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ENCHANTING DECEPTION OF TEXT AND INSTANT MESSAGING

SEUNG WON (SALLY) LEE
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Reviewed and approved* by the following:

Samar Farage
Senior Lecturer of Sociology
Thesis Supervisor

Jack Selzer
Paterno Family Liberal Arts Professor of Literature
Honors Adviser

* Signatures are on file in the Schreyer Honors College.

ABSTRACT

We live in an age where the majority of people are turning towards non-verbal communication as a means of relating to each other. Text and instant messaging through mobile devices is becoming prevalent in our society, mostly among youth but also adults. This thesis attempts to trace the history of text and instant messaging, since its initial development from early nineteenth century's first telegraph to the all-inclusive mobile device it is now. It also offers an assessment of the ramifications of such media on social relations; text messaging increasingly makes us feel lonelier and less prepared for creating and maintaining meaningful relationships. It also discusses some of their cognitive effects, as dependence on the medium changes our brain functions, distances us from traditional formal language use, and impedes learning.

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Introduction

“Everything that deceives may be said to enchant.”

*-Plato in *The Republic*, Chapter III-*

Placing this notion into real life context, an enchantment with technology, namely text messaging, needs to be re-examined, as it becomes the vehicle for most interactions today. Currently, the majority of the population spends an extensive amount of time on their phones as cell phone ownership numbers hit 91% of adults, according to the Pew Research Center’s Internet and American Life Project.¹ As a result, these social media have drastically changed the lifestyles and interactions that take place within society. Cell phone usage is the most quickly adopted consumer technology in the history of the world, and our technology markets naturally discover and respond to what consumers most want or create wants we did not know we have. Therefore, the industry has become extremely adept at creating products that correspond to our fantasy ideal of an erotic relationship, in which the beloved object asks for nothing and gives everything instantly, making us feel powerful.

What is very deceptively enchanting about text and instant messaging is that it helps to replace a natural world indifferent to our wishes, a world of turmoil and hardships with a world very responsive and attentive to our every wish. Commenting on our relationship with technology, Jonathan Franzen, an American novelist and essayist, argues that this kind of industry, this fantasy world that conforms to our desires and

¹ *Cell phone ownership hits 91% of adults*, Lee Rainie, Pew Research Center

projects itself as an extreme of the self, enables narcissism and weakens social solidarity. In his commencement speech addressed to Kenyon College graduates, he contends that phones emulate fake romantic relationships by pointing out how ubiquitously the word “sexy” is used to describe late-model gadgets and how the extremely magical things we can now do with these gadgets—like impelling them to action with voice commands—would have “looked, to people a hundred years ago, like a magician’s incantations...and how, when we want to describe an erotic relationship that’s working perfectly, we speak, indeed, of magic.”² Thus, it is suggested that the world of techno-consumerism mimics real love and that it has no choice but to trouble love in turn.

As a college student witnessing first-hand the power of technology and people’s dependence on its products, it is imperative to understand its implications and consequences. In discussing the causes and effects of utilizing online communication, specifically text and instant messaging, this thesis will take a historical and theoretical approach to investigate how communication through technology can not only impede our social and cultural development, but also alter our cognitive perspectives by rewiring our brains and causing mental afflictions that are commonly called now ‘disorders.’ The purpose of this project will be to analyze the current situation of living with modern technology and to suggest healthy ways to live with it.

² *Liking Is for Cowards. Go for What Hurts*, Jonathan Franzen in *The New York Times*

Chapter 1

The History of Text and Instant Messaging and Its Emergence

Invented and mass produced in the second half of the nineteenth century, the cell phone and associated industries have become omnipresent, pervading the everyday lives of billions of people around the world. Before analyzing the history of cell phones and their transformation from a fixed-position, wire and cable dependent form to a wireless mobile device, we might consider the 2014 death of a 23-year-old Kim Pham, a recent university graduate, who was brutally beaten outside a club in Santa Ana, California, in an attack that left her brain dead and ultimately caused her death. As reported online in the *New York Daily News*, the attack, allegedly carried out by a group of three women and two men, escalated from an initial ‘photobomb’ argument. This incident not only provides a tragic story about how unnecessary violence takes the lives of many around the world but also leaves us to evaluate another aspect of our generation entirely. During moments of atrocity, we find ourselves filming it with our cell phones but not stopping it at an alarming rate. Although the bystander effect is a well-established trend, in recent years with the aid of technology, an entirely new social phenomenon has been born. Pham’s fellow writer and colleague Greg Dybec of *Elite Daily* contends that nowadays the bystander effect has gone a step further such that desensitization has become the natural byproduct of the Internet and the media, as well as the social media craze that has “enticed a generation to capture everything they see, the notion to pull out a camera in the most inappropriate of times has become as monotonous and predictable as the workings

of an assembly line.”³ The death of Kim Pham stands as a case in point. The video and photo records of this incident are numerous. Evidently, the bystanders preferred to record the spectacle rather than to help the victim, and in this case prevent her death.

The film and photographs of the event helped the authorities to make arrests; however such records did nothing to help the victim. What this recent tragedy show is that we have become a culture that is more likely to record an incident than making any effort to prevent the worst possible outcome as we intentionally choose to stare emotionlessly through a screen. It has become more than a habit, rather an instinct these days to reach for your mobile device for pretty much anything and everything. So the questions I will seek to explore and suggest answers to are as follows: How did we get here? How did cell phones come to take over our daily interactions and change us both culturally and physically? When and where did it all start, and what exactly are its functions? This chapter first considers the early history of the cell phone and then considers its transformation in to a mobile device.

The Early History of Cell Phones

In the nineteenth century, the telegraph emerged as a powerful communication technology that had far-reaching implications for how news, information, and entertainment were circulated. The telegraph is an important predecessor to the cell phone, as both shortened the traveling distance for information and messages. The first working mechanical telegraph was created by the Chappe brothers in the 1790s, and by

³ *The Tragedy of Kim Pham: What A Desensitized Generation Can Learn From a Senseless Loss*, Elite Daily, Greg Dybec

the middle of the nineteenth century the telegraph had approximately 5000 km of telegraph line with 354 stations across France.⁴ Despite the telegraph's popularity in France at that point in time, it is worth mentioning that on the other hand, the United States telegraph network did not grow on the basis of a thorough network plan. By this, it means that the ubiquity of telegraph usage was neither the primary nor the ultimate goal. Frederick T. Andrews, a member of the Institute of Electrical and Electronics Engineers (IEEE), noted in his essay *The Heritage of Telegraphy* that although many early visionaries were aware of the tremendous potential value in a unified national network, more early pioneers were in it to make a "killing by serving a single, well defined, point-to-point need."⁵ However, after the telegraph began to prove its worth, from 1840 to the late 1860s, telegraphy expanded greatly, especially with the laying of submarine channels. And by the end of the nineteenth century the telegraph system had become a "truly global communications network, intimately involved in the intricacies of global trade and war."⁶

In the closing years of the century, however, a new communications technology was developed that eventually displaced the telegraph—the telephone. The appearance and rise of the telephone are particularly associated with the United States, as Alexander Graham Bell (1847-1922) invented the telephone in 1876⁷ and started his telephone company in Wisconsin. The invention of the telephone was a huge technological milestone. Not only was it the first ever one-to-one technological communication device,

⁴ *Cell Phone Culture*, Gerard Goggin, pg. 19

⁵ *The Heritage of Telegraphy*, Frederick T. Andrews, pg. 15

⁶ *Cell Phone Culture*, Gerard Goggin, pg. 20

⁷ *The Telephone in Wisconsin*, College of Communications at Rutgers University, 2010

it also provided a radical way for individuals to talk to one another, person to person, in real time. Neither the postal system nor the telegraph during that period could supply such large-scale, everyday information as people created it, and deliver it immediately to someone else. At the scene of Bell's famous 1877 demonstration, involving songs and conversation between himself at Salem lecture hall and his assistant Watson in nearby Boston, Bell commented:

‘As I placed my mouth to the instrument it seemed as if an electric thrill went through the audience, and that they recognized for the first time what was meant by the telephone.’⁸

In response to the growth of the telephone industry, the dominant telegraph company of the time, Western Union, was not initially interested in the new invention until in 1879 they lost to Bell in a protracted patent case.⁹ Bell and his partners founded the American Telephone and Telegraph Company (AT&T) in 1885 and by the early twentieth century, achieved legitimacy for regulated monopoly status.¹⁰ This technological achievement marked the beginning of development of important technological innovations worldwide.

The telephone initially was an instrument that allowed sound to travel along wires so that people could speak to each other over long distances. Usually installed in a home or office, telephones were connected by copper wires to the telephone system. Although complex in form, the utilization and operation of the telephone was quite simple—it was to connect people. Taking this into account, it is important to mention a study of the

⁸ *Bell: Alexander Graham Bell and the Conquest of Solitude*, Robert V. Bruce (1973), pg. 217

⁹ *Cell Phone Culture*, Gerard Goggin, pg. 20

¹⁰ *Cell Phone Culture*, Gerard Goggin, pg. 20

social history of the telephone in the United States by Claude S. Fischer, an American sociologist and professor of sociology at the University of California, Berkeley.

According to Fischer, “the telephone industry descended directly from the telegraph industry.”¹¹ Fischer shows that key figures in the “development, building, and marketing of the telephone industry were formed in the telegraph industry”¹²—such that telephone use as conceived marketers largely revolved around business use. In Fischer’s account, the industry began by targeting businessmen and paid little attention to marketing residential services, at least at first. Even when residential users were targeted, the industry emphasized the benefits of telephones by persuading affluent homeowners that they could use the telephone in completing numerous tasks important to them. It was not, however, until the 1920s that the telephone industry in the United States encouraged telephone use for social interaction rather than exclusively for business. And, over time, the telephone’s place in the private, domestic sphere of the residence became widely accepted and eventually indispensable.

In response to the growth of telephone usage in a variety of areas, pagers were introduced, and this new technology quickly attracted millions of users in the 1980s and early 1990s.¹³ Although the FCC approved the spectrum for public use, a device that allowed a user to phone an operator and request a text message be sent to a recipient became widely used in business and industrial contexts.. And further, this device was quickly followed by the first walkie-talkie, radio, and cordless phone. In regard to the rise

¹¹ *America Calling: A Social History of the Telephone to 1940*, Claude S. Fischer (1992), pg. 81

¹² *Cell Phone Culture*, Gerard Goggin, pg. 21

¹³ *Cell Phone Culture*, Gerard Goggin, pg. 28

of the pager, a term first used by Motorola, it is important to note how ‘messaging’ worked in the initial stages of cell phone development. Briefly, in response to a call, an operator would send a text message to a recipient who would be alerted to the message by a sound. However, the pager, at least until two-way pagers were invented, depended on a phone system; i.e., the initial contact would come through a phone and then the recipient would respond via phone.¹⁴ Although the notion of being able to send someone messages through pagers was novel and, therefore fascinating at the time, by current standards, this process seems laborious and inefficient.

Even more technologically advanced was the introduction of cell phones. As one of the companies most associated with mobile phones in the 1970s and 1980s, the American firm Motorola under Martin Cooper as its chief executive made the world’s first call on a portable, hand-held cell phone. Named DynaTAC, this product weighed nearly three pounds and Motorola promised that this would “ultimately permit personal radiotelephone service to be offered to hundreds of thousands of individuals in a given city.”¹⁵ Gerard Goggin, an Australian media and communications professor at the University of Sydney, in his book *Cell Phone Culture* asserts that the importance of this first portable device to subsequent cell phone culture cannot be overstated. This is due to the fact that it took some time for this phenomenon of portable cell phone devices to be widely adopted by companies and network operators. Even until the mid-1980s, engineers, marketers and managers that ultimately influenced second-generation digital systems were under the assumption that cell phones would continue to be installed and

¹⁴ *Cell Phone Culture*, Gerard Goggin, pg. 28

¹⁵ *Wireless Horizon: Strategy and Competition in the Worldwide Mobile Marketplace*, Dan Steinbock, pg. 223

used in cars because portables were not viable.¹⁶ Despite dim evaluations of DynaTAC, Motorola was successful in introducing MicroTAC, the personal cellular phone, in 1989 as the “smallest and lightest portable on the market...the size of a wallet and weighed less than eleven ounces.”¹⁷ It took nearly a decade for Motorola to achieve this product and ultimately to make it more marketable.

Evolution and Transformation of Cell Phones

The first generation of cell phones featured almost exclusively voice communications. The limitation of these rather infant cell phones was that it had low functionality as well as its large size for daily, portable use. But digitization of networks in the 1980s and 1990s allowed its framework to change with more network functions, greater use of computing and software, and voice and data communications.¹⁸ To give example of its features, the calling number display where the number of the calling party could be shown or captured in a computer was well programmed to the cell phones. This gave rise to the second generation of cell phones where “sharing of the radio spectrum could be more efficiently managed through precise allocation of channels and transmission of data.”¹⁹ This addition ultimately led to the implementation of Global System for Mobiles (GSM), the Code Division Multiple Access standard (CDMA), and Time Division Multiple Access standard (TDMA) that together allowed the general

¹⁶ *Cell phone Culture*, Gerard Goggin, pg. 31

¹⁷ *Wireless Horizon: Strategy and Competition in the Worldwide Mobile Marketplace*, Dan Steinbock, pg. 228-9

¹⁸ *Cell Phone Culture*, Gerard Goggin, pg. 31

¹⁹ *Cell Phone Culture*, Gerard Goggin, pg. 31

sharing spectrum to ensure good connectivity.²⁰ The outcome of such development to the second-generation cell phones promised better reception and voice quality. Therefore, these new standards opened more possibilities to the product as the concept of address books was now implemented. This entailed that cell phones allowed phone numbers along with details of contacts to be stored into the phone. In addition, the subscriber identity module (SIM) was produced so that it allowed the data to be easily transferrable from phone to phone. Further, there were other features of the cell phones in the 1980s that made it so marketable to almost anyone, such as clock, alarm function, calendar, calculator and various games.

