Meese et al. (2015) note how 'selfies at funerals' are taken by some to reflect a de-solemnising and disrespect of death and as challenging established norms of respectful grieving, as well as the narcissism of youth. Nonetheless, selfies can be seen as appropriate responses to grief if considered within the 'platform vernacular' of the virtual space on which they are posted (Meese et al. 2015; Gibbs et al. 2014, 2015). Platform vernacular refers to the genre of communication which emerges through a combination of the affordances of specific social media platforms and the ways these are appropriated and performed in practice to create a unique combination of styles, grammars and logics (Gibbs et al. 2014). Affordances for photograph-sharing, tagging images and applying photographic filters, they argue, are an essential part of the platform vernacular of Instagram. Rather than being frivolous, some argue that 'selfies

at funerals' can be understood as a form of 'presencing' which positions an individual within the context of a funeral and then immediately communicates that position to a wider social network. As such, selfies form part of the wider visual turn (Gibbs et al. 2014) and the turn towards more public and individualistic forms of mourning (Meese et al. 2015). Selfies at funerals, even if they appear emotion-lite, should be understood as a part of the wide array of diverse online and offline practices taking place around the funeral event which communicate attendance and presence, not only to the bereaved family, but also to the wider social network (Gibbs et al. 2014; Meese et al. 2015). Although context collapse results in the meaning of selfies being contested among diverse audiences, arguably they represent an emerging form of memorialisation which forms part of shifting norms about grieving.

Another example of 'disrespectful' behaviour is trolling—the act of making 'a deliberately offensive or provocative online post with the aim of upsetting someone or eliciting an angry response from them' (Oxford Living Dictionary 2017).[1] In their analysis of negative posts (or trolling) on memorial sites for the dead, Kern and Gil-Egui (2017) found that these negative posts included flames (i.e. insults directed at the subject of the page, its administrator or other visitors), venting (e.g. violent language against the victimisers of the subject of a memorial page) or 'spam' (i.e. advertisement and content not related to the subject and purpose of the page). Such trolling or flaming violates norms of grief and death as sacred, requiring gravitas and respect. Negative posts are often 'cleaned' or deleted by site administrators. Others argue that memorial page trolling pushes back against a corporate media environment that fetishises, sensationalises and commoditises tragedy (Phillips 2011). Either way, trolling works against the norms which position death as sacred, respect for the dead as sacrosanct and sympathy for the bereaved as the most appropriate way to deal with death.

Finally, on a somewhat different note, some researchers have started to explore what happens in pre-existing online communities, such as gaming communities, when a member of the community dies. The death of someone we have never met in person, but that we may

[1] https://en.oxforddictionaries.com/definition/troll Accessed November 18, 2017.

have communicated with intensely online, can also be considered a form of disenfranchised grief (Hansley 2012). Participants who met and built communities within online spaces such as multi-user immersive games talk about feeling odd responding so emotionally to the death of someone they have not met physically, and find it difficult to talk about their sense of loss and grief with others. Gamers might experience grief for the loss of the avatar or grief for the loss of the person behind the avatar. In-game rituals (such as funerals) are sometimes used to publicly mourn the death of a community member. Gibbs et al. (2012) analysed memorials in the massively multiplayer online game *World of Warcraft* (Blizzard Entertainment 2004). They explored examples of the ways that real-world deaths (of friends, family, colleagues and players known to the game designers) are memorialised within the game and how these memorials have become increasingly complex over time with each expansion of the game. The memorials have shifted from being objects (stone monuments, plaques, epitaphs, plinths, grave goods, headstones, etc.) which resemble offline gravesites to preserving avatars representing the deceased and towards engaging players in interactive stories, or quests, which involves game play which honours or evokes the dead. For example, these quests might involve feeding a lost dog or delivering a poem, but they can also be extended over different stages and require complex activities to complete. According to the authors, quests enable game designers to depict dying as a process and/or to tell a story of a person's life, and the challenge is to create memorials which evoke reflection and unsettle without being distasteful.

