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Thesis Title: Compelled to Connect: A Constructivist Grounded Theory of How Online Communication Compulsions Begin, Sustain, and End

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SECTION A: DOCTORAL THESIS

List of Abbreviations

CMC	Computer-Mediated Communication
DMR	Digitally Modified Relating
GPIU	Generalised Problematic Internet Use
PEC	Problematic Electronic Communication
PEC-M	The Model of Problematic Electronic Communication
PIU	Pathological Internet Use

Glossary

Being "Left on Read" is the experience in messaging apps where a sent message is marked as read by the receiver of the message, but no reply is provided.

Cyber-socialisation is how individuals absorb and adopt online norms, values, and behaviours. It occurs due to exposure to digital social contexts.

Digital immigrants are people born before 1980 and not raised in the digital age. They may have adopted modern technologies but may be less comfortable or proficient at using them than younger persons (Herrmann et al., 2021).

A **Digital Native** is an individual born in or after 1980 who grew up exposed to digital technologies and the internet. Their lifelong exposure to modern technologies enhances their ability to navigate digital environments (Herrmann et al., 2021).

Digitally Mediated Communication is the exchange of information and messages via digital platforms.

Digitally Modified Relating is a term emerging from this research that captures how relating experiences may evolve due to exposure to electronic communication.

Electronic Chat is communication that occurs over digital devices, typically involving the exchange of text over messaging services.

Emoticons are graphical symbols used in digital communication to suggest an emotion.

FOMO (Fear of Missing Out) is the anxiety around missing out on rewarding experiences, particularly those connected to online social environments.

Groupthink is the tendency for group members to agree with the consensus of a group. It can lead to poor decision-making and the suppression of dissenting voices.

Hyperconnectedness describes a person who is continuously connected across multiple online communication channels (Quan-Haase & Wellman, 2006).

Nomophobia is an experience of anxiety or distress that a person may experience when separated from their mobile device.

The **Online Disinhibition Effect** is a phenomenon where persons exhibit less restraint online. They may express themselves more freely or aggressively due to online experiences of anonymity and reduced accountability.

Problematic Electronic Communication (PEC) is a concept developed by the research to focus the present enquiry. PEC involves repeated, problematic re-engagement with electronic communication, leading to altered relationship experiences.

Related Stimuli are cues associated with a particular source (e.g., mobile device) that may trigger similar responses through psychological reinforcement.

Supernormal Online Relating is an adaptation of the concept of supernormal stimuli. It is offered in this work to describe how online interactions may be exaggerated beyond typical interactions.

Supernormal Stimuli are exaggerated cues that trigger responses that are stronger than similar, naturally occurring responses. This concept was initially developed from Tinbergen's (1953) animal behaviour experiments.

Techno-optimism is a belief that technological advancements will lead to positive improvements in life.

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academic growth. I know my dad would have been pleased to celebrate the completion of this research and my doctoral training. Thank you, Dad!

Declaration of Power

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Introduction to Portfolio

The development of digital technologies has furnished modern humans with new sources of knowledge, entertainment, and engagement. We are more connected to these sources and each other than ever before. Digitally mediated communication has transformed modern life and has extended what it means to communicate to include texts, tweets, posts, instant messaging, emails, group chats and video conferencing. The scientific understanding of the nature of human relating and relationships may be incomplete due to the development of new forms of communication. This portfolio explores the nature and consequences of the modern phenomena of digitally mediated communication and relating.

Drawing on constructivism, this research concerns itself with the subjective experiences and meaning-making of persons who self-identified as having problems with digitally mediated communication. While the thesis touches on how communication occurs, this research investigated the relational experiences of participants.

This portfolio has been divided into three sections presented across two volumes. Section A will present my doctoral research project, which focuses on what I have called "Problematic Electronic Communication." Section B is a publishable paper focusing on a key finding from this research, the processes of "Digitally Modified Relating." Finally, Section C is a combined case study and process report focusing on a client experiencing significant relationship challenges.

Section A - Research Project: "Problematic Electronic Communication"

My interest in electronic communication emerged from my curiosity about the differences between online and face-to-face interactions. Initially, I wished to understand

the experiences of compulsions around computer-mediated communication. However, after starting the research process, I realised how online communication is pertinent to understanding relationships in the modern age. I also wondered if they might be relevant to psychotherapy and counselling. Like many counselling psychologists and therapists, I believe focusing on the therapeutic relationship is essential for effective therapy (Douglas et al., 2016). I am influenced by theorists like Rogers (1957), who pointed to the importance of relationship quality between therapist and client; in Rogers' Person-Centred Therapy, "necessary and sufficient conditions" within therapeutic relationships permit clients' personal growth and psychological recovery. Psychodynamically informed therapists also recommend a focus on relationships. For example, Lemma et al.'s (2011) Dynamic Interpersonal Therapy focuses on the experiences of a key personal relationship for a client; this *interpersonal affective focus* permits the application of psychodynamic principles in short-term psychotherapy.

When reviewing the literature, there appeared to be some barriers to researching psychological problems connected to communication technology. These were partly fuelled by the lack of consensus around definitions for problems with social media and digitally mediated forms of communication. For example, since there are no gold standard measures for Internet addiction, it is not present in the DSM-5 as a diagnosis. Since it was apparent that there was no clear consensus for the psychological understanding of online problems (such as digital communication compulsions), I decided to use constructivist grounded theory method to produce a new understanding. I followed the recommendations provided by Charmaz (2014) while adapting my approach to align with the abbreviated form offered by Willig (2013).

Section B - Publishable Piece: "Digitally Modified Relating: When Online Relating is Preferred"

The analysis of the gathered data yielded several co-constructed processes that may cast light on experiences of problematic electronic communication. A central process that emerged from the analysis was "digitally modified relating" (my term). This process reflected how participants felt their general relating experiences may have been modified by digitally mediated communication. When online, people may be exposed to an artificially enhanced cocktail of relating experiences that would be impossible in person. The literature suggests this may be a form of "supernormal stimuli" in the domain of human relating (see Barrett, 2015). The publishable piece explores the relations between (what I call) "supernormal online relating" experiences online and potential alterations to a person's experiences of relating in general. Such phenomena might be particularly problematic for vulnerable persons such as children, those with limited social skills, and those suffering from poor mental health. The article in section B expands on these concerns and considers the relevance of digitally modified relating to psychological therapies in assessment, formulation, and intervention.

Section C - Case Study: "Two Journeys Towards Mentalising"

In section C of this portfolio, I present a combined case study and process report focusing on a client diagnosed with emotionally unstable personality disorder (EUPD) and bulimia nervosa. This case study explores my clinical approach to supporting this client's struggle to connect with others. I drew on Bateman and Fonagy's (2019) mentalisation-based treatment. This work reflects how my client and I took our respective journeys towards understanding mentalising and the difficulties that non-mentalising can

produce. This was a highly challenging piece of work for me due to my need to engage with my own mentalising style to facilitate the therapeutic frame.

One of the few sources of social support this client had was her online friend. █

███

██

███

██ This case explores how this electronically mediated relationship was relevant to the therapy.

Interconnected Threads

While the three sections of this thesis are individually informative, together, they show how electronic communication may influence relating experiences. Through working with clients who reflected the importance of their online connections, I became interested in whether their online life was problematic, beneficial or both. Perhaps an obvious example of this is whether online activities intended to reduce loneliness might prevent individuals from confronting their social anxieties or challenges.

Section A contains research into the experiences of online relating when this is perceived as a problem. It provides a constructivist grounded theory based on my analysis of participants' accounts of online communication and associated problems. Section B focuses on one of the main findings that emerged from the analysis, a process I called "digitally modified relating." This process was co-constructed through participants' interpretations of how electronic communication altered their perceptions of relating. This publishable article outlines the research and the therapeutic relevance of digitally modified relating. Rather than assuming that digitally modified relating is only a problem

for persons suffering from serious problems around their internet use, this article explores the potential significance of digitally modified relating across all client presentations. Section C provides a combined case study and process report, focusing on a client struggling to connect with people face-to-face while appreciating her online relationship with a friend.