With such advanced features compared to the primary first-generation cell phones that were strictly for voice communication, these phones were not restricted to voice communication alone. Instead, a new dimension of text messaging further increased the popularity among cell phone users. Text messaging allows phone users to type short messages and send them to other phone users, and its extensive adoption from the early 1990s could be due to the fact that it was contemporaneous with the surge of another form of writing and text, namely the electronic mail (e-mail) sent over the Internet. As cell phones developed technically, the second and a half generation of it emerged, now servicing multimedia applications such as the ability to receive and send images or short videos, as well as ‘audio capabilities,’ which was downloading music to customize the ringtone of a phone. In response to such improvement, from the late 1990s to 2004, mobile messaging and other services became a lucrative segment of industry.²¹ Soon

²⁰ *Cell Phone Culture*, Gerard Goggin, pg. 32

²¹ *Cell Phone Culture*, Gerard Goggin, pg. 33

after that time period the third generation (3G) by Motorola and Nokia advanced to finally introduce ‘picture’ phones where it offered the possibility of interactive video communications wherever and whenever. Nonetheless, the industry, although progressive, went through rather a long process of modification and development to what cell phones are like now.

Despite the rather long process of such advancement of cell phones, what exactly was it, then, which led to such popularity? One possible answer to this question may be that the invention and development of cell phones, however gradual, brought the consumers speed, convenience of use, and exciting portable innovations and thus quickly attracted a loyal customer base. Powerful global businesses and concomitantly prosperous industries resulted, eliciting a feedback loop effect whereby competition intensified and profits increased as phones combined beauty or elegance with efficiency. So it was that new, and ever more functional designs brought a worldwide demand for phones that both delivered instant audio-visual contact among members of the general public who could afford the phones, and promised—or seemed to promise—a new dimension of societal health and well-being. This is especially so in light of the twin innovations of text and messaging, to which we will now turn.

The Rise of Smartphones

According to Tracey McVeigh in her article *Text Messaging Turns Twenty*, the first text message was sent as a Christmas greeting in December 1992.²² Nowadays, we

²² *Text Messaging Turns Twenty*, Tracy McVeigh, The Guardian (2012)

send eight trillion a year as text/instant messaging has become the most common way for friends and family to exchange information. Despite the fact that cell phones, as we have discussed, were not designed for typing out and sending individual letters of the alphabet, “billions of text messages fly though the airwaves every day, and they are a bedrock of revenue and profit for the world’s telecommunications companies.”²³ Certainly at the start of cell phone development, designers, manufacturers and cell phone companies were preoccupied with marketing telephone capabilities and associated cultural apparatus related to marketing them. However, parallel to improvements in regard to the infrastructure associated with cell phones and their quality, texting evolved also. The technology known as the Short Message Service (SMS) allowed 160 characters at first, with limited languages and character sets. Moreover, it was possible to send SMS or texts only when reception was sufficient, and when the text was sent from a handset to a server in the network and then on to the intended receiver. If it was the case where the receiver’s handset was within range, the text could be sent relatively quickly, within seconds, whereas if the handset was out of range or turned off, it would be programmed to try again, which was typically seven days.²⁴ Although text and instant messaging had rudimentary beginnings, it became so technologically refined that, in 2009, during the eighth season of “American Idol,” 178 million texts were sent for voting simultaneously.²⁵

²³ *15 Years of Text Messages, a ‘Cultural Phenomenon’*, Victoria Shannon, The New York Times (2007)

²⁴ *Cell Phone Culture*, Gerard Goggin, pg. 72

²⁵ *Texting Turns Twenty: The History of SMS*, Eric Lyday, Daily Infographic (2013)

Text messaging and instant messaging appear to know no bounds in terms of the quantity sent both by people and by companies. As Mike Short, chairman of the Mobile Data Association in the UK, recently points out, the number of text messages sent each week just passed one billion, about 25% higher than a year earlier.²⁶ Yet less than a decade ago, scarcely anyone had heard of these services. And, though point-to-point short messages of the Global System for Mobile communications (GSM) first appeared in the mid-1980s, phone companies all but ignored its commercial potential for nearly a decade. In 1995, for example, the average number of texts per GSM customer was a meager 0.4 a month and by the end of 2000 the figure was still only 35.²⁷ In his groundbreaking book *Texting* (2008), David Crystal attributes this slow start to the difficulty companies had working out reliable ways of charging for these new services. But once the companies had found ways to make these services profitable, texting had rocketed: in 2001, in the UK alone 12.2 billion texts were sent, a massive jump from the year before.²⁸

It is often assumed that such dramatic leaps are somehow both products of a general historical/technological evolution and, as phenomena, representative of something uniquely twenty-first century. So characterized, texting/instant messaging is then understood as a combined outcome of the two resulting in an unprecedented system. This system is then understood as fostering a highly distinctive graphic style constituted by abbreviations and deviant uses of languages adopted by a single cohort: a younger

²⁶ *15 Years of Text Messages, a 'Cultural Phenomenon'*, Victoria Shannon, The New York Times (2007)

²⁷ *Texting*, David Crystal, pg. 4

²⁸ *Texting*, David Crystal, pg. 4

generation that “doesn’t care about standards.”²⁹ However, Crystal contends that these popular beliefs about texting are wrong, or at least debatable. He claims that the graphic distinctiveness of texting is not an entirely new phenomenon and that its creative use is by no means restricted to the younger generations. If texting/instant messaging are not new concepts, exactly what is it then that makes them so appealing?

One possible answer to this question is that we have become a society that seeks convenience at all costs by pursuing it for instrumental reasons alone. If so, it may be that text and instant messaging are widely used because they make good on the promise of efficiency, thereby effectively obliterating the old distinction between production and consumption. In other words, the rise of text and instant messaging may be due to the far more pervasive McDonaldization of many, if not all, aspects of our society today. George Ritzer, a distinguished professor of sociology at the University of Maryland who introduced the term “McDonaldization,” concurs with Max Weber in thinking that the march of formal rationality has been superseded in contemporary American society by the fast-food restaurant. It is the fast-food restaurant that today best embodies and guides the process of formal rationalization and its five basic components: efficiency, predictability, quantification, control through substitution of the nonhuman for human technology, and the ultimate irrationality of formal rationality.³⁰ McDonald’s is iconic: in its growth, it has demonstrated the new power of ‘prosumption,’ much like texting and instant messaging. First founded in 1966, this chain now operates more than 30,000

²⁹ *Texting*, David Crystal, pg. 7

³⁰ *Rationalization and McDonaldization*, George Ritzer in *Illuminating Social Life*, pg. 45

restaurants in 119 countries, serving nearly 50 million people a day.³¹ Its proliferation is without precedent; its social impact, inasmuch as its burgeoning results in the elimination of, for instance, the locally owned breakfast shop, is immense. In terms of efficiency, it bears comparison, in its homogenization of content, with the newspaper *USA Today* and its junk food journalism. Instead of offering detailed and honest stories, this newspaper offers a large number of short, quickly digested, and decontextualized segments of information. Like texting and instant messaging, *USA Today* offers less and less with greater and greater immediacy. Rather than prolonging an in-depth conversation, texting and instant messaging allow people to ‘connect’ in so-called ‘real-time’—but without effort, nuance, and the phatic dimension typical of sharing quality time with another.

In addition, rationalization adopted from the notion of McDonaldization involves an increasing effort to ensure predictability from one time or place to another. This is because, in a ‘rational’ society, people want to know what to expect in all settings, at all times. For instance, camping these days is not what it used to be—people now seek to eliminate most if not all of the unpredictability from camping as the development of country club campgrounds, RVs, video recorders and stereos indicate. And, in my view, text and instant messaging share this goal of eliminating unpredictability. With text and instant messaging, there is no need to meet the person at a foreign place. Therefore, conversations in this context are predictable, as the process of meeting someone new in a strange setting is eliminated. Taking this perspective allows us to examine the world of text and instant messaging through the increasing McDonaldization of the society and

³¹ *Rationalization and McDonaldization*, George Ritzer in *Illuminating Social Life*, pg. 46

provides a way of interrogating the reasoning driving the demand for and use of these services.

As for quantification, which in other words is calculability, everything is quantified and measured. With McDonaldization comes a tendency to emphasize quantity rather than quality and to sense that quality is equal to certain, usually large quantities of things. This value placed on quantity is not restricted to fast-food restaurants. For example, American Airlines boasts that it serves more cities than any other U.S. airline. More interesting is the notion that there is a “seeming absence of interest in communicating anything about quality,”³² such as passenger comfort, in their advertisements. As with efficiency, quantification extends to dieting, for example. Given its very nature, the diet industry is obsessed with things that can be quantified; however, the point is to lose weight over a short period of time, instead of doing so via the prolonged yet healthy ways of exercising and eating well-being focused meals. In terms of text and instant messaging, it fits perfectly into the terms of quantification as one can text another a lot at once or for a long period of time to show that there has been a lot of communication involved between the two. However, the quality of communication suffers as text and instant messaging differs vastly from what a traditional face-to-face conversation would provide.

Next is the replacement of people with nonhuman technologies—where that replacement leads toward greater control of the people. In explaining this phenomenon, Ritzer discusses the recent development that has taken place in the supermarkets. In the past, prices were marked on food products and the supermarket checker would then have

³² *Rationalization and McDonaldization*, George Ritzer in *Illuminating Social Life*, pg. 49

to read the price and enter it into the cash register. But due to the fact that this was strictly a human activity, this process came with a lot of room for error. In an effort to reduce this margin, most supermarkets have installed optical scanners, where the mechanical scanner processes the code and the price for a given code number that has been entered into the computer—which today is called the cash register. This technological development has both reduced the margin for error and “reduced the number and level of sophistication of the tasks performed by the checker.”³³ This is because the checker no longer needs to read the amount and enter it into the register. Instead, the checker performs the much less skilled task of scanning the food and putting it in a bag. This is an example of ‘deskilling’ an occupation, a term that refers to reducing the skill level necessary to do a given job. This facet is indeed true when it comes to communicating through text and instant messaging. Our phones now have the capability to correct our grammar and spelling through the ‘autocorrect function,’ and thereby to address human errors—that is the exact reason why communication done through media such as phones cannot be candid as it is perfected and rehearsed.

The phenomenon of the McDonaldization of society leads ultimately to the irrationality of rationality. We recognize that there are great gains involved in increasing rationalization resulting from efficiency, predictability, quantification and control through the substitution of nonhuman for human technology. Yet we must also take into account the point that these rational systems also allow us to avoid the problems created by non-rational systems. Ritzer, following Weber, contends that “rational systems inevitably spawn a series of irrationalities that serve to limit, ultimately compromise, and perhaps

³³ *Rationalization and McDonaldization*, George Ritzer in *Illuminating Social Life*, pg. 53

even defeat, their rationality.”³⁴ This is because rational systems are not less expensive; they force us to do a range of unpaid work and most importantly, they are often inefficient. For example, the main reason McDonaldization can be seen as irrational and unreasonable is that it emulates a dehumanizing system whereby food that is high in calories, fat, cholesterol, salt, and sugar content is served when these are the last things that the vast majority of Americans need. In terms of text and instant messaging as a valid form of communication, it is neither a desirable nor suitable medium for a genuine connection. We can send as many texts as we like but the messages are never delivered in our tone of voice. Instead, the technology does that for us, as it corrects our sentences or word choice. Texts and instant messages are delivered in such a way that the receiver chooses to see and/or respond in their own time. Taking this into consideration, it is impossible to execute authentic and real-life conversations, not to mention that messages get lost in typed words.

Moreover, in further explaining the reasoning behind text and instant messaging’s prevalence in our daily interactions, Sherry Turkle, professor of social studies of science and technology at the Massachusetts Institute of Technology, provides a thoughtful insight. Taking into consideration that online connections were first conceived as a substitute for face-to-face contact, text and instant messaging quickly became the connection of choice. According to Turkle, this is because “we discovered the network—the world of connectivity—to be uniquely suited to the overworked and overscheduled life it makes possible.”³⁵ We now look to the network to ‘defend’ us against loneliness

³⁴ *Rationalization and McDonaldization*, George Ritzer in *Illuminating Social Life*, pg. 55

³⁵ *Alone Together*, Sherry Turkle, pg. 13

even as we use it to control the intensity of our connections. After all, the technology has made it easy to communicate when we wish to and likewise to disengage at will. Turkle claims that we have become increasingly overwhelmed by the volume and velocity of the tasks that make up our lives; we turn to technology to help us find time. However, the result is that we become busier than ever. This naturally leads us to the topic of discussion in the next chapter, as we understand that technology “reshapes the landscape of our emotional lives.”³⁶ The issue here must be whether the technology is offering us the lives we want to lead. However, before discussing the effects of text and instant messaging, the current condition of smartphone must be discussed.

Considering that we seek for McDonaldization in almost every aspect of our society as we chase efficiency, predictability, quantification, and control through substitution of humans with nonhuman technology among the overwhelmingly busy schedules, this particular trend is concerning as our cell phones will service only what we yearn for. As the meanings that we associate with technologies are influential to how such technologies are shaped, how we imagine and represent them and what we take them to stand for governs what it does to us. Goggin asserts in his book, *Cell Phone Culture*, that the coming together of photography and telephony in the form of the camera phone is “only one part of the merging of formerly distinct communications platforms, cultures...in which cell phones and mobile technologies are being fervidly embraced, if not fetishized.”³⁷ The rise of smartphones epitomizes the reconfiguration of features of the areas of television and Internet. It all started when Wireless Access Protocol (WAP)

³⁶ *Alone Together*, Sherry Turkle, pg. 17

³⁷ *Cell Phone Culture*, Gerard Goggin, pg. 162

attempted to design Internet use for the phone in the 1990s. With the growing popularity of cell phones, handset manufacturers and network operators sought for an attractive direction for commercial development in the cross-over of the cell phone and the Internet.³⁸ Not just the Internet but also television as Nokia, one of the handset manufacturers heavily promoting mobile television, featured Sprint's MobiTV service in late 2003. MobiTV was to stream television directly from phones with either a low-frame or high-frame rate option.³⁹ Channels included well-known news and entertainment services available on satellite or cable television around the world and even a subscription service called ITV Mobazines, which was an application downloaded to the phone so that two daily updates were then sent at 7.30AM and 4PM daily.⁴⁰ Essentially, ITV Mobazines utilizes customized mobile messaging to draw upon its existing broadcast content.