Digital Legacies and the Everyday Dead

Most of what we have looked in this chapter concerns the process of mourning when a loved one has died, and in this final section, we turn briefly to the ways in which the living might use technology to plan for death, manage their digital legacy, and to extend their digital self beyond physical death and consider these changes in the light of the restoration of death into everyday life.

The last decade has seen a proliferation of commercial companies and well-established charities offering a variety of digital estate planning services. In the UK, 2015 saw the launch of the Digital Legacy Association (UK), a professional body which works with charities, hospices, health care professionals and others to raise the quality of end of life care relating to digital assets and digital legacy. A range of services exist for planning what happens to your digital footprint after you die. This includes Digital Remains[2] which gives customers control over their digital legacy and online assets and which emphasises a service which is 'completely secure' and 'heavily encrypted'. Customers can decide who will be able to access their accounts after death and can leave instructions about what should happen to these assets. Commercial companies claim to offer customers digital immortality, the opportunity to 'live on' as a digital avatar which relatives and friends can interact with (e.g. Eternime and LifeNaut). LifeNaut[3] offers 'a back up option for personality' in which users upload 'biographical pictures, videos, and documents to a digital archive that will be preserved for generations' and create an 'avatar to interact and respond with your attitudes, values, mannerisms and beliefs'. Eterni.me,[4] launched in 2014, promises to create a digital version of 'you' that will live on after your death. Death is certain, admits the website—but asks what if you could live forever as a digital avatar? Other services, such as GoneNotGone,[5] offer the opportunity 'live on digitally' by sending posthumous messages to friends and family on special anniversaries and birthdays, or enable the use of QR or barcodes on gravestones which, when scanned, allow users to access narratives about the life of the deceased. This resurrection and reanimation of the dead through digital technology is captured in Bassett's (2015) description of 'digital zombies' which she differentiates from the automated 'ghosts' (such as Facebook notifications) since the dead remain socially active (available to change and update from whoever controls the site) and are used in planned interactions.

[2]https://digitalremains.co.uk/ Accessed October 26, 2017.

[3]https://www.lifenaut.com/learn-more/ Accessed October 26, 2017.

[4]http://eterni.me/ Accessed October 26, 2017.

[5]https://www.gonenotgone.com/ Accessed October 26, 2017.

Finally, there are a wide range of what might be called thanablogs—blogs about death and dying—which include not only repositories of death-related resources, blogs produced by mourners about their experiences with grief and blogs produced by those caring for the dying, but also the terminally ill and dying are increasingly using blogging as a way of documenting their journey towards death and to tell their story (Sofka 2012).

Conclusions

As we have shown, these developments in the use of social media make death more visible and less separated from everyday life. While some resent this intrusion, rather than removing death to specific sites which are distant from the everyday (such as graveyards and hospitals), pop-ups, notifications, blogs, games and memorials housed in mobile technologies which are constantly in our hands and in use bring mortality closer to home. Being able to talk to the dead on a daily basis, in between booking a hair appointment, checking our bank account or updating our Facebook status, offers the opportunity to integrate the dead into our lives in a way which is more public and shared than other mechanisms (such as talking to a photograph at home).

While SNSs , online memorials and virtual support groups offer opportunities for mourners to share their stories, express their grief and garner support from others, they also bring new obligations and responsibilities. Mourners feel a responsibility for maintaining the identity of the deceased and may be accountable to other mourners for this. As new (more public) forms of memorialising become common practice, individuals may feel obligations to express mourning in the absence of strong feelings of grief. We have demonstrated that the 'rules' about grieving are contested, and as more forms of technologically mediated death become available, perhaps including the kind of digital afterlife envisaged in the *Black Mirror* series, the dead may continue to have an increasing part in everyday life past physical death. Indeed, if we also spend part of life preparing for this afterlife, perhaps the distinction between life and death will become obsolete.