Contributions to the Field of Counselling Psychology

This thesis uniquely contributes to counselling psychology and other allied professions by elucidating the experiences of individuals with self-identified online problems. It explores two key processes: problematic electronic communication and digitally modified relating. Both concepts were examined through the processes outlined in the Methodology chapter. Notably, problematic electronic communication was used as a conceptual focus during the study's design. The term was chosen to encourage an exploration online communication problems and compulsions without imposing addiction discourses on participants. While it shaped the study and influenced interpretations, its conceptualisation was grounded in participants' experiences – meaning that compulsions were not always the participants' primary focus. In contrast, digitally modified relating emerged from the data, capturing how adaptations to electronic communication appeared to alter participants' daily interactions and negatively impacted face-to-face relationships. The publishable piece (section B) presents the concept of digitally modified relating and explores its potential clinical significance.

Overall, the emergent theory of problematic electronic communication offers a processual understanding of how participants navigated electronic communication – progressing from non-problematic use to the development of issues and, ultimately, to

their resolution. This theory encapsulates five interconnected processual categories, illustrating how participants sought solutions to personal problems through electronic communication, adapted to digital interactions in ways that shaped their daily experiences, and felt "pulled back" into online engagement. Before reaching a turning point, participants experienced ambivalence about their online behaviour. When they recognised electronic communication as problematic, they attempted to address it. After a period of struggle, they found a resolution by achieving a more balanced social life, primarily through prioritising face-to-face relating.

This portfolio encourages psychological therapists to consider the impact of digital life on their clients. The findings suggest that an understanding of online relating experiences may support the effectiveness of psychological assessments, formulations, and interventions. While not always relevant, clients' problems may be linked to the nature of their online interactions. The concept of digitally modified relating may extend other theories, such as the online disinhibition effect offered by Suler (2004), by considering how some online effects result from adaptations to communication technologies. As communication technologies continue to evolve, and the internet increasingly facilitates social interactions, the psychological implications of digitally mediated communication become increasingly relevant to therapeutic practice. I hope this study encourages further research into problematic electronic communication and digitally modified relating, fostering a deeper understanding of how digitally mediated interactions may shape well-being.

Conclusion

In conclusion, this portfolio presents my exploration of online life, focusing on electronic communication. I have sought to provide insights into this evolving field by exploring the problematic use of electronic communication, digitally modified relating, and a relevant clinical case. I hope what follows is an informative and thought-provoking exploration for therapists and psychologists considering the potential significance of a client's digital life. While such considerations may be most relevant when working with persons whose primary concerns involve their online behaviour, the increasing digital mediation of UK culture makes it crucial for psychological therapists to understand how digital life may shape relational experiences and impact mental health.

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SECTION A: RESEARCH PROJECT

**Compelled to Connect: A Constructivist Grounded Theory of How
Online Communication Compulsions Begin, Sustain, and End**

Abstract

Context

Despite the potential importance of how humans interact with each other through digital means, research-based understandings of the effects of digital technologies on relationships and mental health are in their infancy. Current research suggests that "cyber effects" may impact Internet users. However, the extant literature does not provide phenomenologically informed accounts of how cyber effects may modify relating.

Objective

The present research project qualitatively investigated problematic electronic communication as defined by participants who self-identified as having such problems.

Research Method

This study used Charmaz's (2014) constructivist grounded theory method to investigate problems around electronic communication. Using adaptations from Willig (2013), an abbreviated grounded theory was conducted. Of the 40 participants who self-selected for participation, 17 contributed by writing about their experiences, and seven were interviewed. The analysis of participant data adhered to Charmaz's (2014) constructivist grounded theory method modified to Willig's abbreviated version.

Key Findings

A tentative model of Problematic Electronic Communication (PEC-M) consisted of a core category of "Navigating Electronic Communication" connected to five main categories reflecting distinct processes. Within the theory, the following categories encapsulate processes reflected within participant accounts: "suffering as part of the human experience," "seeing electronic communication as a solution," "using electronic

communication as a solution," "developing problematic electronic communication," "navigating electronic communication as a problem," and "reducing problematic electronic communication."

The model suggests that participants used electronic communication to address their needs and reduce their suffering. The theory also suggests that exposure to supernormal forms of online relating may modify participants' in-person social experiences and relating style, a process I call "digitally modified relating."

Discussion and Recommendations

Despite the limitations inherent in the qualitative methodology, these findings may have implications for therapeutic practice and recovery. The discussion explores how digitally modified relating may be relevant to therapy. The present work may highlight processes relevant to providing more effective treatment for clients struggling with electronic communication issues and a deeper understanding of clients for whom digitally modified relating is a clinically relevant factor.

Keywords: Computer-Mediated Communication; Electronic Communication; Social Barriers; Problematic Internet Use; Social Media

Chapter 1: Literature Review

1.1 Context of Research

Tesla (1926) predicted that through the growth of technology, people would be able to communicate instantaneously across vast distances, and he thought that through such technologies, they would be able to see and hear each other. Since the Internet offers such forms of communication, we are arguably living in Tesla's technologically interconnected future. In 1970, Alvin Toffler published *Future Shock*, a thought-provoking anticipatory analysis of how future technologies might shape society and produce both opportunities and challenges. Toffler believed that the accelerating pace of technological development would result in many people struggling to cope with the stress of constant change.

Morrar and Arman (2017) suggest that technological shifts are influencing social processes and that the social technology of the Internet is at the centre of a cultural revolution. Consequently, there have been calls to consider how electronic communication technologies have affected the social fabric of society (e.g., Byrne & Kirwan, 2019). As people's access to and use of the Internet have increased, the positive and negative psychological consequences of being connected technologically have been more thoroughly investigated (Pontes et al., 2015), and some research has suggested significant adverse impacts of the Internet on mental health (Hökby et al., 2016). In response to such concerns, this research explores the potential negative impacts of communication technologies on human psychology.

When beginning this research, I initially sought to elucidate the inner worlds of people experiencing compulsions around internet communication. However, as the

grounded theory was constructed, the data pointed to how participants understood various problematic experiences and how these were connected to personal problems and suffering. This research shifted its focus since the constructivist grounded theory method can re-focus on the questions the participants' data appear to be answering (Charmaz, 2014). The ensuing theory of problematic electronic communication (PEC) suggested that participants had a transformative response to online relating, a process I call digitally modified relating (DMR).

1.2 Key Terms

While the glossary for this study provides clear definitions for many terms, it is important to explain the rationale behind using key terms herein. This study employs various terms connected to the research focus. The unique term "problematic electronic communication" was chosen at the design stages of this research. Although the original research focus was on compulsive computer-mediated communication, the language found in traditional addiction discourses raised concerns during research supervision. The language chosen within this research addresses two ethical issues: 1) the risk of imposing a predefined conceptual framework on research processes and 2) the potential negative consequences of pathologising a participant's normal online behaviour. This term was initially developed to avoid forcing the theory into existing addiction discourses; it was hoped this would provide an open space for participants to define their experiences using their own understanding. The term "problematic electronic communication" acknowledges participants' patterns of online re-engagement without suggesting clinical addiction. Similarly, the term "chat compulsions" was adopted for participant interactions because it offers a less biased alternative to the term "internet addiction," thereby

providing an open space for participants to articulate and define their subjective experiences of challenges with online interactions. The definition of problematic electronic communication emerged from the analysis of participant data. As participants identified problems around their electronic communication, the understanding of the term resulted from the co-construction of their experiences. In brief, problematic electronic communication was understood to reflect a problematic pattern of re-engagement in which participants acclimated to the enhanced social experiences afforded by controllable online interactions. The term "digitally modified relating" emerged from the analysis; it encapsulates an apparent transformative impact that sustained electronic communication had on interpersonal relationships, leading to participants finding face-to-face interactions less compelling and less satisfying.