Now, with the fourth-generation mobiles, those who do not have a smartphone are in the minority of U.S. mobile phone owners, according to the new survey from the Pew Research Center. The survey of 2,253 adults revealed that out of 88% of U.S. adults that are now cell phone owners; nearly half (46%) of all American adults own a smartphone, up from 25% in May 2011.⁴¹ With this mind, Turkle comments that nowadays, we need mobile communication to get to the notion of the life mix. Although until recently, it was necessary to sit in front of a computer screen to enter virtual space, now with a mobile

³⁸ *Cell Phone Culture*, Gerard Goggin, pg. 163

³⁹ *Cell Phone Culture*, Gerard Goggin, pg. 178

⁴⁰ *Cell Phone Culture*, Gerard Goggin, pg. 179

⁴¹ *More Americans Have Smartphones Than Feature Phones*, Angela Moscaritolo, PCMAG (2012)

device as a portal, we move “into the virtual with fluidity and on the go.”⁴² This makes it much easier to use our lives as avatars to manage the tensions of everyday existence and supplement social networking to be ‘ourselves,’ but online performances are taking on lives of their own. It is unsurprising that we view emails, texts and Facebook messaging as thin gruel but useful if the alternative is sparse communication with those that we care about. But it becomes a problem when we become accustomed to their special and momentary pleasures as we use our mobile devices to share our thoughts, music and photos. The problems that we currently face because of the dominance of text and instant messaging in our daily interactions will be the subject of the next chapter.

What the present chapter discloses is the history of the cell phone and its transformation into the multi-feature mobile communication device we use today. As evident from the time that it took from the cell phone’s predecessor, the telegraph, to the current 4G mobile device, the very idea of getting in contact with someone from afar in real time provided people substantial amount of time to adapt and ultimately adopt into their daily lives. The practice of text and instant messaging, on the other hand, is relatively primitive compared to the initial function of the cell phone, which was for vocal communication. However, despite this, the cell phone’s wide adoption over only two decades and Max Weber’s perception of bureaucracy and the ultimate McDonaldization of society is discussed in order to explain these circumstances. The mobile device and text and instant messaging intervene in all spheres of communication today, and the ramifications of this dependence are discussed in the next chapter.

⁴² *Alone Together*, Sherry Turkle, pg. 160

Chapter 2

Social Ramifications of Text and Instant Messaging

The previous chapter offered a consideration of the invention and early development of the cell phone up to the present day. It is important to consider Max Weber's inspired argument on the McDonaldization of social relations due to technology. Recognizing the increasing rationalization of relationships from efficiency, predictability, quantification and control through the substitution of nonhuman for human technology, Ritzer warned of the irrationality of rationality of technology. This is because although phones are rational in that they are efficient and convenient, they become an irrational medium as the quality of our communications and social relationships begin to suffer through this technology. George Ritzer, professor of sociology at the University of Maryland, argues that technology is inherently unsuitable for communication. It is undeniable that phones are considered a necessity for the present young generation, those aged 35 or younger, known as Generation Y, Generation Me, Millennials and iGeneration. Members of this generation are thought to be highly optimistic in that they expect to go to college, to make lots of money, and perhaps even to be famous. However, although these aspirations are commendable, this generation lives in a world in which college admissions are increasingly becoming competitive and basic necessities like housing and healthcare are becoming harder and harder to afford. As Jean Twenge, the author of *Generation Me*, comments, "this is a time of soaring expectations and crushing

realities.”⁴³ In the face of such optimism and unguided acceptance of technologies, we must consider for a moment some of their effects.

On January 14, 2014 in Tampa, Florida 71-year-old Tampa police captain Curtis Reeves, Jr., was charged with second-degree murder in the death of 43-year-old Chad Oulson. Reeves allegedly shot Oulson after a verbal and physical confrontation in a movie theatre.⁴⁴ Reeves was accused of gunning down the man for texting during a Mark Wahlberg war movie. Pasco County Sheriff Chris Nocco commented that, “I can tell you, anybody, over a cellphone, to take their life, it’s ridiculous.”⁴⁵ This made the national news because the cause of the violence seemed so trivial. After all, it is hardly surprising for people in movie theatres to send text messages, although some consider such activity to be impolite.

Although this is an extreme case of how text and instant messaging can lead to or at least furnish an occasion for extreme violence, another ramification must be considered. That is, this case exemplifies an epidemic of stress and tension linked to technology. Terming it as America’s ‘anger epidemic,’ C. Leslie Charles in *Why Is Everyone So Cranky* provides grounds that we are now a nation whose collective mood has gone sour, as we have abandoned common courtesy. People are not as amicable or courteous as they once used to be, with soaring impatience, rudeness and demand. In addition, Charles mentions that altogether the Internet, on-line news groups, Listservs, and chat lines exposed us to just about any topic of interest with endless spending

⁴³ *Generation Me*, Jean T. Twenge, pg. 2

⁴⁴ *Retired Cop Guns Down Man for Texting at Florida Movie*, NBC News, M. Alex Johnson

⁴⁵ *Retired Cop Guns Down Man for Texting at Florida Movie*, NBC News, M. Alex Johnson

opportunities. With ongoing technological refinements continuously being made available, people have developed a strong lust for pagers, personal cell phones and constant contact, regardless of need. It is worth noting, too, that “people who complained about being pressed for time somehow managed to spend hours on-line each day, connected to their computers instead of their loved ones.”⁴⁶ The competition for space, time, and attention led us to reach new levels and these increased speed limits added to the turmoil of our already “revved up lifestyles and the pressures of compressed time, computers, competition and customer contact have complicated our lives to the breaking point.”⁴⁷ One of the reasons that Charles gives for our increasing uncivility is that we live in an era of instant gratification, wherein our expectations of, for example, picking up a phone and getting what we want almost instantly ultimately fosters our growing impatience. We can no longer bear the thought of someone else’s problem taking precedence over ours; and when someone or something hinders us from getting what we want and fast, we become, as Charles puts it, ‘cranky.’

More notably, Charles also contends that the communication overload from our excessive dependence on our phones hones uncivility. Although all-you-can-eat buffets are a great bargain, it is also reasonable to assume that you end up eating more than you wanted to and you leave swearing that you will do better in managing portions. But a feeding until bloated process is repeated day after day, as we face an ongoing ‘media buffet.’ As we have twenty-four hour access to news, entertainment, and instant electronic contact, “our brains are so stuffed...it has spoiled our appetite for learning

⁴⁶ *Why Is Everyone So Cranky?* C. Leslie Charles, pg. 14

⁴⁷ *Why Is Everyone So Cranky?* C. Leslie Charles, pg. 15

about ourselves.”⁴⁸ Charles comments that our brains need relief, especially when we can gain immediate access to everything. Overall, then, if we do not know how to get to the right place and find the right information while ignoring the unnecessary, we will ultimately have access to nothing. It is also directly projected into our lifestyles, as the energy we spend trying to keep up with what’s going on in other people’s lives through constant contact could be better used for attending to our own.

Although texting is an efficient medium when the objective is to communicate quickly and informally, it becomes a matter of concern when this becomes the preferred method of communication for children and young adults. Nearly one in three children sends more than 100 instant messages per day, and there are those that would rather send a text instead of talk, even if they are sitting side by side.⁴⁹ This naturally means that with the rise in the number of people texting, “researchers are finding that over-texting is contributing to a significant decline in the quality of communication in the workplace.”⁵⁰ This is because up to 93% of communication is conveyed through tone of voice and body language while only 7% is conveyed in words.⁵¹ Thus, it is not surprising to find that digital communication can be misinterpreted or become inadvertently offensive. Researchers have found that people prefer digital communication both because of its efficiency and because it allows them to communicate in a way that brings a sense of protection. In other words, texting and instant messaging both enable people to obscure tone and hide their facial expressions and feelings. Yet people also look to the network to

⁴⁸ *Why Is Everyone So Cranky?* C. Leslie Charles, pg. 59

⁴⁹ *Does Texting Affect Emotional Intelligence?* Patricia Harmon, ASTD (2013)

⁵⁰ *Does Texting Affect Emotional Intelligence?* Patricia Harmon, ASTD (2013)

⁵¹ *Does Texting Affect Emotional Intelligence?* Patricia Harmon, ASTD (2013)

“defend us against loneliness even as we use it to control the intensity of our connections.”⁵² Such technology also makes it possible to avoid dealing with the feelings of others. Compared to traditional methods of communication, this is exactly the reason why text and instant messaging can be perceived as superficial. As a consequence, phones add to an overall sense of uncivility. After all, civility is about being attentive to others. Civility also depends on face-to-face communication, understanding body language, and being aware of motives and emotions. How can we be attentive if our minds are always elsewhere? Technology has a profound impact on how we communicate as social animals, and it is one of the ways in which we survive. With so much value placed on communication then, the questions considered in the present chapter pertain to the social ramifications of replacing traditional ways of communication with text and instant messaging. What is technology doing to us exactly, to our emotional health and our social relationships, whether in terms of family relationships, work relationships, or our romantic lives? For the purpose of this thesis, these ramifications will be examined in terms of how the cell phone has changed us both emotionally and culturally.

The Lonely Generation: Do We Feel More Lonely?

Today’s phones resemble Swiss Army knives in that they do a lot more than making a phone call. As mobile phones are being linked to the Internet, they have metamorphosed into something so much more—“manufacturers are piling on features,

⁵² *Alone Together*, Sherry Turkle, pg. 13

turning these devices into small, powerful computers that are part voice communication, part BlackBerry, part iPod, part Web browser, part texting device...part GPS compass.”⁵³

Therefore, it would not be an exaggeration then to call phones something else, like a buddy. This is due to the fact that all of us, young and old, will rely on them heavily to get through our day. Not just to organize our schedules but to become more connected with friends online. Regarding this, Facebook is a great example as it was created as a place where you could be yourself, as a real person to talk with your friends by sharing pictures, making plans, largely doing many of the things that friends do together. In explaining the sudden popularity of Facebook, the creator Mark Zuckerberg noted that “In order for us to be successful in this century, we’re going to need to be more connected and we’re going to need to have a better sense of understanding of where other people are coming from and just greater sense of like, we’re all connected.”⁵⁴ However, there seems to be a strong difference of opinion, as Jacqueline Olds and Richard Schwartz, both Associate Clinical Professors of Psychiatry at Harvard Medical School, contend in their book, *The Lonely American: Drifting Apart in the 21st Century*. Olds and Schwartz believe that as Americans in the twenty-first century devote more technology to staying connected than any other in history, this device somehow fails us as researchers conclude that we feel increasingly alone.

Taking into consideration that the experience of feeling left out is a powerful engine of human emotion that works in opposition to the American ideal of self-reliance, evolutionary psychology teaches us that human beings survive only through attachment

⁵³ *Grown Up Digital*, Don Tapscott, pg. 48

⁵⁴ *Grown Up Digital*, Don Tapscott, pg. 55

to one another. Sherry Turkle in *Alone Together* contends that although online connections were first conceived as a substitute for face-to-face contact, it slowly evolved to something impractical. Text messaging became the connection of choice as a means of communication uniquely suited to an “overworked and overscheduled life.”⁵⁵ Turkle goes further, arguing that we now look to the network to defend us against loneliness even as we use it to control the intensity of our connections. This may be because technology has made it almost too easy to communicate when we wish to, and likewise it allows us to disengage at will. This becomes an alarming problem as the telephone call appears to be an activity that is dying over time. Further, the number of text messages sent monthly in the U.S. exploded from 14 billion in 2000 to 188 billion in 2010, according to a Pew Institute survey, and there are no signs that this trend will abate any time soon.⁵⁶ However, problems arise because of what is lost when small-talk through text and instant messaging fades. Jeffrey Kluger, who is the author of the article *We Never Talk Anymore* on CNN, argues that developmental psychologists studying the impact of texting worry that young people as the most prolific users of technology may not fully develop their interpersonal skills. The arguments are that the ability to think, reason, and self-reflect, that bedrock of development is undermined through mediums such as text and instant messaging. Turkle warns that overwhelming dependence on text and instant messaging as a genuine form of communication to amount to a life of hiding in plain sight, where hiding ultimately leads to keeping one entirely alone.

⁵⁵ *Alone Together*, Sherry Turkle, pg. 13

⁵⁶ *We Never Talk Anymore: The Problem with Text Messaging*, Jeffrey Kluger, CNN (2012)

To put these ideas into more realistic context, Donna Reid and Fraser Reid's study *Insights into the Social and Psychological Effects of SMS Text Messaging* published through University of Plymouth should also be considered. The researchers are interested in the increasingly widespread use of text messaging and therefore question the social and psychological effects of this novel communication medium. For this study the researchers collected data using an online questionnaire on a mobile phone ownership and usage comprising multiple-choice and open-field questions from 982 respondents. The researchers found that the distinction between Texters and Talkers seemed most intriguing, as the study found that in terms of personality characteristics, "Texters were significantly more lonely and significantly more socially anxious than Talkers."⁵⁷ Although Texters reported having developed deeper relationships with the person that they texted most, the study showed that Texters and Talkers did not differ in the reported breadth of their relationships. It appears that text and instant messaging is largely thought to have amplified and enhanced the quality of our conversations, yet growing reports of loneliness cannot be disregarded.