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10

Reflections on a Digital Life

In this book, we have explored how context shapes our use of digital technology in everyday life. We have done this by considering life stages and orientations as significant in framing our digital behaviour and the repercussions that this may have for our 'real' lives. Although it may be tempting to pass sweeping judgments about the negative impact of digital technologies on our everyday lives, it is clear that the peculiarities of digital behaviour and our increasing dependence on digital devices cannot be fully understood without an appreciation of context.

The approach taken in this book has allowed us to move beyond simple binary considerations of the value of digital technologies and towards a consideration of their everyday appeal and the reasons why we use them in the ways that we do. At its grossest level, this exploration of context reveals broad differences in the ways that people of different ages, life stages and orientations choose to use digital technologies. In Chapters 2 and 8, we considered the different experiences of children and older people and showed how children's first encounters with digital technology were likely to be through playing games while older people were likely to encounter them as pragmatic tools (either through their previous work life or in retirement) which had been designed to serve specific tasks and make life easier.

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Inevitably these different frames of reference come to inform later interpretations of the digital world. The playful attitude that develops in childhood means that adolescents are likely to be more practised, trusting and inquisitive when it comes to exploring digital content and interactions. They are more likely to share their personal details on social media and accept contact from strangers online because they have learnt to treat these interactions like a 'game'. The sense of social etiquette that emerges for older people is likely to be quite distinct being driven by pragmatism—a wish to achieve specific tasks (such as doing grocery shopping or communicating with a distant relative) at the same time as learning how to use the digital device itself. Anxieties over competence and being unproductive shape older people's earliest digital interactions. Unsurprisingly they do not trust the public sharings of social media because they have learnt that these technologies are primarily for 'work'.

These are two very different takes on the 'meaning' of digital technology in everyday life and it is clear to see how they would influence the ways that these different age groups come to understand the nature of digital interaction. However, they are just a starting point for exploring the digital world. As soon as we move beyond the initial adoption of digital technologies, we see that other motivations (or 'life orientations') come into play and this is where most of us sit in relation to digital interactions. When we examine individual users in context we see that their use is complex and idiosyncratic, perhaps addressing work or play but incorporating other 'life orientations' as well. Children may also be concerned with acquiring information for their homework, making friends, socialising or exploring their own forms of self-expression. Someone in their thirties may use their smartphone to maintain an active work profile on LinkedIn, to play games on the train, to hook up with dates on Tinder or to stay in touch with distant family members through Skype. Some of these same broad motivations exist for all age groups but are likely to be experienced and expressed in distinct ways, reflecting the social and psychological demands of each life stage. Adolescents for instance are likely to seek out larger friendship groups

online because establishing popularity and social identity is an issue at their age. Keeping tabs on one's own children may be more of a concern during midlife while for older people the focus is likely to shift towards having fewer trusted contacts that they can rely on for support as they age.

Our analysis has also shown how sociocultural context determines the significance of digital technologies to different age groups, emphasising particular prescribed roles for these technologies and validating their importance in society as a whole. Digitally immersed childhoods are now the norm for children growing up in the developed nations of the world where digital technology is introduced to children at a very young age, assuming the role of parental substitute, entertainer, educator and training ground for budding consumers. Meanwhile older people are encouraged to make use of them to support their functional independence through online banking, shopping and remote forms of social contact. These age-appropriate norms of digital behaviour are pervasive expectations within developed societies, communicated through the acceptance of everyday digital behaviours, though parenting practices, government policy, education, the media and advertising. They are underpinned by an implicit assumption within our society that technology is a legitimate means of solving human dilemmas such as how to meet the perfect partner, how to keep your child occupied or how to care for the elderly, that is, they reflect the ideal of technological determinism.