When referring to "internet addiction" in this thesis, I have aimed to honour each author's respective conceptualisation. However, these are provided briefly due to the diversity of definitions and conceptualisations connected to the term. The term "problematic electronic communication" is not intended to be synonymous with internet addiction; instead, this study introduces new terminology that aims to prioritise and capture the subjective experiences of its participants.

1.3 Introduction to this Review

This critical literature review provides the theoretical, empirical, and personal foundations for the research undertaken as part of my doctoral training. I have chosen to present extant works that will be most helpful in elucidating the present study and the resulting constructivist grounded theory.

Before considering the relevant literature, the status of literature reviews for grounded theory research will be explored. The following critical literature review shall outline the cultural context of this research. It will then explore relevant theoretical perspectives and research into problems around technology. Then, it will outline the search strategy used to identify qualitative research most relevant to this study. Finally, it will present the studies that were found.

1.4 Literature Reviews and Grounded Theory Studies

Before exploring the relevant research, it is important to touch on the controversies around the use and timing of literature reviews for Grounded Theory Studies. Although some methodologists consider the timing of the literature to be at the researcher's discretion (e.g., Charmaz, 2014), others have reservations about the impact of preconceptions on analysis (e.g., Glaser et al., 1968). As with other modern approaches to qualitative research, Grounded Theory methodologists and researchers concern themselves with the role of the researcher in the development of knowledge. At the core of such considerations is the epistemological concern that research processes are inextricably influenced and moulded by the study's researcher(s) (as suggested by Charmaz, 2014). Such concerns have been understood as *researcher bias* that should be limited through *bracketing* (Tufford & Newman, 2012). However, since a doctoral training programme structured this research, the literature review undertaken meant exposure to relevant perspectives was inevitable. To address any potential biases in research processes, I engaged in a continuous process of reflexivity.

1.5 Theories of Internet Use and Internet Addiction

The extant theories can broadly be divided into internet use and addiction theories. Theories of Internet use often attempt to describe and explain patterns of human interaction with the Internet. In contrast, theories of internet addiction concern themselves with issues around online compulsions. The following sections will outline, compare, and contrast such theories.

1.5.1 Techno-Optimism

Research into how humans engage with each other through technology has adopted many perspectives; however, much of the research focus has been on an optimistic view that emphasises the positive impacts of communication technology. Internet benefits have been reported for psychological well-being (Ziv & Kiasi, 2016), business research (Ratnasari, 2021), social connectivity (König et al., 2018), and acquired communication conditions (Paterson, 2017). Similarly, Wallinheimo and Evans (2021) explored how internet use helped to counter feelings of isolation resulting from COVID-19 lockdown restrictions.

While much of the extant literature reflects a bias towards prevailing pro-technology narratives, dissenting voices have stood in opposition. Huesemann and Huesemann (2011) argued that *techno-optimism* is unjustified and risks inhibiting people's ability to solve their problems. Similarly, Morozov (2014) claims *that technological solutionism* (an emphasis on technological solutions) causes people to have blind faith that technology will solve the full range of human beings' problems (from climate change to personal social struggles). He asserts that when people prioritise

technological solutions, this may limit their wider consideration of the nature of the problems they are attempting to solve.

1.5.2 Digital Natives

To understand the different kinds of relationships people may have with technology, some researchers have posited the existence of *digital natives* (Prensky, 2001). Herrmann et al. (2021) define a digital native as a person (typically born after 1980) who grew up using digital technologies and suggest these people may have normalised multi-tasking and immediate responses in online social interactions. In contrast to digital natives, Prensky also theorised the existence of *digital immigrants*, who would be late adopters of digital technologies and less comfortable with electronic communication. Notably, these categories have been criticised since they imply that, due to their age, digital natives can develop technological competence; commentators like Eynon (2020) dispute this claim since some young people have less access to technology due to family culture or poverty. Although the categories of digital natives and digital immigrants may be unfounded (Reid et al., 2023), exposure to the Internet may result in what Aiken (2016) calls cyber-socialisation.

1.5.3 Cyber-Socialisation

From Aiken's (2016) perspective, the notion of the digital native may merely reflect *cyber-socialisation*. Drawing on environmental psychology, she explains how exposure to the unique social contexts afforded by online social spaces can result in assimilating their norms, values, and behaviours. She also claims that the processes of online socialisation occur more quickly than offline socialisation because service users are hyperconnected; that is, they are subject to multiple channels of computer-mediated

communication (Quan-Haase & Wellman, 2006); their hyper-connectivity may result in them being more trusting and less inhibited online. The theory of cyber-socialisation suggests that people may quickly adapt to new online norms and expectations, and these shifts may reinforce patterns of excessive use, contributing to problematic electronic communication. Aiken suggests another contributor to cyber-socialisation is the online disinhibition effect.

1.5.4 Online Disinhibition Effect

Suler (2015) proposed the existence of an *online disinhibition effect* (ODE), which reflects an increase in two seemingly opposing online behaviours. While it captures people's tendency to demonstrate increased selflessness or generosity, it also reflects an increased tendency towards antisocial or problematic behaviour (e.g., criminality, rudeness, or threats). Mueller-Coyne et al. (2022) outline ODE's theoretical dimensions: the *minimisation of authority, dissociative anonymity* (lack of concern due to the perception of online anonymity), *solipsistic introjection* (perceiving others as having imagined characteristics), *asynchronicity* (as the time to respond increases, the person feels less inhibited), and *dissociative imagination* (experiencing online life as a fantasy world). The ODE suggests that people may find more freedom online and, therefore, increased opportunities to meet their needs, and it may be one process connected to problematic online communication. Similarly, Uses and Gratifications Theory suggests that people may meet their needs by actively engaging in online social spaces.

1.5.5 Uses and Gratifications Theory

Uses and Gratifications Theory (UGT; Katz et al., 1973) challenged the prevailing assumption that people are shaped by their media consumption (e.g., news and

television); instead, UGT suggests people proactively utilise media to fulfil their desires and needs. Researchers like Choi and Choung (2021) draw on UGT as a framework to understand how technology users actively address their needs by finding information or entertainment. This understanding may help to explain online social behaviour, where people may use online communication to cope with existing relationships and relieve negative affect (Senol-Durak & Durak, 2017). It is possible that when users repeatedly turn to online interactions as a source of self-regulation, they may develop a reliance that leads to engaging online compulsively. Some social media users engage in impression management in ways that appear to meet their needs; Aiken (2016) suggests online impression management is connected to what she calls the *cyber-self*.

1.5.6 The Cyber-Self and Impression Management

In her conceptualisation of the *cyber-self*, Aiken (2016) draws on Cooley's (1902) looking-glass self theory. Cooley's theory explains how others' perceptions may shape an individual's self-image and behaviour. He posited that individuals construct an understanding of themselves by imagining the impressions they create in the minds of others. Aiken uses this theory to understand how people's sense of self can be shaped by others' perceptions of their online persona. She claims that people curate an idealised version of themselves (a cyber-self) for impression management in online spaces. The perceived benefits of an online constructed self-image contribute to the appeal of online communication, particularly when it may give a sense of validation. However, Aiken contends that the cyber-self reflects a form of dissociation where a person can feel they are not responsible for their own actions when online. A sense of diminished

accountability combined with the reinforcement of an ideal online image may contribute to problematic online behaviour.

1.5.7 Internet Addiction Theories

So far, this introduction has explored how patterns of online engagement may be explained through internet use theories. Some of these perspectives may reflect techno-optimistic or neutral views of online interactions. These perspectives highlight the contrasting interpretations of the role of technology in shaping social interactions. The conceptualisations of internet addiction, however, offer alternative accounts of persons whose internet use is characterised as problematic. Internet addiction theories contrast with internet use theories as they emphasise challenges to mental health and suggest that excessive use of the Internet may represent a new mental health condition. In the following review of internet addiction theories they will be compared with internet use theories.