But why do we feel lonely through technology? The reason that text and instant messaging can lead to loneliness is because communication via technology only fosters weak ties. A study of how these communication devices shape relationship quality is exemplified by Andrew K. Przybylski and Netta Weinstein's study done at the University of Essex. Taking into account that psychological research on phone use broadly suggests

⁵⁷ *Insights into the Social and Psychological Effects of SMS Text Messaging*, Donna Reid and Fraser Reid, February 2004 University of Plymouth

that it is often aimed as a source of entertainment and a means for sociability,⁵⁸ this indicates that use of phones is largely a way to feel closer with family members, to express care for others and to be available to them. The purpose of this research was to explore the idea that the presence of mobile communication technology may present a barrier to human interactions, especially in regard to the ability to engage in meaningful conversations, and that the use of such technology may ultimately leave us lonelier. There were seventy-four participants who were randomly assigned to one of two conditions: phone absent or phone present. For participants assigned to the phone present condition, a mobile phone would be rested on a book which was placed on a nearby desk outside participant's direct visual field. In the phone absent condition, a pocket notebook replaced the phone and the lab was to emulate real-life conversations, including a moderately intimate topic, such as "Discuss an interesting event that occurred to you over the past month."⁵⁹ During the debriefing of participants, both groups indicated that mobile phone placement was unobtrusive. Relationship quality was measured utilizing a seven-item version of the connectedness subscale of the Intrinsic Motivation Inventory, and included items such as "It is likely that my partner and I could become friends if we interacted a lot." It was found that the partners who got to know one another in the presence of a phone felt less close to each other than those who interacted without a phone present in the lab. What the results of this experiment suggest is that the mere presence of mobile phones may interfere with the formation of human relationships. If

⁵⁸ *Can You Connect With Me Now?* Andrew Przybylski and Netta Weinstein, *Journal of Social and Personal Relationships* (2012)

⁵⁹ *Can You Connect Now?* Andrew Przybylski and Netta Weinstein, *Journal of Social and Personal Relationships* (2012)

human relationships are, in fact, hindered in this way, we are led back to the idea that we are not fully expressing ourselves as social animals when we use our technology extensively.

Moreover, another reason for increasing loneliness could be linked to the general decline of civic engagement. Robert D. Putnam, a Peter and Isabel Malkin Professor of Public Policy at Harvard University, argues in his article, *Bowling Alone: America's Declining Social Capital* that although advanced Western countries and the United States specifically have typically been taken as models of democracy, there is striking evidence that manifests a notable decline of American civil society. Setting aside the apparent reductions in voting and volunteering for mainline civic organizations such as the Red Cross, Putnam points to neighborliness as a waning form of social capital, and associated with declining civic engagement. In each General Social Survey since 1974, respondents have been asked, "How often do you spend a social evening with a neighbor?" The results showed that the "the proportion of Americans who socialize with their neighbors more than once a year has slowly but steadily declined over the last two decades, from 72% in 1974 to 61% in 1993."⁶⁰ Putnam also adds that Americans are also less trusting, as the proportion of Americans saying that most people can be trusted fell by more than a third from 1960 to 1993.⁶¹

This special attention to declining civic engagement is not altogether surprising as research in a variety of fields demonstrates that social capital makes citizens generally

⁶⁰ *Bowling Alone: America's Declining Social Capital*, Robert D. Putnam, *Journal of Democracy* (1995)

⁶¹ *Bowling Alone: America's Declining Social Capital*, Robert D. Putnam, *Journal of Democracy* (1995)

happier and healthier, reduces crime, and improves economic productivity. The trend that Putnam mentioned in *Bowling Alone* indicates that by many measures, since the 1960s, Americans have been withdrawing from their communities as “in the 1990s, Americans’ social connections withered, as they increasingly watched *Friends* rather than having friends.”⁶² Thomas H. Sander, an executive director of the Saguaro Seminar at Harvard University’s John F. Kennedy School of Government, adds to Putnam’s assertion that sociologists who had once been skeptical of Putnam’s findings found to their dismay that over the last two decades the incidence of close friendships had declined. This was due to the fact that as of 2001, “a quarter of those polled in the U.S. reported that they lacked a confidante with whom they could discuss important personal matters, and nearly half of all respondents reported being only one confidante away from social isolation.”⁶³ In response to these findings, Putnam and Sander suggest that America could be civically restored in two ways: by encouraging adults to socialize more and join more groups and by teaching the young, whose habits are more malleable, to be increasingly socially connected.

But in response, Erika Rydberg, a writer for National Public Radio, provided a counter-argument to Putnam’s study. She found that, with the advent of social networking and the popularity of information sharing and interpersonal communication, the depiction of lonely individuals staring at screens is no longer valid. For example, the Pew Research Internet Project included a study of conversations through social media

⁶² *Still Bowling Alone? The Post 9/11 Split*, Thomas H. Sander and Robert D. Putnam, *Journal of Democracy* (2010)

⁶³ *Still Bowling Alone? The Post 9/11 Split*, Thomas H. Sander and Robert D. Putnam, *Journal of Democracy* (2010)

such as Twitter, showing that creating “networks with identifiable contours” can be more useful.⁶⁴ Rydberg argued that “the virtual world is no longer a separate world from our daily life and lots of Americans are involved in more kinds of groups,”⁶⁵ as the Pew Survey revealed that 65% of social network users read group updates and messages on these sites. However, Donna and Fraser Reid’s research suggests that attitudes toward text and instant messaging echo that it is now often understood that online contact can at times surpass direct face-to-face interaction in regard to both intimacy and intensity. This is because, compared to phone calls or face-to-face interactions, text and instant messaging enables the cell phone user to disengage from the multiple attentional demands of real time social interaction. Concerns emerge such as “research now suggests that this anxiety is associated with a preoccupation with the ‘observer’s perspective’ on the self, leading to cognitive overload.”⁶⁶ In other words, due to the delay and elimination of the audience reaction that normally accompanies real-spoken interaction, text and instant messaging offer more time for the sender to estimate the possible reactions. Moreover, the Reids assert that the experience of loneliness arises from the absence of social relationships capable of satisfying needs for attachment and belonging. As text and instant messaging, the mere social contact does not “cushion people against loneliness, it may even exacerbate it.”⁶⁷ The number of contacts means only so much, as it is the

⁶⁴ *Mapping Twitter Topic Networks: From Polarized Crowds to Community Clusters*, Mark A. Smith et al, 2014

⁶⁵ *So Much For Bowling Alone: Research Says Internet Users Are Socially Engaged*, Erika Rydberg, NPR 2011

⁶⁶ *Text or Talk? Social Anxiety, Loneliness, and Divergent Preferences for Cell Phone Use*, Donna Reid and Fraser Reid, *Cyberpsychology and Behavior* (2007), pg. 425

⁶⁷ *Text or Talk? Social Anxiety, Loneliness, and Divergent Preferences for Cell Phone Use*, Donna Reid and Fraser Reid, *Cyberpsychology and Behavior* (2007), pg. 425

quality of these contacts—particularly the presence of an intimate friend or romantic partner—that is important to young and old alike. The Reids further suggest that whereas text and instant message exchanges might ameliorate the experience of loneliness, “we expect the intimacy needs of lonely people to be satisfied more directly by a vocally expressive, real-time voice call.”⁶⁸

In accord with these findings, Sherry Turkle mentions that walking through a college library or the campus of a high-tech start-up exemplifies this general loneliness in our society today. Although we are physically together, each of us is in our own bubble, furiously connected to keyboards and tiny screens. Turkle terms this as the ‘Goldilocks effect,’ as “in the silence of connection, people are comforted by being in touch with a lot of people—carefully kept at bay.”⁶⁹ Even though we cannot seem to get enough of one another, we utilize technology to keep one another at a safe distance; not too close, not too far away, just the right distance. Messy and demanding, human relationships are not to be cleaned up with technology, and in this process we are tempted to believe that our little ‘sips’ of online connection add to a big gulp of real conversation when in actuality, no matter how valuable, they do not substitute for ‘real’ conversations. Instead, we suffer from social anxiety, with increasing feelings of loneliness. What is paradoxical then is that as we are more connected, we are less together. This leads us to the next question: if we are feeling lonelier, what does text and instant messaging exactly do to make us feel that way? How are our various relationships, such as family, romantic, and professional affected by text and instant messaging?

⁶⁸ *Text or Talk? Social Anxiety, Loneliness, and Divergent Preferences for Cell Phone Use*, Donna Reid and Fraser Reid, *Cyberpsychology and Behavior* (2007), pg. 425

⁶⁹ *The Flight From Conversation*, Sherry Turkle, *The New York Times* 2012

Dwindling Family Relationships or Better Communication?

Sherry Turkle notes that Mark Twain's *Adventures of Huckleberry Finn* is a story in which the adolescent's search for identity occurs on the Mississippi moment, a time of escape from an adult world. Time on this river was emblematic not of a particular moment but of an ongoing process through which children separate from their parents. However, as we become friendlier with technology, that rite of passage has been transformed. Traditionally, the child would internalize the adults in his or her world before declaring independence. This process, however, is changing as technology allows a tethered variant, whereby parents can now be brought along in an intermediate space, such as that created by the cell phone—an intermediate space, then, where everyone important is on speed dial. Such a space is allowing the present young generation to sail down the river together. And, as a result, present-day adolescents are not facing the same pressure to become independent that has at least in recent times in Western society been associated with becoming an adult. Is this making family relations stronger or worse?

In *Growing Up Digital*, author Don Tapscott provides an anecdote about recent college graduate, Matthew Dreitlein. Matthew graduated with a political science degree, and upon graduating, he moved back home to Rochester, NY. He decided that since as he had been a night owl at the university, he would adopt the same habits at home, but more productively. Late at night, he would hang out with his friends and after coming home, he would stay up all night working on his novel, surfing the Web, or preparing for a political conference. He would have breakfast with his brothers and go to sleep until mid-afternoon. The Web made it so easy for him to live at night that the 9-to-5 workday

seemed outdated. Matthew had the opportunity to hang out with his friends late at night without missing out on time with his family. This improved his relationship with his parents, as they no longer had any reason to fight about who is using the car or doing chores. With this line of argument, Tapscott argues that this particular generation is committed to nurturing connections within the family. Quoting a 2007 poll, Tapscott asserts that this poll revealed that “Net Geners fell a strong sense of commitment toward family and showed renewed interest in traditional family structures.”⁷⁰ Moreover, as parents, it is assumed that this generation will be immersed in the digital world where they will get parenting advice, talk to other parents, and play with their kids. They will also strive to make time to use the Internet not only for socializing but for social support, such as obtaining advice about child development.

But the problem that arises with dependence on technology is that when parents give children cell phones, for example at the ages of nine to thirteen, “the gift typically comes with a contract: children are expected to answer their parent’s call.”⁷¹ This promise makes it possible for the child to engage in activities, whether it is playing sports, watching a movie, or spending time at the beach, that would not have been permitted if it were not for the phone. The child therefore does not have the experience of being alone with only him or herself to count on. Turkle contends that it is a rite of passage for children to experience how to be on their own and be responsible for their actions. If they were to become frightened, they had to experience those feelings. However, a cell phone buffers this moment and consequently the child does not

⁷⁰ *Growing Up Digital*, Don Tapscott, pg. 238

⁷¹ *Alone Together*, Sherry Turkle, pg. 173

accumulate the experiences necessary to become an adult. The trouble with this notion of a slow separation of the child from the parents is that the parents are also tethered to technology. For example, it is frightening for parents to call or text their children and receive no response. Turkle quotes the mother of two high girls as saying that she envied her own mother. The reason for this was that the mother quoted by Turkle felt that her own mother had less reason to worry.⁷² In terms of shaping the ‘gold standard,’ which is a validated style that was culturally ‘male’ or ‘female’—an emotional style that defines itself not by boundaries but through relationships—Turkle believes that this gold standard “tarnishes if a phone is always in hand.” This is because technology nowadays makes it too easy to express emotions as they are being formed. Thus, technology champions an emotional style in which feelings are not fully experienced until they are communicated. Although parents traditionally were the ones to teach their kids to develop emotions and how to deal with them as they come, because parents are also becoming tethered to technology, the family and their ideals are hindered due to overwhelming usage of and dependence on technology.

Then how about when kids are all grown up? This question is partly answered by a John Alderson in his master’s thesis at Texas State University. To examine how mobile phone technology is influencing the familial relationships students have while at college and during the transition to adulthood, Alderson administered a qualitative in-depth interview method to fifteen college students in regard to their mobile phone use and respective perceptions of technology. To best capture the moment of transitioning to adulthood, Alderson purposely focused on younger college students, especially first year

⁷² *Alone Together*, Sherry Turkle, pg. 174

students as the primary subject of the study. The study's findings indicate that although mobile phones act as agents for gaining family support, they are also a source of distraction in the form of texts, calls and entertainment while a person is trying to work or study. Younger students were understandably more connected with family members, especially their parents, than were the older students, as Greg (Male, 22 years old) mentioned that "I'll probably talk to one of my family members at least once a day on the phone, as opposed to texting, and maybe get about two texts a day from my mom in particular."⁷³ When constantly in contact with parents, children and young adults lost the capability to be alone and eventually become independent.

Does Technology Make Us Love Differently?

In *Cosmopolitan* magazine's March 2014 issue, four pages are dedicated to the story of college dating as told by Charlotte Lieberman, a recent Harvard graduate. Lieberman contends that although dating in college has never been easy, today with technology and everyone texting emoji and "navigating an increasingly fluid sexuality,"⁷⁴ it can seem almost impossible. She takes into account that we are the Millennials and that old-fashioned courtship no longer exists when she tells her personal anecdote. Her story begins when a man named 'Nate' who was in one of Charlotte's classes had asked her for a date at a party, mentioning that they may cross paths tomorrow and that he would text her before dinner time. However, Nate never wrote or called her that night, even after

⁷³ *A Qualitative Analysis of College Student Use of Mobile Phones for Family Communication*, John Alderson, OCLC (2012)

⁷⁴ *Why Is College Dating So F*&#ed Up?* *Cosmopolitan* March 2014, Charlotte Lieberman pg. 175

Charlotte had texted him “What’s up” at 11 P.M. The next morning, Charlotte texted Nate again that said: “Bummer about last night. Maybe another time?” There was still no response and when they did meet in class, she noted that Nate glanced away whenever they made eye contact and the “avoidance—and occasional tight-lipped smiles—continued throughout the fall semester.” What becomes more frustrating for Lieberman is that later that March when she met Nate again at the party, he was intoxicated and apologized to her for hurting her feelings. Nate did not acknowledge that his actions were eerie but instead, he told her that he thought she was ‘really attractive and bright’ that night when he first met her at the party but that he was just not interested in dating her. Lieberman notes that she was annoyed by this comment, as she did not have dating in mind.