Much of the positivist Cyberpsychology research pursues a similarly technologically determinist stance but shows how digital technology can *cause* negative effects such as addiction and aberrant changes to behaviour and the self. Although good at recognising generalisable effects of particular technologies, technologically determinist approaches struggle to accommodate the nuances of digital interaction and are unable to capture how these technologies become meaningful to individual people in their everyday lives. Identifying trends in obsessive use of the internet or 'addiction' tells us very little about the specific meanings that users ascribe to their interactions whether in work, play, meeting other people or through self-expression.

Our exploration of specific 'life orientations' has given us further insight into the subjective dimensions of meaning that underlie our digital dependencies but transcend age or life stage. Each chapter has revealed the interplay between human intentions and the affordances of particular digital technologies and media.

In Chapter 3, we examined what it means to be ourselves in digital spaces and showed how this was pursued online through the use of avatars, SNS and dating profiles. While having a digital persona is a largely implicit aspect of digital interaction, this process of personalising is hugely important in terms of explaining digital behaviour. Establishing viable online identities is now an essential part of everyday existence, underpinning most of our online activities from searching the Web, to buying things online, to playing video games, to dating on Tinder. How we relate to our digital selves shapes how our interactions and relationships develop online. Cyberpsychology research shows that one's personality is likely to affect how we relate to this enactive process of digital 'selfing', framing digital contexts and our encounters within them. Extroverts are likely to make more friends through their digital selves, while introverts and neurotic individuals find it easier to be authentic through them. The degree of identification that emerges between an individual and their digital self will vary from person to person and across different platforms. This relationship can operate as a purely instrumental one or develop into to an almost symbiotic relationship where one's avatar starts to feel more real than one's own corporeal body.

In Chapter 4, we explored how digital technologies were also changing the dynamics of social life. Human beings are deeply social creatures with an incredible resourcefulness when it comes to communicating. When interacting digitally we have learnt to adapt our linguistic style and manage intricate signs of our digital presence so that we can express ourselves and show our active awareness and consideration of others. Digital social contexts have evolved into mutually negotiated spaces that (mostly) build on the shared interests of those present. Their success depends on a set of group norms being established that allow a sense of common ground to emerge. However, while they are sometimes driven by pre-existing motivations, it seems that a mere willingness to

socialise and an attitude of reciprocity is all that is needed for meaningful relationships to develop. At the same time, the accelerated process of self-disclosure that emerges online must be carefully managed if the potential for acquaintances, friendships and supportive relationships is to be realised.

In Chapter 5, we looked at how the nature of sexual encounters was being reshaped by digital technology. Sex is of course a prime motivator for people to interact 'from the start' whether as part of forming intimate relationships or in seeking sexual gratification. As Web technologies have developed, we have seen new opportunities for performing sexuality and the possibilities of sex. In this context, digital selves can enact sexual fantasies through interactive text, video and avatars offering new opportunities for reimagining the nature of sexual contact and transgressing the sexual norms that operate in the 'real' world. Here, we see the increasing power of the imagination and a loosening of the connection to the body as a direct source of sexual experience. These opportunities bring new freedoms but also new obligations and responsibilities.

In Chapter 6, we explored the deliberate disruption of social norms that takes place through trolling, something which has become a common feature of most public digital spaces. The presence of such online actors can redefine online contexts in ways that subvert and frustrate the intentions of both Web developers and their online communities. Clearly the personalities of some trolls are such that they take great enjoyment from transgressing the norms of online communities but far from being just disruptive influence they may also become a foil for reinforcing community values. Trolls also seem to be abide by a set of group norms that relate to their community's deviant practices. To a certain extent, their lack of empathy for regular internet users also seems to be a feature of anonymous forms of digital interaction where disinhibition occurs. Something we also see in relation to accelerated forms of self-disclosure that occur online.

In Chapter 7, we questioned the assumption that the internet's inherent benefit was as a source of social connection. Loneliness continues to be a pervasive aspect of some people's internet experience despite the digital presence of others. At the same time, digital devices such as mp3 players

and video games are sometimes used to create contemplative spaces for spending time alone rather than with others. The removal of immediate social obligations that occurs when digital devices are used in this way can encourage a sense of creative freedom and autonomy for those involved.