1.5.8 A Diagnostic Approach

The conceptual challenges surrounding the study of internet addiction have similarities to those found in internet use theories. For example, the concepts of *digital native* and *digital immigrant* (offered by Prensky, 2001) have been criticised for oversimplifying the relationship between age and technological competence (Eynon, 2020); similarly, researchers have debated whether internet addiction should be considered a problem in isolation or a reflection of other underlying issues (Starcevic & Billieux, 2017). The debate may also capture the tensions around conceptualising the Internet as a neutral tool or a potential societal problem (as suggested by UGT; Katz et al., 1973). Indeed, the Internet might be used in adaptive or maladaptive ways.

While research into internet addiction is expanding, researchers like Pontes et al. (2015) suggest that the absence of a research consensus on the conceptualisation and measurement of internet addiction is hindering progress. At the time of writing, there is no diagnostic category for internet addiction in the DSM-5 or ICD-11, despite internet gaming disorder being reflected in both. Its lack of official recognition in diagnostic manuals partly results from the lack of accepted definitions, diagnostic criteria, and gold standard measures upon which the relevant research could be based; for the same reasons, the research on internet addiction presented here must be cautiously interpreted.

Nevertheless, in their investigations of apparent internet addiction, researchers like Griffiths and Szabo (2014) noted the presence of addiction-like features, including excessive use, experiences of withdrawal, and preoccupation with online activities. Similarly, deficits in impulse control have been connected to mobile device addiction (e.g., Vinayak & Malhotra, 2017). Some researchers have considered internet addiction to be a non-substance-based impulse control disorder (Yang et al., 2017) or a behavioural addiction where the Internet might be considered an active substance when compulsively used (Griffiths & Szabo).

1.5.9 Cognitive-Behavioural Addiction Theories

The operant conditioning model of addiction points to the roles of anticipatory excitement and pleasure experiences that reinforce addictive cycles (Achab et al., 2015). Drawing on this model, Starcke et al. (2018) suggest that mobile phones generate *related stimuli* that reinforce phone usage; these come in the form of flashing lights, alerts, and notification sounds. Measures of compulsiveness around social networking, problematic gambling, gaming, and shopping have been associated with people's tendency to react to

such *related stimuli*. Since these reinforcing stimuli exist within online social spaces (Thomson et al., 2021), they might be relevant to Aiken's (2016) cyber-socialisation concept, pointing to how online contexts shape individuals' social interactions and behaviours. The cyber-socialisation to online-related stimuli may normalise digital cues, psychologically conditioning users to respond to them and reinforcing patterns of problematic engagement with electronic devices. While related stimuli are conceptualised as alerts that prompt users to engage with their device, the Internet may also facilitate exposure to "supernormal stimuli."

1.5.10 Supernormal Stimuli

The concept of *supernormal stimuli* dates to Tinbergen's (1953) animal experiments with gulls. Tinbergen demonstrated that he could manipulate the instinctual response behaviours of chicks by exaggerating the markings on gull models. He showed that chicks preferred interacting with gulls with exaggerated markings and surmised that these supernormal stimuli amplified gull responses. Barrett (2015) articulates how human cultures have numerous examples of supernormal stimuli within media forms that may affect psychology and behavioural response potentials. Extant research has applied the principles of supernormal stimuli to humans in general sexual response (e.g., Pazhoohi et al., 2020) and digitally mediated pornography (e.g., Goodwin et al., 2015). However, Dwulit and Rzymski (2019) report that high levels of online pornographic use have been shown to negatively impact interpersonal relationships, where increasing consumption of online pornography is correlated with decreased sexual satisfaction in real-life scenarios.

Since Aiken's (2016) cyber-socialisation concept concerns itself with the unique contexts offered by online social spaces, exposure to supernormal stimuli may heighten

engagement with online content and reinforce online behaviours. A curated cyber-self may represent a supernormal self-presentation designed to trigger amplified emotional reactions from others online. As online social interactions may differ substantially from in-person encounters, they could be perceived as supernormal and provoke stronger emotional responses (McFarland & Ployhart, 2015).

1.5.11 Cognitive-Behavioural Model of Pathological Internet Use

Davis's (2001) Cognitive-Behavioural Model of Pathological Internet Use posits a complex relationship between thoughts, behaviours, and compulsive online activities. This internet addiction model outlines stages of development and maintenance cycles (see Figure 1). Davis distinguishes between two main pathological uses of the Internet: *specific purposes* (e.g., online gambling or sexual gratification) and *generalised use* (excessive use of *computer-mediated communication*, dependence on virtual social interactions, and wasting time). In contrast to internet use theories (e.g., seeking gratification in UGT; Katz et al., 1973), Davis's model posits that psychopathology lays the foundation for the development of pathological internet use. Psychopathology (i.e., mental health problems) is considered a vulnerability factor that combines with other distal causes (the Internet and situational cues) to cause the development and reinforcement of maladaptive cognitions that play a crucial role in maintaining problematic behaviours and experiences. The reinforcing cognitions suggested included self-doubt, rumination, negative appraisals of self, and the world. These are reminiscent of the motivations for *online impression management* suggested by Aiken (2016). Senol-Durak and Durak (2017) support both views by highlighting how the Internet allowed

participants to compensate for their negative self-image by seeking positive social evaluations online.

Figure 1

Davis's (2001) Cognitive Behavioural Model of Pathological Internet Use.
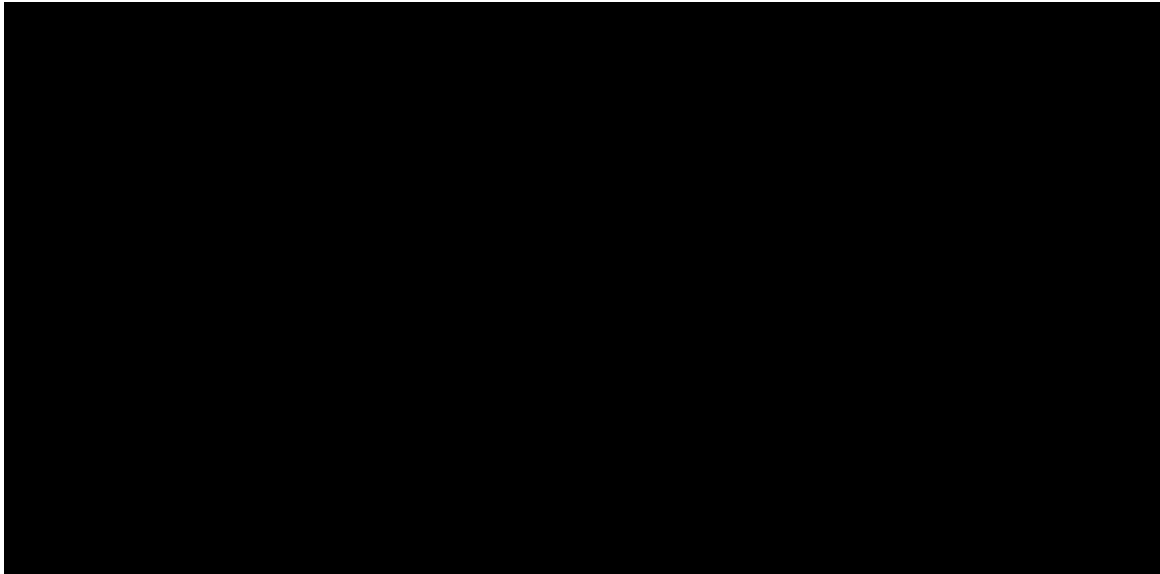
1.5.12 Generalised Problematic Internet Use Model