Lieberman’s personal anecdote and observations at college lend her enough experiences to argue that this generation is one that is frightened of letting of themselves be emotionally vulnerable, as they are “addicted to communicating by text, and as a result, neglecting to treat each other with respect.”⁷⁵ According to Lieberman, this lack of respect is because those of college-age depend heavily on the immediacy of texts, Google chats, and Instagrams to talk with each other. A generation-wide handicap is produced as a result, as they develop a resistance to communicating with fully developed thoughts and emotions are developed. For example, when a young man texts “<3,” it is quite different from saying “I love you.” Thus, text and instant messaging severely decreases the value of these expressions. Lieberman adds that it is ironic that majority of college students are

⁷⁵ *Why Is College Dating So F*&#ed Up? Cosmopolitan* March 2014, Charlotte Lieberman, pg. 178

so reliant on virtual forms of communicating when it comes to dating, given that college is the ideal setting for people to meet one another. At no other time will people be in such close proximity to thousands of ideal dating prospects, yet “digital crutches trump face-to-face talking, encouraging people to be flaky and evasive, giving us easy outs, and making a satisfying dating experience in college all the more elusive.”⁷⁶ What is more alarming however is that the informality of texts and the like seems to have negatively influenced the way we perceive basic respect in relationships. Lieberman concludes her story by urging readers and her own generation in particular to acknowledge that acting unaffected does not give one power and communicating vaguely does not give one the upper hand. Rather, we should collectively make an effort to speak in full sentences, not emoji, to demand to be treated with respect and to stop playing by the rules of whoever cares less ‘wins.’

This issue pertains not only to young college students but also to older adults. Amanda Klein, a graduate student pursuing a master’s in arts degree at Towson University, published her study of this very topic in *The Huffington Post*. As text messaging has become one of the foremost means of communication today, it has also become a primary medium used in romantic and sexual correspondence. The result of this, Klein argues, is that texting has nearly obscured earlier forms of relational communication as although texting enables romantic partners to develop and maintain their relationships, it also may create a potential strain. Due to the fact that texting is a relatively new medium, there is an absence of rules and guidelines for interaction.

⁷⁶ *Why Is College Dating So F*cked Up?* *Cosmopolitan* March 2014, Charlotte Lieberman, pg. 180

Specifically, for relationships that are romantic in nature, this can become problematic as this absence of expectations may ultimately cause conflict or disappointment. As there is “no established etiquette for acceptable message length, response time, or frequency of interactions,”⁷⁷ partners are left to interpret texting etiquette based on their personal experience and social cues from the other. In analyzing this contention further, Klein conducted ten in-depth interviews with four males and six females, ranging in age from 23 to 30 years old, and participants included adults currently in varying relational stages such as single, casually dating, in exclusive relationships and married.

The participants all noted the benefits of text messaging as it was discussed to be a quick, easy and convenient way to get a message across. Klein quotes one male participant who mentioned that texting allowed him to multi-talk, or communicate with his partner while engaging in other activities.⁷⁸ Another useful component of text and instant messaging was that making plans became convenient as an address or directions to a location could be documented for easy access. Although the participants generally agreed that it was not an ideal medium for exchanging important information with a romantic partner, “several respondents noted that when they do not have the ability to talk on the phone, important information can be exchanged via text.”⁷⁹ Moreover, the interviews suggest that despite feeling that texting plays a crucial role in dating, many of the participants also agreed that it could be detrimental to relationships. One particular

⁷⁷ *Text Messaging: Effects on Romantic Relationships and Social Behavior*, Amanda Klein, Huffington Post (2012)

⁷⁸ *Text Messaging: Effects on Romantic Relationships and Social Behavior*, Amanda Klein, Huffington Post (2012)

⁷⁹ *Text Messaging: Effects on Romantic Relationships and Social Behavior*, Amanda Klein, Huffington Post (2012)

aspect of texting that was harmful is when partners read each other's texts. As texting provides a written record of communication, it also provides evidence of secrets or discretions. Klein argues that her research reveals that texting cannot be the primary mode of communication in a romantic relationship as face-to-face communication ranks as a much richer form of communication. This is championed by the fact that text messages fail to be true reflections of users' instinctive thoughts, as messages are often edited, re-read, and even written by other people. The development of romantic relationships is impeded by the superficial avenues created by text and instant messaging.

Not only does text and instant messaging hinder the quality of intimacy in romantic relationships but the increasing McDonaldization of society through technology is also implicated in this phenomenon. This is exemplified in the sexual hookup culture, otherwise known as uncommitted sexual encounters. According to Justin Garcia et al.'s research on the hookup culture, it is noted that 20% of sexual intercourse cases involved characters who knew each other but were not in a relationship and another 15% involved characters having sex after just meeting.⁸⁰ These brief uncommitted sexual encounters among individuals who are not romantic partners or dating one another have taken root in the sociocultural milieu of adolescents and emerging adults throughout the Western world. According to Schmitt et al.'s (2003) cross-cultural study of 16,288 people across 52 nations, hooking up has becoming the new cultural norm. The study showed that in North America, 65.2% of men fall into the category of seeking short-term mates in any

⁸⁰ *Sexual Hookup Culture: Review*, Justin R. Garcia et al, *Review of General Psychology* 2012, pg. 161

way.⁸¹ An interaction as intimate, private and sacred as sexual intercourse is largely considered a quick and easy fix. This relatively new phenomenon may be associated with the McDonaldization of society whereby efficiency, predictability, quantification and control are achieved through the substitution of the nonhuman for human technology. This also raises the question of Ritzer's final aspect of McDonaldization, which is the irrationality of rationality; hookups are convenient but they pose health risks to the young men and women who engage in sex on these terms.

Further, there is growing concern over the fact that people take their technological communication devices into the bedroom. A study conducted by Harris Interactive revealed that approximately one in ten Americans use their respective smartphones while engaging in sexual intercourse with their partner.⁸² Not surprisingly, of the 2,000+ survey respondents, the largest percentage of adults who admitted to this belonged either to Generation X or to the Millennials; twenty percent of adults between the ages of eighteen and thirty four admitted to grabbing their smartphones during sex. It is widely recognized that smartphones impact how people pursue intimate relationships, and the results of the study further prove that people are addicted to their phones; "adults keep their smartphones within five feet of themselves at all times."⁸³ It is not just frightening that people would choose to divide their attention from their partner during sex for a phone but also that one-third of respondents in a Telenav study conducted in 2011 implied that

⁸¹ *Sexual Hookup Culture: Review*, Justin R. Garcia et al, Review of General Psychology 2012, pg. 166

⁸² *Nearly 1 Out of 10 Americans Use Smartphones During Sex*, Mike Flacy, Digital Trends (2013)

⁸³ *Nearly 1 Out of 10 Americans Use Smartphones During Sex*, Mike Flacy, Digital Trends (2013)

they would be more willing to give up sex for a week than their mobile phone.⁸⁴ The very fact that Americans are willing to give up some of life's greatest pleasures in order to hang on to their mobile phones not only indicates a serious sort of addiction but that our romantic relationships, as well as others, are influenced to become less valuable and intimate. Instead of building intimacy with your loved one, it has now become a norm to develop intimacy with your phone. We have become so intimate with our phones that we can no longer bear the thought of being without them; it is no longer a brand loyalty but a serious dependence. The online adult performer who utilizes twitter as @chaosintended wrote the article *Smartphones Are Fundamentally Changing Human Sexuality*, published in the Business Insider, which argued that the relationship we are developing with our phones constitute a kind of erotic intimacy, and that this troubles our collective sexuality as species. Our romantic relationships are obstructed as we "consciously invite hardware devices into our most mysterious of mental processes like memory, sexuality, and communication."⁸⁵

Does Texting Affect People in the Workplace?

According to Doug Firebaugh, CEO of Home Business Training Consultants "communication is all anyone ever gets paid for ultimately...and if you cannot effectively communicate, you will pay...not get paid."⁸⁶ In his view, communicating, and doing it

⁸⁴ *Survey Finds One-Third of Americans More Willing to Give up Sex Than Their Mobile Phones*, Mary Lowell and Todd Witkemper, Telenav Press Room (2011)

⁸⁵ *Smartphones Are Fundamentally Changing Human Sexuality*, Apt No 7 My Girlfund, Business Insider (2013)

⁸⁶ *Influence of Texting on Communication Skills*, Jojo Tabares, Art of Eloquence

well, is necessary to succeeding in the corporate world. With that said, according to a 2005 article in the *Pittsburgh Post Gazette*, employers are complaining about recent graduates' communication skills. These complaints stem from the fact that college graduates and job applicants are neither effective speakers nor effective communicators in written media.⁸⁷ Similarly, Debra Vargulish who is both a training administrator and a recruiter for Kennametal Inc. reports that the students she meets are often inarticulate and shy; although they are better at using technology than those that are older, they miss the content, as a lot of them do not know what to say at all. The writer of the article *Influence of Texting on Communication Skills*, Jojo Tabares, argues that many researchers take the position that texting and email have contributed to the drastic decrease in effective communication skills of this generation. The impersonal nature of technological communication has only increased rudeness and aggression.

Blamed as a medium through which teenagers are harassed, for impeding familiar and romantic relationships, distracting drivers, and poor grades among students, texting is now being blamed for encouraging bad manners at work. Lynne Andersson, professor at Saint Joseph's University, and Christine Pearson, professor at University of North Carolina, have published research in support of this view. Although the business world was thought by many to be one of the "last bastions of civility as the relationship between colleagues was characterized by formality yet friendliness for decades,"⁸⁸ business has now started to reflect the informality of society at large. Based on research with a sample of 9,000 U.S. workers and managers, Pearson, who a professor of management at the

⁸⁷ *Influence of Texting on Communication Skills*, Jojo Tabares, Art of Eloquence

⁸⁸ *Tit For Tat? The Spiraling Effect of Incivility in the Workplace*, Lynne Andersson Ph.D. and Christine Pearson Ph.D., Academy of Management Review (1999)

Thunderbird School of Global Management, argues that texting and emailing both tend to interrupt meetings and contribute to the waning of face-to-face conversations, thereby eroding “human civility and making us rude.”⁸⁹ This is a concern as there is a market for conducting business considerately in its entirety. People often choose to do business with those who grant them respect and make them feel good and therefore a “certain level of civility is fundamental to the operation of any business.”⁹⁰ Talking to someone whose attention suddenly shifts to texting and instant messaging makes another feel invisible, but this has become a current trend as texting during meetings caused a commotion in Danvers, MA in 2010, when the chairman of that town had to order members to stop using their phones when they were supposed to be listening to their constituents. In response, the *Boston Globe* praised the ban as although public meetings can be a drone and a bore, “texting under the table generally has managed to raise the bar for rudeness.”⁹¹ This rudeness has a negative impact on business, the people in business, and the customers.

Andersson and Pearson contend that when civility is absent, work relations can become frayed: “an organizational climate characterized by rudeness can make workers miserable on the job, resulting in aggressive behavior, higher turnover, and lower productivity.”⁹² This is what they refer to as the spiraling of incivility, as negative

⁸⁹ *Texting During Meetings, the Decline of Civility*, Sue Shellenbarger, The Wall Street Journal (2010)

⁹⁰ *Tit for Tat? The Spiraling Effect of Incivility in the Workplace*, Lynne Andersson Ph.D. and Christine Pearson Ph.D., *Academy of Management Review* (1999), pg. 467

⁹¹ *Texting During Meetings, the Decline of Civility*, Sue Shellenbarger, The Wall Street Journal (2010)

⁹² *Tit for Tat? The Spiraling Effect of Incivility in the Workplace*, Lynne Andersson Ph.D. and Christine Pearson Ph.D., *Academy of Management Review* (1999), pg. 468

behavior with moral implications can easily become a precursor to increasingly aggressive acts. On this point, Andersson and Pearson end their research by warning American corporations and the like that they have much to lose when uncivil, “tit-for-tat” interactions further escalate.

In this climate, it is not surprising to find that a degree of uncivil behavior has even crept into our offices and organizations. Giovinella Gonthier, author of *Rude Awakenings*, contends that incivility in the workplace has grown to such “crisis proportions that the business community can no longer ignore it.”⁹³ Taking into account Gonthier’s definition of incivility as bad behavior characterized by a lack of consideration toward others, we can see that workplace incivility can entail physical, verbal and nonverbal behavior patterns in interactions with colleagues, as well as violation of such norms as collaboration and good communication that lead to a productive environment for all. One suggestion for enhancing civility at the workplace is to adopt rudimentary telephone manners. In Gonthier’s view, although telephone protocols are simple, they are never taught and often bungled. The problem with cell phones is that using them is “unnecessary, inappropriate and disruptive in public,”⁹⁴ as we should all attempt to extend considerate behavior, to respect the right of others not to hear our conversations. But we choose not to put our phones away. Therefore, the question remains: Why can’t we give up our cell phones and so create a more civil workplace environment?