Finally, in Chapter 9 we considered how digital interactions were redefining the experience of death, providing mourners with new opportunities for dealing with grief. The communal sharing of grief that now happens through online forums and social media allows mourners to express and share their feelings of loss without the pressure to conform to society's established 'grief rules'. The freedom to share such difficult emotions can be liberating. Online memorials (particularly those established within SNS) can also create spaces for continuing relationships with the deceased after death.

What is apparent from this consideration of 'life orientations' is the value of digital spaces in providing us with opportunities for transcending the boundaries of our immediate social circumstances and by living through our digital selves to escape the social norms that may thwart us in 'real' life. What also becomes apparent is just how significant these digital selves have become to our daily lives, giving us new freedoms but requiring commitment and dedication to maintain. The centrality of these digital selves to everyday life presents us with some new dilemmas which we will now consider in further depth.

How Much Should We Invest in Our Digital Selves?

It is clear that we are increasingly using online forms of communication to keep in touch with and interact with others, and at the same time, the form of that communication is diversifying, whether through Facebook, Whatsapp, Snapchat or a more niche social networking site, people are using emoticons, visual images and photographs alongside text to share aspects of their lives and present the stories of their life. Simply being online whether we are lurking, posting or responding shows that we are committed to the interactions that take place there. However, it seems

that interpersonal processes such as 'self-disclosure' are central to understanding how we use digital technologies to establish meaningful social interaction. We gradually disclose small pieces of information about ourselves to develop trust with others, to build closeness and intimacy, and to show our ongoing commitment to our interactions. Even very brief messages sent to other people (something that on the surface could seem quite superficial) can be the fuel to create conflict and contention, or can help us to establish an affinity with others.

To say that our self-disclosures online are influenced by the conditions of online communication (e.g. reduced social cues) fails to acknowledge the complexities of the different types of relations we have with people, and the emotional history we might bring to those interactions. We should also acknowledge the type of social interactions that happen online, which can be one-to-one, but may also be one-to-many. The research findings we review in this book suggest we need to look beyond simply questioning whether people's online relationships are more superficial or weaker than their offline ones. Given the complexity of the study of social interactions in face-to-face settings, research that focuses on making direct, binary comparisons between online and offline interactions will be limited by the shifting nature of these interactions, by how we move between online and face-to-face settings, and also the history that we bring to that interaction. In some cases, there may be little history to the interaction (e.g., someone you have just met online, a friend of a friend or someone you were merely acquainted with before you started chatting online). For other interactions, the history may be more complex (e.g., a friendship that is being integrated into an online context, a more contentious or supportive background to the relationship, a friendship that has changed significantly over time). When we try to understand how people establish meaningful relations with the use of digital technologies, we need to take into account how these different situations might impact on those interactions.

Here, we have begun to explore some of the qualitative aspects of our 'journeys to intimacy'. People's motivations for connecting with others in online spaces will be more than the self-profit and social capital we might gain from our interactions in these spaces. We experience feelings

of closeness and intimacy with others online because of the reciprocity that takes places within our interactions. The act of giving and reciprocating exchanges online draws us into a social relationship and motivates us to continue to engage, whether that be the way grandparents use digital media to express and receive love and affection within their families, or how the actions of an avatar in a gaming world oblige us to recognise and reciprocate those actions, or in the way people use sexting to build sexual arousal and facilitate sexual desire.