The generalised problematic internet use model (GPIU) is a cognitive-behavioural model offered by Caplan (2010b). Caplan's (2010a) conceptual model of internet addiction extends Davis's (2001) Cognitive-Behavioural Model and incorporates aspects of Kim et al.'s (2009) theory of unregulated internet use. Central to Caplan's theory is cognitions reflecting a person's *preference for online social interactions* (POSI); this may reflect underlying beliefs about the Internet providing more effective, comfortable, and safe interactions than face-to-face relating. POSI is accompanied by perceived social skill deficiencies, low social presentation confidence, or social anxiety, which can contribute to problematic Internet use behaviours. Caplan suggests that internet addiction reflects a coping mechanism to avoid social challenges and regulate mood. This perspective

contrasts with internet use theories that often conceptualise the Internet as providing opportunities for resolving social barriers. For example, in techno-optimistic research (e.g., König et al., 2018; Wallinheimo & Evans, 2021), internet access can be conceptualised as enhancing social skills rather than perpetuating social problems. Caplan (2010b), however, theorises that deficient self-regulation results in people using the Internet to regulate their mood, and this also impairs a person's capacities to judge or modify their problematic behaviour, and this would be especially likely for a person suffering from social anxiety. Alongside self-regulation deficits, he theorises that problematic internet use is accompanied by the person being preoccupied with online life and experiencing compulsions to re-engage with the Internet that are hard to resist. Caplan's theory considers problematic Internet use to be a compensatory strategy that may address deficiencies in social skills and self-regulation; the theory points to the importance of understanding individual needs and motivations connected with online behaviour. This conceptualisation echoes Katz et al.'s (1973) Uses and Gratifications Theory, which suggests that internet users actively select and use various media to meet their specific needs and desires. While cognitive-behavioural theories suggest that internet addiction may adversely impact personal relationships, this contrasts with theories of internet impression management (e.g., the cyber-self; Aiken, 2016) that point to compensatory behaviour that may appear to build social status and social capital.

1.6 Factors Associated with Internet Addiction

Research has shown support for various factors associated with developing and experiencing internet addiction. The correlational nature of most internet addiction

research provides potential connections; however, they cannot offer processual explanations (Gray, 2017).

Nevertheless, numerous factors have been associated with internet addiction. Kuss et al. (2014), for instance, reviewed 68 epidemiological studies and identified four main factor domains associated with internet addiction: sociodemographic variables (e.g., age, gender, and location of residence), psychological/personological factors (e.g., impulsiveness, emotion avoidance, and seeking escape), social factors (e.g., lack of social support, feeling unloved in the family), comorbidities (e.g., depression, anxiety, compulsiveness, and sleep disorders) and specific internet use variables (e.g., length of engagement, and childhood exposure). Since Kuss et al.'s review was limited by the inclusion of only quantitative Internet addiction research, Douglas et al.'s (2008) systematic analysis of relevant qualitative studies provides other valuable perspectives due to its development of the Internet Addiction Model (IAM). The IAM proposes that Internet addiction (PIU) might develop from the combination of pull factors (characteristics of the Internet that reinforce its use) and push factors (unmet needs and adverse life conditions). Push factors included escaping from feelings of inferiority or low confidence, using a cyber-identity like Aiken's (2016) cyber-self-concept (to compensate for perceived personal shortcomings), seeking distraction from boredom or stress, and having unmet interpersonal needs (e.g., loneliness).

The IAM conceptualisation resonates with studies of sociodemographic variables, which suggest internet addiction is more likely to be observed in males (Ostovar et al., 2016). Hassan et al. (2020) found that internet addiction is more likely to be experienced by children and adolescents, where their "living setup" was a strong contributor to their

correlational model (despite not being operationally defined). Similarly, Urbanova et al. (2019) found that Slovakian adolescents with unemployed fathers or low perceived socioeconomic status were more likely to use the Internet excessively. However, the findings are inconsistent, with Islam and Hossin's (2016) finding that socioeconomic status was not related to internet addiction.

Internet addiction has also been associated with individual difference measures. Evidence suggests that openness, conscientiousness, extroversion, agreeableness, and neuroticism are meaningfully associated with internet addiction (Kayiş et al., 2016; Chwaszcz et al., 2018). Also, associations have been found with boredom proneness (Skues et al., 2016), perfectionist attitudes (Taymur et al., 2016) and dissociative experiences (Lai et al., 2017). Marengo et al. (2020) reported that extroversion and compulsive use of social media were connected through "likes" and "status updates" that acted as positive feedback that encouraged activity.

In support of Davis's (2001) model of PIU, comorbidities have also been consistently associated with internet addiction, including depression, anxiety and stress-related conditions (Ostovar et al., 2016; Park et al., 2017; Yang et al., 2020). Indeed, internet addiction has been associated with psychological distress (e.g., Islam & Hossin, 2016) and mental and physical fatigue (Bachleda & Darhiri, 2018).

Various social factors have also been associated with internet addiction, including the need for social approval (Taymur et al., 2016), loneliness avoidance (Ang et al., 2018) and social anxiety (Carruthers et al., 2019). Internet use was found to offer those with social anxiety limited compensatory benefits (Grieve et al., 2017), with the risk of amplifying insecurities and diminishing relational confidence (Larsen, 2022). Chang et al.

(2019) found that those experiencing anxiety around interpersonal interactions had an increased risk of internet addiction.

Bowlby's (1958) attachment theory emphasised the importance of early caregiver experiences in child development and subsequent adult relationships. Bowlby highlighted how affectional bonds with the caregiver provided a secure base from which child development was supported. After observing infant-mother behaviour, Ainsworth (Ainsworth & Bell, 1970) and Main and Solomon (1986) developed a typology of attachment styles that described children's attachment-based behavioural responses to separation from their mother: healthy relationships were connected to secure attachment, while insecure attachment (e.g., avoidant or ambivalent) may contribute to adult relationship issues. Eichenberg et al. (2017) report that attachment style is associated with an increased risk of developing problems with the Internet (addiction); their evidence points to increased motivations to escape from or compensate within relationships due to insecure attachment styles (particularly for those with an ambivalent attachment style). D'Arienzo et al. (2019) reported that insecure attachment (anxious and avoidant) significantly correlated with increased dysfunctional Internet and social media use. Nielsen et al. (2017) report that the association between anxiety and attachment is mediated by emotional dysregulation. An insecure attachment may contribute to relational difficulties that can bias people towards forming "virtual friendships" (Beranuy et al., 2013). Attachment to digital services and mobile devices has also been reported; for example, Fullwood et al. (2017) found that people can experience intense feelings of discomfort when separated from their mobile device (nomophobia); they suggest this may

be because the mobile phone itself may offer the person a secure base as if it is a "virtual friend" (p. 354).

1.6.1 Cognitions and Attitudes

Hamonniere and Varescon (2018) highlight how metacognitive beliefs (metacognitions) appear to be involved in addictive behaviours. Spada et al. (2015) suggest that the metacognitions involved in the activation and perpetuation of addiction as a coping strategy may either be positive (e.g., "I am my best self when online") or negative (e.g., "I can't stop myself from checking for new messages"). As has already been suggested, those persons holding positive beliefs (techno-optimistic perspectives) about the Internet may be more susceptible to developing Internet problems. Wu et al. (2016) supported this by showing that positive outcome expectancies were associated with motivations for starting and continuing to use social media.

Other cognitions and meta-cognitions have also been shown to be associated with internet addiction. Taymur et al. (2016) suggest that dysfunctional attitudes are relevant to the effective treatment of internet addiction using cognitive behavioural therapy; for example, they highlight perfectionism and the need for approval as factors perpetuating internet problems. Also, Akbari et al. (2021) highlighted how cognitions around the *fear of missing out* (FOMO) may drive people to return to social media.

Caplan's theory of internet addiction suggests that when people are psychosocially distressed, they develop a preference for online social interactions (POSI, Caplan, 2010b). In support of this, Assunção and Matos (2017) and Moretta and Buodo (2018) found that participants with compulsions preferred online social interactions. Caplan (2010b) also suggests reinforcing metacognitions like "I am my best self when

online" may perpetuate online problems, and these cognitions can be reinforced by both positive online social outcomes and offline social struggles.

Caplan's (2010a) theory of problematic internet use led to the development of the Generalised Problematic Internet Use Scale 2. This measure helps to operationally define internet addiction as experiencing "negative outcomes," "mood regulation through the internet," "deficient self-regulation," and having a "preference for online interactions."