⁹³ *Rude Awakenings: Overcoming the Civility Crisis in the Workplace*, Giovinella Gonthier, pg. 23

⁹⁴ *Rude Awakenings: Overcoming the Civility Crisis in the Workplace*, Giovinella Gonthier, pg. 76

This incivility stems from the fact that a reversal has taken place at work in this digitalized age; 21-year-olds are the digital natives in a workplace world dominated by digital immigrants. It is, therefore, members of the established workforce who are less adept with emerging technologies. Lee Rainie of the Pew Internet and American Life Project writes in the article *Digital 'Natives' Invade the Workplace* that work at the Pew Internet Project shows that an American teen is more likely than her parents to own a digital music player, to have posted writing, pictures or video on the Internet and to have snapped a photo or taken video with a cell phone. According to a calculation performed by consultant Marc Prensky, “the life arc of a typical 21-year-old entering the workforce today, on average, includes 5,000 hours of video game playing, exchange of 250,000 emails, instant messages and text messages, and 10,000 hours of cell phone use.”⁹⁵ In revealing further the difference between the natives at work and the Millennials, David Clintz, a 22-year-old student at California State University, contended that his father is a highly accomplished technologist who worked for years at Hewlett-Packard but that they treat technology differently. Although the Clintz’ father can “kick his butt on programming,” Clintz is the one who works with it at all times of the day—working with two monitors on, listening to an internet radio station, using multiple instant messaging screens or having online phone conversations simultaneously.⁹⁶ Clintz is the one who lives in the digital world, as although for his father it is work, for his son it is a lifestyle.

⁹⁵ *Digital 'Natives' Invade the Workplace*, Lee Rainie, Pew Internet & American Life Project pg. 1

⁹⁶ *Digital 'Natives' Invade the Workplace*, Lee Rainie, Pew Internet & American Life Project, pg. 2

Clearly, this lifestyle, which is heavily dependent on technology, impacts people in the workplace. As Rebecca Ryan, a founder of Next Generation Consulting, notes, the difference between digital natives and their digital immigrant elders is striking. To illustrate, Ryan writes about an interview conducted with a 17-year-old girl named LaShonda for a project regarding future of work, Ryan explains their interview. At a food court in a mall outside Seattle, during the interview, Ryan was put off by LaShonda constantly instant messaging on her phone as she was clearly not paying attention. As she asked LaShonda what she perceives to be the impact of technology on her future work, LaShonda inquired further about what she meant by technology. As Ryan pointed towards the gadgets present during the interview, LaShonda replied that “this is only technology for people who were not raised with it.”⁹⁷ As fish do not know that they are in water, LaShonda did not consider her gadgets as technology. Lee Rainie argues that this generational difference inevitably pose challenges as natives have experiences and values that are distinct from the digital immigrants. There are a few realities of digital natives that we must consider in regard to establishing and maintain harmony in the workplace.

The first reality is that as video gamers, the Millennials differ from members of other generations in terms of their expectations about how to learn, work, and pursue careers. As John Beck and Mitchell Wade argue in their book, *Got Game: How the Gamer Generation is Reshaping Business Forever*, games function as the ‘training program’ for young workers and naturally allow them to see the workplace as a world “full of data streams, where analysis and decisions come at twitch speed, where failure at

⁹⁷ *Digital ‘Natives’ Invade the Workplace*, Lee Rainie, Pew Internet and American Life Project, pg. 2

first is the norm, where the game player is the hero, and where learning takes place informally.”⁹⁸ This means that employers must give young workers projects and not intervene. According to this argument, the young must be allowed to ‘get them to the next level.’ The next reality is that as the Millennials are accustomed and comfortable being multi-taskers; often living in a state of ‘continuous partial attention,’ they have a sense of permeable boundary between work and leisure. Due to the ubiquity of gadgets and the media, young workers’ toggle back and forth between tasks for work and chatting with their friends through text and instant messaging. Ryan comments on this aspect, as she recently gained a new appreciation for young worker’s capacity to multi-task even though it seems rude and inattentive. During the entirety of any given meeting, an intern would be on her phone the whole time, but she would also shorten the ‘to-do’ lists by locating the information needed in real time. Thus, although there are many instances in which young workers show poor manners, their activity can also enhance the efficiency of team meetings.

Without a doubt, text and instant messaging and technology overall offer an extremely convenient avenue for fast and easy communication. It shortens the time and reduces the hassle of setting up appointments for meetings as the address and time recorded are recorded in and can easily be accessed in a written message. As a specific example of their usefulness, text and instant messaging also offers an opportune medium to allow diabetes patients to remember to take their insulin shots as the majority keep their phones with them. However, what this chapter discussed is that problems arise when

⁹⁸ *Digital ‘Natives’ Invade the Workplace*, Lee Rainie, Pew Internet and American Life Project, pg. 2

text and instant messaging replaces traditional face-to-face meetings or even calling, as it dramatically affects how we interact in familiar and romantic relationships. As we generally develop only weak ties through text and instant messaging, we fail to develop meaningful relationships even though we are at base social animals. We become lonely and the young become less prepared to be adults, and less ready to face up to the consequences dealing with heavy and negative emotions. Further, attitudes in the workplace mirror our society at large, revealing a general lack of civility in such formal environments.

Chapter 3

The Cognitive Impacts of Text and Instant Messaging

Following from the preceding chapter that discussed the social ramifications of text and instant messaging, as well as the general usage of communication technology, it is also worth mentioning how it impacts our brains—the way we think, communicate and respond to one another. Even the way we read has become different, as mentioned by Elisa Aboujaoude, M.D., author of *Virtually You*. Firstly, Aboujaoude assumes that there is a good chance that the reader had bought her book online and may have even researched it and placed the order at work. Although we are not supposed to ‘prowl’ Amazon during company time, we have become accustomed to using other devices to multi-task. Even when the book arrives and the receiver begins to read, it is also possible that the receiver could still see through the corner of her eye the flashing, indicating a new e-mail in the inbox, or that the iPhone will start beeping, announcing a new text message. In this respect, communication, information, and social landscapes have been completely redrawn by the virtual evolution; we slip into the online mode today while “doing it so seamlessly that it is easy to forget how relatively young the medium still is.”⁹⁹ Even when reading a book we continue searching our browsers on a nearby laptop or smart phone. Being logged off feels downright unnatural.

⁹⁹ *Virtually You*, Elisa Aboujaoude M.D., pg. 15

What, then, are some of the more salient ramifications of such constant technological distraction in our present environment or life-world? What impact do these distractions have on our health, literacy, and general cognitive functioning? More particularly, how does multi-tasking in rapid communication technologies and their concomitant social practices work to reconfigure or even to transform more traditional learning styles, thus affecting the quality and even changing the very definitions of mental health and the nature of what is taken to be our useful work? These will be the themes of the following chapter. We will begin with the more general question of the impact of our now fractured attention on our cognitive aptitude.

Technology Addiction with Cognitive Ability Costs

Currently people value their devices for accessing information at all times of the day, for serving as portable video players, for listening to music, and for enhancing social connections. However, as Larry Rosen in *iDisorder* asserts, what many people don't seem to realize is that their mobile devices also generate great anxiety.¹⁰⁰ This is due to the fact that people feel the need to check their phones constantly and that people often worry about messages that they may be missing if they are even briefly 'off the grid.' Natural rhythms of waking and sleeping as well as the primordial procession of sunlight and shadow and darkness are likewise broken: we wonder what we had missed while

¹⁰⁰ *iDisorder*, Larry Rosen, pg. 49

sleeping, which explains why “at least a third of us check our devices before getting out of bed.”¹⁰¹

Further, Sherry Turkle in her book *Alone Together* presents an interesting analogy: as one of Turkle’s interviewees, Clara notes that she has to “do her e-mail” through her BlackBerry during a lunch break. Paradoxically, although it is very tense, she finds relaxation in this activity because when she is doing it, that’s all there is. In relation to this, anthropologist Natasha Schull comments on her study of slot machine gambling that “Americans face too many choices, but they are not real choices.”¹⁰² In other words, it is only an illusion of choice, just sufficient enough to give a sense of overload but not plentiful enough to enable a purposeful life, just as gamblers flee to a machine zone where the goal is not to win but just to be. It is an activity that consumes a person so that they do not have room for anything else. In another anecdote, Turkle mentions a professor of economics who is constantly distracted by his e-mail and phone, despite his article being due, as he notes:

“My article is due. But I’m checking my e-mail every two minutes. And then, the worst is when I change the setting so that I don’t have to check the e-mail. It just comes in with a ‘ping.’ So now I’m like Pavlov’s dog. I’m sitting around, waiting for that ping. I should ignore it but I go right to it.”¹⁰³

These behaviors are not uncommon, which can explain why technology can be termed as a form of addiction. If our technology is a source of our addictive behaviors, what is it exactly doing to our brains?

¹⁰¹ *iDisorder*, Larry Rosen, pg. 49

¹⁰² *Alone Together*, Sherry Turkle, pg. 226

¹⁰³ *Alone Together*, Sherry Turkle, pg. 227

For one, the current explosion of digital technology is not only changing the way we live and communicate but is profoundly altering our brains rapidly. As noted by Gary Small M.D. and Gigi Vorgan in *iBrain*, the daily exposure to high technology such as computers, smartphones, and search engines such as Google “stimulates brain cell alteration and neurotransmitter release, gradually strengthening new neural pathways in our brains while weakening old ones.”¹⁰⁴ It is worth noting that the advent of the Internet has made accessing information as easy as lifting a finger, as we no longer have to make costly efforts to find the things we want. Google allows us to have constant access to information—if we need to find out the score of a ballgame or simply remember the name of the actress in a movie, we only need to turn to our laptops or smartphones and we can find the answers immediately. This process has become so commonplace that “it can feel like going through withdrawal when we cannot find out something immediately.”¹⁰⁵ Thus, we are seldom offline unless by choice and it has become difficult to remember how we found information before the Internet became a ubiquitous presence in our lives. The Internet, with search engines such as Google, has become an external memory source. Taking this into account, Betsy Sparrow, Jenny Liu and Daniel Wegner, psychologists from Columbia University, investigate whether the Internet has become an external memory system that is primed by the need to acquire information. For example, if one were asked the question whether there are any countries with one color in their

¹⁰⁴ *iBrain*, Garry Small M.D. and Gigi Vorgan, pg. 1

¹⁰⁵ *Google Effects on Memory: Cognitive Consequences of Having Information at Our Fingertips*, Betsy Sparrow, Jenny Liu and Daniel Wenger, *Science Express* (July 14, 2011)

flag, would the participant think about flags—or immediately think to go online to find out?

This research tested if, once information has been accessed, the internal encoding is increased for where the information is to be found rather than for the information itself. One experiment was conducted to see if people would recall where to find information more than the information itself. All participants expected trivia statements they read and then typed to be saved to a specific folder with a generic name. Afterwards, they were then given a recall task, in which they were given ten minutes to write down as many of the statements as they remembered. They were then finally given an identifying feature of the statement that they read (and that had been saved), and they had to name the folder in which it was saved. For example, for the statement, “An ostrich’s eye is bigger than its brain,” the question would be “What folder was the statement about the ostrich saved in?” Participants had to type into a dialog box called ‘Items’ to recall this particular folder correctly. The results of this study indicated that, overall, participants recalled the places where the statements were kept compared to the statements themselves. These results are “remarkable on the surface, given the memorable nature of the statements and the unmemorable nature of folder names.”¹⁰⁶ Overall, looking at the pattern of what was remembered, the results do suggest that the ‘where’ was prioritized in memory, with the advantage going to ‘where’ whereas the ‘what’ was forgotten.¹⁰⁷ This suggests that

¹⁰⁶ *Google Effects on Memory: Cognitive Consequences of Having Information at Our Fingertips*, Betsy Sparrow, Jenny Liu, and Daniel Wegner, *Science Express* (July 14, 2011)

¹⁰⁷ *Google Effects on Memory: Cognitive Consequences of Having Information at Our Fingertips*, Betsy Sparrow, Jenny Liu, and Daniel Wegner, *Science Express* (July 14, 2011)

people share information easily because they rapidly think of computers when they find they need knowledge. It is also indicated from research that the social form of information storage is reflected, as people forget items they think will be available externally and remember items they think will not be available. But what is more alarming is that researchers believe that we have become too dependent on our devices to the same degree of knowledge we gain from our friends and coworkers—and lose them when out of touch. The experience of losing an Internet connection resembles losing a friend, as we must be plugged in to know what Google knows.¹⁰⁸

The Effects on Reading/Literacy

In consideration of this transformation, our literary skills amend also. As noted by Ryan Lytle in *How Slang Affects Students in the Classroom*, the way students communicate with one another through social media and text messaging is creeping into high school classrooms across the country. Slang terms and text-speak such as ‘IDK (I don’t know) and SMH (shaking my head) and BTW (by the way) have become a common sight on student assignments. Lytle refers to Pew Internet & American Life Project’s survey of 700 students 12 to 17 years old, and discovered that 85% of the respondents reported using a form of electronic communication, whether through instant messaging, text messaging, or social media. Moreover, 64% of students in the study also

¹⁰⁸ *Google Effects on Memory: Cognitive Consequences of Having Information at Our Fingertips*, Betsy Sparrow, Jenny Liu, and Daniel Wegner, *Science Express* (July 14, 2011)

reported inadvertently using a form of shorthand native to texting or social networking.¹⁰⁹

Although the shorthand written form of our language can be perceived to be just one of many evolutions of language, Chad Dion Lassiter, professor of race relations at the University of Pennsylvania, considers it a “dumbing down of culture.”¹¹⁰

In illustrating the effect of abbreviations and transformation of language, one study exemplifies how it could impact our academic performance. Amanda Barks, H. Searight, and Susan Ratwik, researchers of Lake Superior State University, were interested in examining whether sending and receiving text messages during an educational presentation would have an impact on retention of class material. A total of 37 students (7 males, 30 females) at a Midwestern university were randomly assigned one of two conditions: 1. A group that sent and received text messages during a lecture or, 2. A group that did not engage in text messaging during the lecture.¹¹¹ The results of the study revealed that participants who engaged in text messaging demonstrated significantly poorer performance on a test covering lecture content compared to the group that did not send and receive text messages. In addition, it was also found that participants exhibiting higher levels of text messaging skills had significantly lower test scores than participants who were less proficient at text messaging.¹¹² This experiment demonstrates that in terms of retention of lecture material, more frequent task shifting by those with greater texting messaging proficiency contributed to poorer performance.