People want to connect with others through online social spaces, but with the awareness that there are certain things we only want certain people to see or know. This puts us in the dilemma of how to manage our privacy online, and there is a trade-off between what we choose to disclose and what we choose to withhold. To some extent, this seems to be managed by the sites people choose to disclose through (e.g., attempting to censor what your mum can see through Facebook and what your friends might see through Snapchat). While some research suggests that young people can successfully manage this privacy, it is also evident that a bad experience of online disclosure can mean we take more measures to protect our online privacy, and people generally seem to become more protective of their personal information over time. Indeed, older people are perhaps more cautious in their self-disclosures and are less likely to use social networking sites to express themselves or attempt to establish new friendships, instead their disclosures on such sites tend to tell and share family stories and memories. These differences between people in how they manage the privacy of their self-disclosure do not only vary across time and age. People differ in how comfortable they feel interacting online, for example, people who are socially anxious might feel more willing to self-disclose online where they can hide aspects of their visible anxiety from others. However, there is still an awareness of audience, as people who report higher levels of social anxiety tend to feel less inhibited when using private forms of online communication (one-to-one rather than one-to-many) where they might experience more control, more privacy and more trust with the audience.

What Counts as 'Real Life'?

Another key dilemma for Cyberpsychology which we have explored within this book is the distinction between the 'real', material, physical world in which we are thought to live our everyday existence, and the virtual, online world which is positioned as a departure, or even an escape, from our mundane world. Since these technologies are 'new' and artificially made, the material world is often treated as the default or natural world—real life. Which means, by contrast, the virtual world is unnatural, synthetic, inauthentic, fake or not-quite-real. Consequently, virtual worlds are often dismissed as trivial, meaningless, unimportant or superficial or are seen as sinister spaces which are untethered from the kinds of checks, balances and social sanctions embedded in the real world. Cyberpsychology research often starts from the premise that these two 'worlds' are separable and distinguishable, and aims to establish the influence that one has on the other (typically the impact of the virtual world on real life). We have seen this approach reflected throughout the content of the book—from research exploring whether the 'normal' development of children in the real world is altered by engaging in cyberspace, whether the self we present on the net is the same as the self we are in real life, whether offline friendships are better quality than online friendships, whether cybersex impacts on our real life sexual intimacies, whether people are more likely to behave badly online compared to offline, whether people who are lonely are more likely to engage in problematic internet use, whether the net can mitigate against some of the social isolation associated with older age, and whether expressing grief online can lead to a more complicated grieving process.

In this book, we have attempted to move beyond these good/bad judgments of new technology and away from binary distinctions between online/offline or real/virtual towards an understanding 'from the inside' that acknowledges the motivations and experiences of those using these technologies. Of course, we are not suggesting that it is not helpful to consider the ways in which skills, values, attributes and so on do (or do not) transfer from one context to another—for example, there

is some very interesting research which looks at how skills developed by surgeons in online simulations of hospital operations may or may not transfer to operations conducted on material human bodies (Seymour et al. 2002). However, talking about this as a comparison between the virtual and real world often results in the virtual world being dismissed as 'not real' or as inauthentic, trivial, useless and so on. This closes down important questions that we might ask about why or how these skills do (or do not) transfer. What is it about the context in which these skills are being operationalised, and the way in which the individual interprets and makes sense of these contexts, that makes the difference? When and where does the distinction between the real and the virtual world come to be problematised and scrutinised.

Once we step away from the idea, as researchers, that there is a clear distinction between the real and virtual, we can begin to explore how individuals experience different aspects of their lives as more or less real or authentic, and in what contexts. Users orient to and experience different platforms, devices, apps, virtual spaces as well as actions, thoughts, feelings and experience as 'real' or 'not real' in a variety of different ways. These are not objective judgements, but often are guided by values, ethics, judgements as well as feelings and experiences. For example, ideas about authenticity, fidelity, etc. are nuanced judgements which are made not one (and for all) but repeatedly, multiple and contrasting times, and remade in the light of responses from others and the emergence of norms in the moment-by-moment. Concerns about whether an interaction is 'real'—by which we might mean happening with a person who is who they say they are and has the motivations for interacting which they say they do—are a pervasive feature of online communication. But, as we have demonstrated, some online contexts offer opportunities to play, fantasise, try out and experiment with identities, behaviours, ideas, sexualities and so on. By moving beyond technological deterministic arguments and towards more subjective and socially situated understandings of the human-technology dynamic, we have moved beyond the binary assumption that 'real life' and virtual worlds are separate and distinct which does a disservice to many people's experience of inhabiting virtual spaces. We have shown how people have investments in defining some online spaces as real and others as not real or as fantasy.