1.6.2 Reinforcing Cognitions and Self-Regulation Problems

Caplan's (2010b) theory of problematic Internet use suggests deficient self-regulation is associated with cognitive preoccupation with and compulsive Internet use to regulate mood. Persons experiencing addiction to the Internet may struggle with emotional dysregulation (Yu et al., 2013). After investigating Polish students attending secondary schools, Chwaszcz et al. (2018) report an association between internet addiction and coping using maladaptive strategies (substance use, becoming disengaged and blaming themselves). Yildiz (2017, p.73) investigated the correspondence of "external dysfunctional," "internal-dysfunctional" and "internal-functional" strategies for emotional regulation use by adolescents and reported significant levels of variance explained for compulsive mobile phone use (19%) and internet addiction (38%); through engaging in hedonistic activities (external-dysfunctional) people can reduce their experiences of suffering; however, Yildiz argues that although pleasure-seeking may provide temporary relief, excessive use can result in diminishing returns for internet users due to them developing tolerance to its effects. Reinecke et al. (2022) suggest that difficulties with self-regulation may be the factor that distinguishes between healthy and problematic social media use.

Casale et al. (2016) found that escapism and controllability metacognitions had a mediating relationship between emotional dysregulation and problematic internet use. Wang et al. (2015) report that alongside deficient self-regulation, four types of cognition reinforced psychological dependence on social media; their participants' cognitions reflected their perceptions of social media being enjoyable, easy to use, irreplaceable and useful. Kuss et al. (2014) report that expecting positive outcomes for internet activities predicted increased use. Davis's (2001) model also highlights the importance of identifying perpetuating cognitions, such as the "Internet is enjoyable," "easy to use," "has utility," and "cannot be replaced." Tian et al. (2021) extended Davis's cognitive-behavioural model by showing the relevance of personality traits and maladaptive cognitions to internet addiction. They showed openness, conscientiousness, extraversion, and neuroticism were negatively correlated with both maladaptive cognitions and internet addiction and that their relations were dynamic and bidirectional.

1.6.3 Critique of Literature

Nearly all the quantitative research reviewed thus far were correlational studies, and due to being cross-sectional, they could not investigate causal connections and may imply connections that result from confounding or latent variables. Due to their nature, these factorial findings cannot comprehensively explain the underlying processes of problematic uses of the Internet. Indeed, conceptual issues remain around definitions and measures that mean their findings may not be generalisable (a benchmark for positivist and post-positivist research). Perhaps, as suggested by Carlisle and Carrington (2015), phenomenological research might contribute to psychological knowledge about internet addiction by refining conceptualisations of the phenomenon and developing more valid

measures that connect to distinct diagnostic criteria. The present research may help to further these aims by providing a theory grounded by the psychological constructions of persons who have experienced similar problems.

1.7 Literature Search Phases

The literature search process occurred in distinct phases, with each phase refining the scope and search strategy to align with the research aims.

1.7.1 Phase 1: Initial Exploratory Search (January–May 2017)

The first literature search for this study was conducted between January and May 2017 as part of a doctoral assignment. This exploratory phase aimed to identify gaps in psychological knowledge concerning internet addiction. The assignment highlighted how inconsistencies in definitions, diagnostic criteria, and measurement were hindering research progress in the field. The assignment was submitted in May 2017.

1.7.2 Phase 2: Meta-Synthesis Attempt (October 2022–March 2023)

The main literature search began after establishing the research focus in October 2022. This search took place between October and March 2023. It aimed to identify the qualitative research most relevant to problematic electronic communication. However, this approach yielded only four qualitative studies, which was insufficient for a comprehensive review. To address this, Sandelowski and Barroso's (2007) systematic six-step meta-synthesis approach was adopted to improve the search strategy. The search was completed by March 2023 and led to the identification of 32 relevant qualitative research papers. The results of the thematic analysis can be seen in this portfolio's publishable piece (found in Volume 2).

1.7.3 Phase 3: Thematic Analysis of Qualitative Studies (March–July 2023)

While Sandelowski and Barroso's (2007) approach initially helped to refine the literature search, it became evident that a full meta-synthesis was beyond the scope and resources of this study. Since clear themes were noticeable across the findings, a thematic analysis of the 32 identified papers was conducted. The themes are presented in Appendix Q.

1.7.4 Phase 4: Targeted Literature Review (July–February 2025)

Although the thematic analysis provided a high-level synthesis of findings, the lack of methodological consistency across the studies posed a risk of overgeneralisation. Additionally, the thematic analysis did not prioritise those studies most closely aligned with the present research aims. To address these issues, the identified papers were re-evaluated using stricter inclusion criteria, and a final literature search (taking place from July to February 2025) aimed to identify recently published studies relevant to this study. During Phases 2 and 3, studies on children and adolescents were included, but in Phase 4, non-adult studies were excluded to better align with this study's focus on adults. The literature review (to follow) organises the identified studies in an appropriate targeted format.

1.7.5 Search Strategy

The literature search strategy involved systematic searches across various databases:

- Academic Search Complete

- APA PsycARTICLES

- APA PsycINFO

1.7.6 Search Terms and Boolean Logic

The search terms (see Table 1) were combined using Boolean logic (e.g., "AND" and "OR"), and the wildcard operator ("*") was used to include variations on word endings.

1.7.7 Inclusion and Exclusion Criteria:

- Peer-reviewed research published between 2014-2023.

- Qualitative research.

- Phases 1-3: Initial inclusion of adults, child and adolescent studies across different countries.

- Phase 4: Focused exclusively on UK adults

1.7.8 Phases 2 and 3 Search Results

The Phase 3 search initially retrieved 39,957 articles. Applying inclusion/exclusion criteria (e.g., academic journals, publishing date, qualitative, and peer-reviewed status) reduced the number to 850 articles. Abstracts were screened to assess each article for relevance. Articles were discarded if they were duplicates or fell outside the scope of the review. The remaining 63 articles were assessed for relevance by reading them in full. When citations in these articles appeared relevant, they were added to the pool of potential inclusions for further evaluation.

After screening, 32 research studies met the inclusion criteria (details are presented in Appendix P).

1.7.9 Final Search Results (Phase 4)

In Phase 4, the studies from the previously identified pool were reassessed to ensure they focused on UK adult participants. The reassessment led to the inclusion of

eleven studies. The search was repeated with the revised criteria to identify newly

published studies. This search identified three additional studies: Yang et al. (2019),

Wang et al. (2024), and Caponnetto et al. (2025). The following section provides a

review of the included studies.

Table 1

Keywords Used to Build Search Strings.

Keywords:	**Synonyms:**					
Compulsive	addict*	compel*	compul*	"problematic internet use"	"pathological internet use"	"social network addiction"
	"social media addiction"	"Facebook addiction"	"cell phone addiction"	"problematic smartphone use"	"smartphone addiction"	"internet addiction"
Computer-mediated communication	texting	messag*	instant messaging	e-chat	echat	
	social media	Online	Digital	electronic communica*	Communic*	Online chat*
Problematic	maladapt*	difficult*	impact*	problem*	screen time	

Example search:

("problematic smartphone use" OR "problematic internet use" OR "problematic") AND
("messaging" OR "texting")

1.8 Review of Qualitative Research

The following literature review critically evaluates eleven qualitative studies

deemed most relevant to the present research. It highlights the various approaches these

studies take to investigate technological addictions and problems, ranging from

confirmatory approaches that rely on predetermined frameworks to more exploratory,

open investigations that capture the richness of experiences and uncover potential social

and psychological processes. While outlining the valuable insights these studies offer,

this review also evaluates their limitations, underscoring the need for a transparently conducted UK-based study of adults with self-identified electronic communication problems. This review establishes the foundation for the present study. The limitations of the following studies support the development of a constructivist grounded theory by analysing open writing and interview data.