¹⁰⁹ *How Slang Affects Students in the Classroom*, Ryan Lytle, US News (June 13, 2011)

¹¹⁰ *How Slang Affects Students in the Classroom*, Ryan Lytle, US News (June 13, 2011)

¹¹¹ *Effects of Text Messaging on Academic Performance*, Amanda Barks, H. Searight, and Susan Ratwik, *Signum Temporis*, Volume 4, Issue 1 (Dec 2011)

¹¹² *Effects of Text Messaging on Academic Performance*, Amanda Barks, H. Searight, and Susan Ratwik, *Signum Temporis*, Volume 4, Issue 1 (Dec 2011)

Furthermore, Nicholas Carr in *Is Google Making Us Stupid* mentioned a recently published study of online study habits conducted by scholars from University College London. This research program examined computer logs documenting the behavior of visitors to two popular research sites, one by the British Library and other by a U.K. educational consortium that provides access to journal articles, e-books, and other sources of written information. The results showed that people using the sites exhibited “a form of skimming activity,” which in other words is hopping from one source to another and rarely returning to any source they had already visited.¹¹³ They typically read no more than one or two pages of an article or book before moving on to another site. This reveals that due to the ubiquity of text on the Internet and the surging popularity of text-messaging on cell phones, we read more today than we ever did in history. Nonetheless, the style of reading that is promoted by the Net is one that emphasizes efficiency and immediacy, which may be weakening our capacity for the kind of deep reading that emerged before technology, such as the long and complex works of prose. This is because when we read online, we tend to become “mere decoders of information—ability to interpret text, to make the rich mental connections that form when we read deeply, and without distraction, remains largely disengaged.”¹¹⁴ This is especially crucial, as Carr points out that reading is not an instinctive skill for human beings the way speech is. Rather, we have to teach our minds how to translate the symbolic characters we see into the language we understand, but the media or other technologies that we currently depend on are rapidly changing this process. According to

¹¹³ *Is Google Making Us Stupid?* Nicholas Carr, The Atlantic 2008

¹¹⁴ *Is Google Making Us Stupid*, Nicholas Carr, The Atlantic 2008

Carr, the variations that extend across many regions of the brain, including those that govern essential cognitive functions as memory, is transforming because of the Net.

The Correlation between Texting and Increasing Mental Problems

As a consequence of this overwhelmingly high technology stimulation of the Digital Native's brain, we can see traces of 'brain gap' rather than just the old fashioned generation gap. What Small and Vorgan mean by this is that the brains of the younger generation are digitally hardwired from toddler-hood and therefore individuals of the older generation face a reality in which their brains must adapt to high technology or they will be left behind—politically, socially, and economically. We can trace this back to the fact that young people have created their own digital social networks, including a shortened type of language for text messaging, and “studies show that fewer young adults read books for pleasure now than in any generation before them, as since 1982, literary reading has declined by 28% in eighteen- to thirty-four year olds.”¹¹⁵ Moreover, a 2002 Stanford University study indicates that for every hour we spend on our computers, traditional face-to-face interaction time wanes by thirty minutes.¹¹⁶ Naturally, this means that as our brain evolves and shifts focus toward acquiring technological skills, it drifts us away from fundamental social skills, such as reading facial expressions during conversations. Also, the more time we spend interacting with one another online, we lose touch of how to interact with others face-to-face in real time.

¹¹⁵ *iBrain*, Garry Small M.D. and Gigi Vorgan, pg. 3

¹¹⁶ *Meet Your iBrain*, Gary Small M.D. and Gigi Vorgan, Scientific American Mind, October/November 2008, pg. 44

But more importantly, young people are exposed to digital stimulation for several hours every day, as shown by a 2007 University of Texas at Austin study. With more than 1,000 child participants, it was found that on a typical day their total daily exposure to technology such as iPad, smart phones or television averaged one hour and 20 minutes. Among those children, five to six year olds were spending an additional fifty minutes in front of the computer.¹¹⁷ These numbers are alarming due to the fact that even using a computer for Web searches for just an hour a day changes the way our brains process information. Due to the brain's extraordinary capacity for plasticity, a constant usage of e-contacts is both stimulating and draining. As our young generation has never known a world without technology, such as 24-hour TV news, Internet and cell phones, it would be plausible to believe that any impending neurological impact would be the hardest on this particular age group. But this does not hold to be true as the findings of this study suggest. With the aid of UCLA experts on neuropsychology and neuroimaging Susan Bookheimer and Teena Moody, Small planned to use functional magnetic resonance imaging to measure the brain's activity during a common Internet task: searching Google for accurate information. For a more impartial experiment, they gathered relatively inexperienced and computer-naïve participants, as well as some who were Internet and technology savvy. There were three Internet-naïve participants in their 50s and 60s and three computer-savvy volunteers of comparable age, gender and socioeconomic background. The volunteers wore a pair of special goggles that presented images of Web site pages and the system had allowed the volunteers to navigate the simulated computer

¹¹⁷ *Meet Your iBrain*, Gary Small M.D. and Gigi Vorgan, Scientific American Mind, October/November 2008, pg. 44

screen and make choices to advance their search by pressing one finger on a small keypad. To ensure that the fMRI scanner was measuring accurate neural activity that controls Internet searches, there was another control task of reading a book added to the experiment. The purpose of this study was to observe and measure only the brain's activity from those mental tasks. This study lasted for five days and the results were that the brains of computer-savvy and computer-naïve subjects did not differ much when they were reading the simulated book text as both groups had sufficient years of experience in this specific task. However in contrast, the “two groups showed distinctly different patterns of neural activation when searching on Google.”¹¹⁸ While the computer savvy participants were using specific networks in the left part of the brain, also known as dorsolateral prefrontal cortex, the Internet naïve participants showed minimal to no activation in this region.

More surprising was that, although the study only took place for five days, it was enough to observe major changes in the neuronal patterns of the Internet naïve participants. After just five days, the Internet naïve participants had the same exact neural circuitry in the front part of the brain, as did the Internet savvy participants. The fact that this pattern emerged on the second day of the experiment suggests that the neural circuit training occurs rapidly and remains stable throughout. Small and Vorgan explain that the dorsolateral prefrontal cortex is responsible for our ability to make decisions and integrate complex information. Further, this part of the brain is where we control our mental process of integrating sensations and thoughts, as well as working memory, just

¹¹⁸ *Meet Your iBrain*, Garry Small M.D. and Gigi Vorgan, Scientific American Mind, October/November 2008, pg. 46

enough to manage Internet searching task or dialing a phone after hearing the number once. Thus, this part of the brain manages the way we feel and think, as well as how we make decisions. But as we constantly have our smartphones and laptops within arm's reach, we have "plunged into a state of continuous partial attention,"¹¹⁹ which is continually keeping busy while never truly focusing on anything. Small and Vorgan argue that this is different from multi-tasking as instead our minds partially attend and do so continuously, scanning for any opportunity for contact. In other words, by relying on relationships online from time to time, we risk losing personal touch with real-life relationships and experience only artificial sense of intimacy.

This kind of dependence on technology has led us to not only change the physicality of our brain but to also become mentally ill. Larry Rosen, the author of book *iDisorder*, has quoted a recent statistical figure from the National Institute of Mental Health that 46% of American adults will suffer from a psychological disorder in their lifetime, not to mention an equal percentage of children and adolescents who will also experience periods of anxiety, attention deficit hyperactivity disorder (ADHD) or some other physical malady.¹²⁰ These figures have been raised proportional to the time that we spend with our technology. It is not difficult to imagine people becoming overly anxious when their phones are out of reach. For example, according to a July 2011 Harris Poll, eight in ten vacationers brought or planned to bring at least one technological device on their summer 2011 vacation and stated their plans to work on their vacation, including checking e-mail (35%), checking work voice mail (22%) and taking work-related phone

¹¹⁹ *Meet Your iBrain*, Garry Small M.D. and Gigi Vorgan, Scientific American Mind, October/November 2008, pg. 47

¹²⁰ *Study Guide to DSM-IV-TR*, Frauman, M.A. American Psychiatric Publishing 2002

calls (22%).¹²¹ Rosen asserts that this becomes an issue due to the long-term risks when people do not take quality vacations, as well as risks that include employee burnout and health problems.¹²² Further, Brooks Gump at the State University of New York Oswego and Karen Matthews at the University of Pittsburgh performed a large-scale study of American men at risk for heart disease and found that those men who vacationed more had fewer risk factors for sudden death.¹²³ This means that those addicted to “Crackberry” or any other smartphone will fail to leave their devices behind to relax on vacation. Further, they could experience symptoms of anxiety, chest pain, and dizziness, in addition to worrisome thoughts. These are all symptoms of panic disorder, not to mention obsessive compulsive disorder (OCD), as people suffer from this anxiety disorder in which they have unwanted and repeated thoughts, feelings, ideas and obsessions that make them feel driven to engage in behaviors, such as checking for phone messages constantly.

These rising figures of panic and anxiety disorders are not attributable to individuals with certain personality characteristics or brain chemical levels. Rather, the “technology itself lures us into using it, sometimes for extreme lengths of time.”¹²⁴ This is because, for minimal time and cost, the Internet and social networks in particular allow us to correspond with one another, share common interests, and meet people we would never otherwise meet, or just stay in touch with old friends. Rosen argues that in this aspect, we benefit from technology, but only psychologically. As we “gain a feeling of

¹²¹ *Americans Work On Their Vacation*, Harris Interactive October 2011

¹²² *iDisorder*, Larry Rosen, pg. 50

¹²³ *iDisorder*, Larry Rosen, pg. 50

¹²⁴ *iDisorder*, Larry Rosen, pg. 70

status and trendiness, we are taken seriously and listened to.”¹²⁵ However despite this feeling of gain, Rosen suggests that we should not forget the fact that these were all designed by humans and companies to be interesting and fun. In other words, the mere immediate psychological gratification we receive from technology is only short-term and resembles a façade. Thus, not only do our brains change with technology but they can develop a mental disorder if we are constantly at ‘work.’ But are we not affected by technology when we do work?

Effects of Multi-Tasking

Since the nineteenth century, our high technology revolutions have shattered the confines of tedious ancient routines, such as writing a letter and waiting for at least couple of days for it to be delivered. The introduction of the telegraph also introduced people to the thrill of simultaneity, as mentioned by Maggie Jackson in *Distracted*. Jackson asserts that these days, people slip easily in and out of virtual worlds and multitask each other, “wondering if our seemingly miraculous power to be in many places at once brings us closer or keeps us apart.”¹²⁶ However, even though we can connect with almost anyone and at any time, the connection to the person is merely a slice of the person and not the whole. In addition, technology affects our capacity to work even when we are at our respective workplaces. Gloria Mark, Victor Gonzalez and Justin Harris at the University of California at Irvine conducted an experiment that consisted of

¹²⁵ *Does Internet and Computer Addiction Exist?* R. Hammersley, *Cyberpsychology & Behavior* 2000, pg. 217

¹²⁶ *Distracted*, Maggie Jackson, pg. 42

detailed observations of 24 information workers that shows that they experience work fragmentation, which is a break in continuous work activity, as common practice. The researchers took into consideration that work fragmentation has two components: length of time spent on a particular activity and frequency of interruptions during that activity. They also examined work fragmentation along three dimensions: effect of collocation, type of interruption, and resumption of work. The method of this experiment was observation, long interviews and shadowing of participants so that the study could better understand how participants managed their activities as comprehensively as possible. For example, a researcher observed the participant at work in her cubicle or office and followed her to formal and informal meetings or other activities, whenever possible. This experiment occurred in two phases over a thirteen-month period and 24 people in total were observed in detail that included seven managers, nine analysts and eight developers.¹²⁷ The study first began by observing a manager for ten days to become familiar with the work context and for the informants to become used to the researchers' presence. Each participant was then formally observed and timed for a period of three and a half days.

The results of the study revealed that all of the participants' work is very fragmented. It also showed that context determines whether interruptions are considered to be beneficial or detrimental. In other words, it was found that interruptions that occur outside of one's current working sphere or context are disruptive because they lead one to

¹²⁷ *No Task Left Behind? Examining the Nature of Fragmented Work*, Gloria Mark, Victor Gonzalez, Justin Harris, CHI 2005, pg. 323

“sometimes radically shift their thinking.”¹²⁸ Moreover, although before the study the researchers had argued that work fragmentation consists of length of time spent in a working sphere and that “interruptions are just half the story,”¹²⁹ even when people are not interrupted, these researchers observe, workers devote only short periods to one given sphere to one given sphere before switching to another. Although it is unknown why people move on to other working spheres quickly even when there is no evidence of an interruption, the researchers assume that, as suggested by their observations, “people are responding to the external demands in the workplace.”¹³⁰ This means that participants were continually juggling their priorities according to the work context even while they reported that they prefer to complete one task at a time. Further, it was found that 57% of the participants experienced the majority of their working spheres interrupted and that 77% of the work was resumed on the same day in contrast to only 55% of work that was resumed immediately. The researchers suggest that this pattern “shows that a fairly high cognitive cost occurs to resume work, as people are distracted by multiple other topics, and sometimes even nested interruptions.”¹³¹ The results of the experiment, therefore, seem to indicate that the more intervening tasks, the more information needs to be preserved in the short term memory about the state or degree of completion reached before the interruption occurred.