For example, as we saw in Chapter 6, so-called deviant behaviour such as 'trolling' or 'flaming' may be more common online since users may believe that there are no 'real' consequences to their actions—particularly if they are anonymous. Yet anonymity is not enough to create this kind of liminal space—as the example of exhibitionist behaviour on the platform Chatroulette (in which people are very much visible to each other, yet other identifying information is absent) demonstrates. The material body is often taken as key to distinguishing the virtual from the real. The body is popularly imagined to be both the casing which houses the individual, and therefore as having some verifiable existence of the person. Culturally, then, it has a special status and we should not be surprised to find the body brought into online spaces in the way that they often are—either through representations of faces (such as emoticons), descriptions of the physical body (in cybersex) or selfies (which locate the body/person in space and time). In Chapter 4, we saw how computer-mediated communication is often characterised as a 'narrow bandwidth' which lacks information such as facial expressions, body position and posture, and eye gaze which are crucial aspects of face-to-face social interactions with others. Although these limitations can be 'overcome' through different text-based devices (such as emoticons), nonetheless this is often treated as a deficit leading to the conclusion that virtual communication is not as rich as real (bodily) communication. Acknowledging phenomenology and context, by drawing on qualitative and ethnographic research which gets closer to the everyday experiences of those who use these technologies allows us to explore what *feels* real, how people make judgements about the meanings of online contexts and decisions about how to behave within these contexts. Here, what is real transforms into what is *meaningful* for individuals.

Throughout the book, we have tried to demonstrate how the social meanings that arise within these new mobile and online contexts are a complex interplay of technological design and social use which takes place within specific social, cultural and historical locations which also give meaning to these interactions and behaviours. The way that we decide upon the meaning and purpose of a particular digital technology is only partly defined by its design. Nevertheless, design inevitably has a relationship to the idea of the real. Game designers, for example, are

increasingly trying to approximate the feeling of 'real' through design features which enhance the immersive aspects of the game and the feeling of presence (of *really* being there). Yet, these very real feelings may take place in very fantastical environments filled with mythical beasts, adventures, quests, imaginary people, magic and worlds with different laws of nature. These worlds are very different from the more mundane, material, everyday environments in which we need to sleep, eat, go to the bathroom, have to remember our mother's birthday, floss our teeth, etc. It is not literally a replication of our everyday life which is being offered to us through these technologies—the products are designed to offer an alternative reality which nonetheless feels real. Elsewhere, social networking technologies have a rather different relationship to the material, everyday world. Elements of the everyday are integral to the design and use of these technologies—including mundane status updates, images of our next meal being shared on Twitter and Instagram, 24-hour webcams, photographs of what we are doing at this moment, or tagging our current location. Yet, the meanings ascribed to digital devices are interpreted, shared and negotiated with others as part of an ongoing fluid involvement in particular social contexts. Attempts to objectively and empirically test whether people feel, behave or think differently in online and offline contexts is inevitably complicated by the reflexive nature of humans being, who have their own ideas about what an online/offline environment is and what it means, and whether they think they think/feel/behave differently in different settings.