This review includes two large-scale studies, Yang et al. (2019) and Ryan et al. (2016). The first, Yang et al. (2019), explored the positive and negative experiences connected to problematic smartphone use. They recruited 265 UK undergraduates (with a mean age of 20.26 years) who had experienced problematic smartphone use (PSU). The data were collected via open-ended questions. Using framework analysis, the authors integrated participant narratives with a quantitative measure of addiction from the short version of the Smartphone Addiction Scale (SAS-SV; Kwon et al., 2013). The authors developed a thematic framework comprising four main components: "smartphone usage," "antecedents for PSU," "impacts of smartphone use," and "other attitudes." The first component, "smartphone usage," was divided into "general use" (including "communication," "social media," and "information searching") and "problematic use" (including "addictive pattern," "frequent checking," "antisocial pattern," "irrelevant use in class," "risky pattern" and "dangerous use"). The next component, "antecedents for PSU," was divided into two themes. The first, "for general use," included "daily life need," "reassurance need," and "escapism." The second, "for problematic use," identified internal and external contributing factors. The internal factors identified were "excessive reassurance," "fear of missing out," "boredom," "impulsivity," "poor self-regulation," and "extraversion." Two external factors were also identified, "boring lecture" and

influences from "peers." The third component, "impacts of smartphone use," was divided into "positive impacts" (including "life convenience," "help with study," "reassurance," and "good social interaction") and "negative impacts" (including "social relationship," "physical health," "low life satisfaction," and specific experiences associated with studying (including, "distraction," "time wasting," "procrastination," and "performance"). The fourth component, "other attitudes," encompassed "neutral or no impact," the "need to change," and "other distracting devices." While Yang et al.'s use of open-ended questions with a large sample size enhanced the breadth of insights, this may have been at the sacrifice of depth and nuance. Semi-structured in-depth interviews could have enhanced the analysis with nuanced insights into participant experiences. However, there is a greater concern about the credibility of the study. The authors used the terms "problematic smartphone use" and "smartphone addiction" interchangeably without clearly delineating the difference between the two. This lack of conceptual clarification, combined with blurred boundaries between everyday and problematic use, may complicate the interpretation of the findings since it is unclear if they reflect addiction, problematic use, or just smartphone use. Perhaps connected to these conceptual issues was the reported high SAS-SV scores for participants who did not self-identify as using their smartphone compulsively or problematically; this was found alongside low scorers who expressed concerns about their use. While the sample size was relatively large for a qualitative investigation, the gender distribution was heavily skewed (with 219 females and 46 males). Although the large sample size is notable for a qualitative study, as participants were all undergraduates at the same university and predominately female, this may limit the transferability of Yang et al.'s findings.

Another large-scale qualitative study was conducted by Ryan et al. (2016), who explored experiences of Facebook addiction. Aiming to develop the construct validity of Facebook addiction, they systematically reviewed validated psychometric measures and identified core symptoms of internet addiction to guide their investigation. They asked open-ended questions about the seven core symptoms identified, including preoccupation, loss of control, and negative consequences. The authors conducted a phenomenological thematic analysis using the data gathered from a substantial sample of 417 self-identified "excessive Facebook" users across different countries (with 77% residing in Australia and 8% in the UK). While the study's open-ended questions provided a format for participants to offer phenomenologically rich descriptions, it employed a confirmatory research design that constrained participant responses and, consequently, may have failed to capture the full complexity of relevant experiences. The internet addiction framework may have primed participants and researchers to interpret responses within the predetermined symptom framework, potentially overlooking the unique dynamics associated with Facebook usage. While their use of online surveys reached many participants, the qualitative analysis of such a body of responses may have lacked the depth and nuance offered by research interviews. Their use of written responses for gathering data precluded the possibility of an interviewer exploring ambiguous or incomplete answers and, consequently, may have prevented clarifications and undermined the richness of participant accounts. With responses within the predetermined symptom framework rather than in-depth interviews, the study lacked the phenomenologically rich, process-oriented data required to understand *how* compulsive behaviours develop, persist, and end. An interview-based approach could have allowed

participants to explore their experiences and construct an understanding with an interviewer. If the data were analysed without a predefined framework, the unique insights offered by participants could have allowed a unique understanding of internet addiction to emerge.

Like Ryan et al. (2016), Caponnetto et al.'s (2025) investigation of Problematic TikTok Use (PTU) focused on addiction experiences related to a single platform. This Italian qualitative study operationalised PTU by drawing on the DSM-5-TR criteria for behavioural addictions, including characteristics like compulsive use, cravings and negative consequences. They used this operational definition of PTU to develop semi-structured interviews with 56 participants recruited near the University of Catania. The data were thematically analysed using Braun and Clarke's (2006) six-phase process. Four main themes emerged from their analysis. The first theme, "Addiction Factors," captured experiences of wasting time, "lack of awareness of time [or] space," "continuous [or] always use," and trying to reduce addiction (by "uninstalling the application"). The second theme, "Secondary Conditions Related to Use," captured participants' negative experiences not directly connected to addiction. These included experiences of "procrastination," "attention deficit," "school problems," "hate proliferation," "cyberbullying," "negative comments," "inappropriate content" and "body shaming." The third theme, "Positive Perceptions on TikTok," reflected how the platform facilitated valued aspects of life, such as keeping up to date with current affairs and the promotion of "culture," "art," "science," and "philosophy." The fourth theme, "Strategies and Tips to Reduce Problematic TikTok Use," included "controlling content, age, [or] language," "algorithm issues," and self-regulation through "setting a timer," "improving your self-

control," and "distraction skills." While Caponnetto et al.'s use of DSM-5-TR criteria in the development of their interview schedule provided an evidence-based foundation for their investigation, this may have encouraged confirmatory contributions from their participants and, in doing so, exerted a top-down influence on their findings. Their use of inductive thematic analysis within a behavioural addiction framework may have limited the exploration of divergent experiences and silenced dissenting voices. Additionally, the transferability of the findings is limited by 94% of their participants being students from the local area.

In a similar vein, Chegeni et al. (2021) adopted an addiction lens to explore social media addiction among Iranian psychiatric patients. They conducted semi-structured interviews with 18 patients diagnosed with social media addiction and performed a content analysis to identify underlying psychological and behavioural patterns. The participants reported difficulties in their offline social interactions and shared that they relied on social media as a substitute for meaningful relationships. Additionally, they used social media to help them cope with emotional regulation difficulties by managing experiences of stress, anxiety, and loneliness. The finding that participants had "problems in resiliency," "weakness in problem-solving skills," and "problems in socialising" may be partly attributable to recruiting from psychiatric settings, where power imbalances and the desire to conform to mental health professionals' expectations could influence responses. The authors did not critically evaluate this possibility. Furthermore, the study does not clarify whether social media addiction was the primary diagnosis of these psychiatric patients or detail the criteria they used to establish those diagnoses. While the study offers insights into psychological vulnerabilities, it remains unclear whether

participants had comorbidities that may have interacted with or exacerbated their social media addiction and self-reported life-skills deficits. Without further specification, participants' status as "psychiatric patients" raises questions regarding how to interpret the findings. Moreover, since psychiatric patients may have unique experiences of social media addiction, Chegeni et al.'s findings may have limited transferability to non-clinical populations.

Drawing on Davis's cognitive-behavioural model, Li et al. (2015) conducted an exploratory qualitative investigation of university students' experiences of pathological internet use in the United States. They used focus groups to explore the contextual narratives of 27 participants who self-identified as intensive internet users, intending to uncover underlying psychological factors. The focus groups explored the subjective experiences and behavioural processes involved in the triggers, patterns, and consequences of excessive internet use. Li et al. identified complex interrelationships between situational triggers, emotional states, and consequences. They report that participants struggled to differentiate between general use of the Internet and its compulsive use. The mixed experiences of participants were exemplified by the observation that those who used the Internet to cope with their mood problems also perceived the Internet as a source of their anxiety. Compulsive internet use was found to be exacerbated by situational triggers such as academic stress and social isolation. Notably, Li et al. recruited student participants from a single university population, which may limit the transferability of their findings. Moreover, the use of focus groups for data collection is susceptible to group dynamics and biases that may influence responses, including social desirability bias, conformity bias, groupthink, and dominance bias.