¹²⁸ *No Task Left Behind? Examining the Nature of Fragmented Work*, Gloria Mark, Victor Gonzalez, Justin Harris, CHI 2005, pg. 327

¹²⁹ *No Task Left Behind? Examining the Nature of Fragmented Work*, Gloria Mark, Victor Gonzalez, Justin Harris, CHI 2005, pg. 328

¹³⁰ *No Task Left Behind? Examining the Nature of Fragmented Work*, Gloria Mark, Victor Gonzalez, Justin Harris, CHI 2005, pg. 328

¹³¹ *No Task Left Behind? Examining the Nature of Fragmented Work*, Gloria Mark, Victor Gonzalez, Justin Harris, CHI 2005, pg. 328

Moreover, as we become accustomed to juggling so many tasks, the diversion of attention could hurt learning and performance. In his article in the *New York Times*, *Multitasking Takes Toll on Memory, Study Finds*, Matt Richtel quotes a study published in *Proceedings of the National Academy of Sciences* showing that multitasking takes a significantly greater toll on the working memory of older people. As researchers of that study mentioned, the key finding applied only to people between the ages of 60 and 80, suggesting that this age group has significantly more trouble remembering tasks after experiencing a brief interruption than do people in their 20s and 30s.¹³² The study asked participants to look at a scene, and then interrupted them for several seconds with an image of a person's face. The participants were asked to identify the person's gender and approximate age, and then prompted them to refocus their attention to answer questions about the earlier scene. Those belonging to the older age group found it much more difficult to disengage from the interruption and to reestablish contact with the initial scene. Richtel argues that although the study did not revolve around interruptions from cellphones or other gadgets, these results provide a 'clear extrapolation' to the impact of a stream of incoming rings and buzzes.¹³³ In addition, Adam Gazzaley M.D., a neurologist at the University of California, San Francisco, and the primary researcher in this study, independently contends, "technology provides so much more of an

¹³² *Multitasking Takes Toll on Memory, Study Finds*, Matt Richtel, April 2011 New York Times

¹³³ *Multitasking Takes Toll on Memory, Study Finds*, Matt Richtel, April 2011 New York Times

interference than what we did here.”¹³⁴ This is important to note as aging adults spend more time in respective work forces with heavy multitasking demands.

The experiment also included observing and measuring participants’ brains using real-time imaging to understand the neurological mechanisms at work. These images offered evidence of extensive differences in the brains of younger and older participants following an interruption. In the younger participants, the brain areas that had been engaged prior to and during interruption stopped engaging more quickly while in the older participants, those areas continued to remain stimulated for greater periods of time.¹³⁵ This was shown to affect the working memory, which is responsible for engaging in a certain task such as doing a project or having a conversation. Although the study did not find any effects of multitasking on long-term memory, Gazzaley argues that there was a relationship between people’s ability to develop long-term memories and the amount of time they focus on a particular experience. Thus, if interruptions make it difficult for older people to remember what they were doing in the short run, it could hurt their ability to record those experiences over the long run.

New technology often brings change that is so swift that the implications are hard to grasp. This is the case for the rapid expansion of media use by both children and adults, at work and at play, alone and in groups, for larger portions of the waking hours. So far I have argued that multitasking is so distracting that it has deleterious consequences; it affects our brain function, as well as the quality of our work. However,

¹³⁴ *Multitasking Takes Toll on Memory, Study Finds*, Matt Richtel, April 2011 New York Times

¹³⁵ *Multitasking Takes Toll on Memory, Study Finds*, Matt Richtel, April 2011 New York Times

what exactly constitutes distraction? Is it just a mere possibility that a phone call or e-mail will soon drain our brain power? More importantly, do distractions matter—do they make us dumber? According to research by Carnegie Mellon University’s Human-Computer Interaction Lab, this assertion seems to have some, if not much, credibility. Taking into consideration that early results show what most of us know implicitly, this is that if you do two things at once, both efforts will suffer. Alessandro Acquisti, a professor of information technology, and psychologist Eyal Peer at Carnegie Mellon University designed an experiment to measure the brain power lost when someone is interrupted. When simulating the pull of an expected phone call or e-mail, 136 participants sat in a lab and performed a standard cognitive skill test.¹³⁶ There were three groups of participants; one merely completed the test while other two were told they ‘might be contacted for further instructions’ at any moment via instant message.

During the initial part of the experiment, the second the third groups were interrupted twice. When the second test was administered, only the second group was interrupted. The third group only waited for an interruption that never came. The first group that was never notified and never alerted via instant message is termed ‘Control,’ the second is dubbed ‘Interrupted’ and third is called ‘On High Alert.’ Although the researchers expected the Interrupted group to make some mistakes, the results were “truly dismal, especially for those who think of themselves as multitaskers: during the first text, both interrupted groups answered correctly 20% less often than members of the control

¹³⁶ *Brain, Interrupted*, Bob Sullivan and Hugh Thompson, The New York Times (May 3, 2013)

group.”¹³⁷ This means that the distraction of an interruption, combined with the ‘brain drain’ that results from preparing for that interruption, made the test takers 20% dumber, which is sufficient to turn a B- (80%) student into a failure (62%).

Sherry Turkle also notes the ramifications of student multitasking even while she is teaching. Although anxiety itself may be evident in past times and in many if not all historical periods, it is nonetheless part of the new connectivity, Turkle argues that “our habitual narratives about technology begin with respectful disparagement of what came before and move on to idealize the new.”¹³⁸ For example, several online readings with all the attendant links and hypertext possibilities often come into focus with heroic narratives, while the book is disparaged as ‘disconnected.’ Although this is only one story, it is the one that technology wishes to tell. The book seems indeed connected to daydreams and personal associations as readers look within themselves for relevant connections. However, Turkle anecdotally claims that online reading—at least for her own high school and college students—always invites the reader elsewhere. It is only sometimes interrupted by links to reference works and associated commentaries; it is more often “broken up by messaging, shopping, Facebook, Myspace, and YouTube.”¹³⁹ As a professor, Turkle teaches that the networked computers facilitating human multitasking changed the educators’ virtue of doing many things at once: it was how the future wanted us to think. But from the studies mentioned earlier, we now know that

¹³⁷ *Brain, Interrupted*, Bob Sullivan and Hugh Thompson, The New York Times (May 3, 2013)

¹³⁸ *Alone Together*, Sherry Turkle, pg. 242

¹³⁹ *Alone Together*, Sherry Turkle, pg. 242

multitasking “degrades performance on everything we try to accomplish.”¹⁴⁰ In the same vein, we will surely continue to multitask, always choosing to trade optimum performance for the economies of doing many things at once—but there are nevertheless ways to lead a healthy lifestyle with technology, the next topic for our discussion.

Continuing from Sherry Turkle’s argument on technology, she also notes that we have to love our technology enough to describe it accurately, just as how we have to love ourselves enough to confront technology’s true effect on us. Although technology helps us manage life stresses, it can generate anxieties of its own. Thus, Turkle urges especially the adolescents to not turn to mobile connections in dealing with the difficulties of separation. This is because feeling “a bit stranded used to be considered a part of adolescence, and one that developed inner resources.”¹⁴¹ But with the constant network that mobile devices offer these days, it allows that feeling of isolation to bypass easily. It is also imperative to consider that social mediums such as Facebook may feel like a home but in actuality it is a public square with a surveillance camera turned on. Turkle emphasizes the importance to watching out what adolescents say online as those posts will remain online for a lifetime and so do anxieties, as they migrate and later proliferate.

Moreover, David Levy, a professor at the University of Washington have suggested that we are manifesting ‘popcorn brains,’ which refers to brains so used to the constant stimulation from multitasking with electronic devices that it cannot deal with life in the world as it is considered much less stimulating. Larry Rosen in *iDisorder* further adds that other researchers concur with Levy that excessive multitasking is harmful to the

¹⁴⁰ *Alone Together*, Sherry Turkle, pg. 242

¹⁴¹ *Alone Together*, Sherry Turkle, pg. 243

brain, as those who multitask more are “less able to identify human emotions and those who are online more than ten hours a day have less brain gray matter than those who are online less than two hours a day.”¹⁴² With these types of results, Rosen asserts that it is important to reflect how much a person multitasks and structures his or her environment to limit those disasters. Research is fairly clear that performing one task at a time is much better than performing multiple tasks simultaneously, such as one that showed that “students who glanced at their Facebook page just once during a 15-minute study period performed worse than those who never looked at that page to lose more focus on their studying.”¹⁴³

¹⁴² *iDisorder*, Larry Rosen, pg. 207

¹⁴³ *iDisorder*, Larry Rosen, pg. 207

Conclusion

Over the course of writing this thesis, I discovered some unexpected findings about an almost invisible yet ubiquitous technology: text and instant messaging. Text messaging has been hailed as one of the most efficient and convenient tools of our time. It grants us speed and control over our communication and provides a concise way to convey our thoughts or directives. Taking this into consideration, as a college student and member of the Millennials generation, I also fall victim to its allure; I feel anxious when the device is not at arm's reach and admit to being a regular multi-tasker. Based on the historical and theoretical findings about text and instant messaging, it is clear that as a generation, we are currently facing rapid changes due to the advancement of technology—and as technology is evolving at an incomprehensible speed, there is an urgent need to come to grips with its effects.

But technology has provided us a great deal of efficiency and convenience that we cannot turn a blind eye to. It also provides speed, which can be quite deceiving at times, as we also invest just as much of our time into the devices when we could be pursuing other important and essential things, such as offering our undivided attention to our loved ones when communicating. The ramifications explained and asserted here, in this thesis, are not intended to suggest that people throw away their devices, but to rather allow the readers to acknowledge the consequences of our addictive engagement with technology that has consumed our social relationships. While accepting that these technologies are

here to stay, we must remain vigilant in safe-guarding ourselves and those around us even when our phones are within our arm's reach.

This thesis has explained some of the social shortcomings of text messaging, such as increasing depression and the weakening of our relationships as a result of dependence on technology when communicating with others. This is because text and instant messaging is not an adequate medium in forming and maintaining social relationships over time. Such relations require long term engagement and emotional involvement, which the mediation of the technology undermines. Moreover, technology can have impeding consequences for our culture, as well as for our social skills and mental well-being. Further, although the time that technology has been pervasive in our lives has been relatively short compared to our overall history, it has been sufficient enough to change our cognitive behaviors by transforming our literacy practices.

The acknowledgement of such ramifications deserves urgent attention as “the state of permanent receptivity has become the birthright of anyone with a smartphone.”¹⁴⁴ This is due to the fact that as new-media aficionados, we are constantly overstimulated. But whether triggered by boredom or distraction, we live in a state of “authentic rapture within the inauthentic domain.”¹⁴⁵ In other words, we must come to accept these domains as part of living and not settle for their tepid versions. This is especially true when the ‘fire hose’ of social media tricks us into thinking that we can act as God and conquer every link that is dumped upon us to believe that we can emerge victorious in the war on information overload. Further, in his commencement speech addressed to the Middlebury

¹⁴⁴ *Only Disconnect*, Evgeny Morozov, The New Yorker (October 28, 2013)

¹⁴⁵ *Only Disconnect*, Evgeny Morozov, The New Yorker (October 28, 2013)

College graduates, Jonathan Safran Foer mentioned that while technology celebrates connectedness, it also encourages retreat. This is because “the phone does not make one avoid the human connection, but it does make ignoring another easier in that moment, and more likely, by comfortably encouraging one to forget his or choice to do so.”¹⁴⁶ It must also not be forgotten that online communication originated as a substitute for telephonic communication, as it is impossible to always see one another face to face. The invention and widely facilitated use of text and instant messaging were “not created to be improvements upon face-to-face communication, but a declension of acceptable, if diminished, substitutes for it.”¹⁴⁷ Thus, it is uncanny that we began to prefer the diminished substitutes; the ‘closer’ our world became to our fingertips through technology the further it removes us away from our hearts.

The suggestion to live healthy with technology is clear: we need to create a digital diet to regain our time to think, reflect, judge, and engage meaningfully with others, at first starting with a media fast for a few hours to days or even weeks. As we cannot impose such diet on everyone, it is ultimately up to the individual to decide which technologies induce task switching and also when that process becomes harmful to learning. For this particular generation, Rosen prescribes for those whom ‘out of sight’ is not ‘out of mind,’ that they should consider utilizing technology breaks to keep them from having a brain that is constantly activated and thinking about the Internet, social networking and other online activities. A technology break entails a break similar to a coffee break, where the individual would set a time period to remove all technology and

¹⁴⁶ *How Not to Be Alone*, Jonathan Safran Foer, The New York Times (June 8, 2013)

¹⁴⁷ *How Not to Be Alone*, Jonathan Safran Foer, The New York Times (June 8, 2013)

focus on work. It would be beneficial to set a timer for alert whenever that period has elapsed, “then to grab your phone or your laptop, check in with cyber world, and put it all away and go back to your work.”¹⁴⁸ If we ever notice how long we are able to focus on a single task before switching to another and note what tasks appear to draw the attention more strongly, we should consider the most obvious distractions first, which are our smartphones and laptops.

These small steps will not only enhance the quality of our work, as well as restoring health to our brains but also the way we interact with others. The impressions that we portray to another are based on the way we dress, body language, the words we choose to speak and face expression cues. As more time is spent communicating online, honing these basic impressions becomes that much more urgent and imperative. While building social capital, we must first recognize that online communication and connection “do not produce ties that are nearly as strong as offline, real-world communication.”¹⁴⁹ All in all, it is time to weigh the benefits that technology provides against the potential harm that can ensue when we no longer take the time to attend to others and listen to ourselves. We should not shield ourselves from boredom, as it is essential for creativity and sense of identity.

¹⁴⁸ *iDisorder*, Larry Rosen, pg. 210

¹⁴⁹ *iDisorder*, Larry Rosen, pg. 212

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ACADEMIC VITA

Seung Won (Sally) Lee

416 Welsh Place, Morris Plains NJ 07950 / sil5259@gmail.com

Education

Pennsylvania State University, University Park, August 2010 to May 2014

B.A. in History, Minor: Sociology

Schreyer Honors College, 2011-2014

Association Membership

- alpha Kappa Delta Phi

Professional Experience

Kim & Chang Law Firm, *Law Clerk*, Seoul, South Korea July 2012-August 2012

- Translated and interpreted legal documents for international clients.
- Investigated fraud through segmented market research by implementing analysis of price variations of products sold at street markets compared to those sold in franchised supermarkets. The outcome of the investigation was to serve a purpose in arguing for street markets to receive more fair competition in selling produce.
- Presented research project for Foreign Direct Investment potential in overseas ventures specifically for Korean companies during the economic downturn.

Awards

- Certificate of Academic Excellence from the Dean of the College of Liberal Arts.
- Recognized on alpha Kappa Delta Phi National Board President's List for Academic Excellence.
- Member of the Order of Omega, Greek Council Honorary.
- National Honors Collegiate Society.