Here, we can begin to see how technologies intersect with our life stages and life orientations to generate meaning. For example, as we demonstrated in Chapter 8, how people interact with and make use of technologies shifts with age and the way that age and technology are mutually constructed. Studies of Second Life show that the roleplay which is integral to this platform is less significant to older users who instead treat it as an extension of their real life offering opportunities to meet real people rather than as a form of escapism. We are not suggesting that older people are driven to engage with Second Life differently simply because they are older. Rather, we would see this as a combination of the life goals which motivate the use of this technology and the social meanings given to older age, and the ways in which technologies are given meaning in relation

to age or life stage. Childhood, for example, is constructed as a time for play—a good time to sample imaginary, fantastical spaces, but also as a time for learning. Learning through play is an inherent feature of the way in which technologies are designed for children and marketed to adults. In contrast, games for older people are more likely to be marketed as 'cognitive optimisers' which promise to fend off the cognitive decline associated with older age. Virtual spaces are coded for life orientations—the meaning of playing online Bingo for an older adult is perhaps different from a teenager, or inhabiting Second Life for a 40 year-old would have a very different meaning than regularly updating a LinkedIn profile. Virtual spaces are given meaning in relation to age—they are coded as 'for children' or 'for adults'. As we saw in Chapter 5, the meaning of sexting is interpreted differently when it is done by adults than when it is done by teenagers. It is perhaps not a coincidence that Chapter 2, which looked at Growing Up online was dominated by research which adopts a 'media effects' approach since children are often a target for social unease about the future of society, and are constructed as in need of protection. Users reflexively respond to these meanings and shape their own engagement with these spaces accordingly—as shown when older people understand Facebook to be targeted at young people and avoid sharing aspects of their personal life in this medium and use it instead to passively observe the lives of family members. Overall, then, we have explored subjectivity as means of interrogating assumptions about what counts as real/unreal in relation to our use of digital technologies and online spaces.

Final Thoughts

Undoubtedly digital technologies have changed and are still changing the nature of everyday life. Our daily interactions with them have become habitual and pervasive, mediating how we see the world, other people and ourselves. In a very short space of time, they have become essential for living our lives. The visible changes in our behaviour are obvious with many people firmly attached to their digital devices in most social situations. The social and psychological changes are perhaps more subtle and difficult to ascertain.

Our examination of social context and subjectivity in this book shows the diverse ways that digital technologies become meaningful to people in their everyday lives and has highlighted (for some) the deeply personal significance of what they do with and through their digital devices. In the midst of mundane activities, people are dealing with important questions about who they are, who their friends are, who they are attracted to, what their sexuality is, who they love, what death is and more. At the same time, there is great concern about our increasing dependency on our digital devices. It has been suggested that we should understand this dependency in terms of exploiting human vulnerabilities (Turkle 2011; Solon 2017). In the same way that a combination of high-sugar and high-fat in our diet is irresistible to us (Avena et al. 2012) because it does not exist in nature (and so we have never evolved a defence against it), so too digital connections may offer us an irresistible combination of high-social connectedness and high self-expression.

Our digital selves have certainly taken on an importance that we may find difficult to explain at times. Indeed, some only feel completely themselves when they are living through those digital selves. What is perhaps unsettling about this is that the personal dilemmas that are now being dealt with through digital technology were once part of an inner, reflective dialogue that would have helped us to forge our sense of self. What we are experiencing now (as a result of this digital revolution) is a shift in the way that we experience ourselves so that it is no longer sufficient for us to just *be* ourselves—digital selves must be *enacted* through digital interaction. For those who are most attached to their digital selves, the act of taking a selfie or posting a status update on Facebook has become synonymous with thinking about the self and this is a profound change.

We are slowly adapting to this new status quo, but it requires a revision of our human sensitivities if we are to maintain balance in our relationships with others, broader society and within ourselves. The studies in this book show that we are indeed learning to adapt and that understanding the active process of 'digital selfing' is the key to making sense

of this adaptation. As we have shown in this book, Cyberpsychology can help to reveal the processes involved in maintaining our digital selves and encourage a form of 'digital self awareness' in relation to different life stages and orientations. Such an approach can help to move research beyond the blaming of technology for social and psychological 'effects' and towards a greater awareness of social context and subjectivity as significant in explaining digital technology use.

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