Conducting focus groups with participants from the same university may have exacerbated such biases and influenced their contributions. Li et al.'s analysis involved a combination of theory-driven and data-driven coding, allowing pre-existing ideas to guide the process while new themes emerged. However, the lack of transparency regarding reflexivity and the specifics of the coding process means that it is difficult to assess the credibility of their claims.

Adopting a similar focus to Li et al. (2015), Danso and Awudi (2022) investigated the internet addiction triggers and control mechanisms of 12 undergraduate students at the University of Education, Winneba, Ghana. This qualitative case study gathered data from focus groups and interviews, a research design that allowed methodological triangulation. Through employing an inductive thematic analysis, the researchers identified triggers for internet addiction connected to negative emotional states, including anxiety, depression, boredom, loneliness and excessive academic demands. They also found that participants attempted to control their internet use (control mechanisms) by raising their self-awareness, purposefulness and self-restraint. These emergent themes were later interpreted through the lens of general strain theory (see Peck et al., 2018), which posits that when people do not meet their desired goals, they can experience stresses and strains that can drive them towards unhelpful forms of coping (e.g., excessive internet use). As this research focused on internet triggers and control mechanisms, it adopted a causal stance in its enquiry that is also suggested within the findings. However, since Danso and Awudi's research was qualitative, their findings cannot provide definitive conclusions on causality.

In their qualitative exploration of internet addiction in older adults, Wang et al. (2024) aimed to identify both risk and protective factors in this under-represented demographic. They purposively recruited 36 participants aged 60 to 82 years living in Chongqing, China. The data from semi-structured, in-depth interviews were inductively analysed using content analysis. They found that personal, familial, peer, technological, and socio-environmental factors converge to shape internet addiction behaviour. Also, in social contexts that normalised and justified extensive Internet use (e.g., spousal behaviours and continuous Internet access), participants used the Internet to cope with loneliness, alleviate boredom, and engage in hobbies. Other contributing factors included addictive features of online platforms, such as the abundance of online content and incentive mechanisms. Protective factors were also identified, including family commitment, strong self-control and heightened awareness of the health risks associated with overuse. Although Wang et al.'s findings have limited transferability due to the study's specific location and participant type, they provide valuable insights, as few studies have explored internet addiction in older adults. While Wang et al. claim to focus on internet addiction, they recruited a broad sample of elderly internet users. They asked questions primarily about general internet use, with a single question about self-perceived internet addiction. Since participants who did not consider themselves addicted were included in the analysis, the findings blur the line between internet addiction and regular internet use. Aside from the risk of pathologising normal online behaviour, the findings may be better understood as reflecting a spectrum of online experiences.

In contrast to studies focusing on internet addiction triggers and factors, Arness and Ollis (2022) examined attention dysregulation, motivations for social media use, and

problematic social media use. Their mixed-methods study included semi-structured interviews and open-ended questionnaires to explore the social media experiences of 24 Australian adults aged 18 to 31 years. The thematic analysis of the data revealed two main themes. The first, "the impossible task," captured participants' difficulties with self-regulation and losing control over attention (which included the subthemes "a conscious effort," "getting lost in social media," and "out of sight, out of mind"). The second theme, "purposeful social media use," reflected how participants intentionally engaged with social media, including "connecting with others," "keeping entertained," "staying informed and educated," and "escaping reality." Using the Bergen Social Media Addiction Scale (Andreassen et al., 2016), Arness and Ollis assessed the severity of participants' problems. Although they expected participants with high social media addiction scores would have contrasting experiences compared to those with low scores, each group reported similar self-regulation struggles. Notably, the authors did not fully explore why the expected group differences were not observed. While the transferability of their findings is limited by their specific focus on persons with ADHD traits, there may also be concerns about circular reasoning. Arness and Olli provide accounts of participants' social media use that closely resemble traits commonly associated with ADHD. Given that the research recruited participants with ADHD traits, it is perhaps unsurprising that their accounts resemble ADHD experiences. Since their qualitative investigation cannot determine whether those with ADHD traits inherently struggle with social media or whether social media itself contributes to attentional dysregulation, its findings may be challenging to interpret. Additionally, while Arness and Ollis

acknowledge the limitations of framing problematic social media use as an addiction, they do not propose alternative perspectives for understanding the issue.

Also, with a focus on the motivations for social media use, Romero Saletti et al. (2022) focused on Instagram users. Their qualitative study explored the meanings, motivations, and usage patterns of users of the social media platform. Through semi-structured interviews supplemented by questionnaires, they captured the experiences of 19 adults (aged 18 to 28). Using the constructivist grounded theory method, they explored how Belgian and Perúvian participants assign meaning to Instagram and what motivates their engagement with the app. Their analysis resulted in a constructivist grounded theory that reached theoretical saturation. It highlighted both positive and negative emotional experiences associated with Instagram use. They found that, while the platform offered opportunities for self-expression, identity formation, and social validation (evidenced through "likes"), its curated content, infinite feeds, and emphasis on appearance fostered anxiety, compulsive use and negative self-comparisons. The authors proposed that the identified usage patterns ("urge and craving," "passive use," "anxious posting," "social approval," and "social comparison") offered a theoretical extension to Katz et al.'s (1973) Uses and Gratifications framework. However, because the study focused on a narrow demographic of young adult Instagram users from Belgium and Peru, the transferability of the findings may be limited.

Similarly, by adopting a process-oriented stance, Alavi Asil et al. (2022) aimed to develop an explanatory model of internet addiction. This Iranian study used structured interviews with 15 university students and subjected the data to Straussian grounded

theory analysis as outlined by Strauss and Corbin (1990). Their analysis identified background factors leading to internet addiction, such as personality influences, social challenges in familial situations and education, psychological disorders, and emotional dysregulation. The study identified multiple contributing factors to Internet addiction, including Internet features (e.g., "convenience"), educational factors, family factors (e.g., "authoritarian parenting style"), social factors (e.g., "peer roles") and personal factors (e.g., "defective life skills"). Strategies to reduce internet use included enhancing academic performance and improving interpersonal relationships. The study suggests that its grounded theory could provide a useful theoretical framework for developing intervention strategies. While Alavi Asil et al.'s structured interview schedule likely enhanced consistency and replicability, it may have also constrained participant responses, potentially limiting data depth. A semi-structured approach could have introduced more flexibility for participants to articulate their experiences. A notable factor that emerged from the coding process was "defective life skills." While this emergent factor may have reflected participants' experiences, the term used could carry negative connotations and suggest inherent individual deficits may be responsible for internet addiction. While their choice of language may have resulted from translation issues or cultural norms, a more neutral phrasing like "challenges in life skills" could have better captured both personal and contextual factors. Also, Alavi Asil et al. derived a causal explanation from their qualitative data. Perhaps more caution was needed when interpreting their findings since qualitative research does not provide strong evidence of causal relationships.

Focusing on the UK context, Conroy et al. (2022) investigated participants'

overreliance on mobile phone use, experiences of dysconnectivity, and their efforts to

reduce usage. This study interviewed 14 university students aged between 18 and 30

years. Their data were analysed using Interpretative Phenomenological Analysis (IPA).

The study found that an overreliance on social media influenced participants' sense of

agency and their ability to meet real-world needs. Two key themes were identified. The

first, "it's like an addiction," reflected how participants initially valued the convenience

and productivity of mobile devices but later developed concerns about excessive reliance.

The second theme, "it is difficult to maintain abstinence," captured the barriers

participants encountered when attempting to modify their behaviour and control their

phone use. These themes encapsulated the participants' struggles to navigate the interplay

between mobile technology and self-control. The authors also highlight participants' self-

deception around phone use and their fears about the social repercussions of

disconnecting from social media. Although Conroy et al. aimed to investigate smartphone

overreliance, they recruited participants who used their phones for 30 minutes daily or

longer. This threshold may have been too low to capture only those experiencing heavy

or problematic patterns, raising the question of whether persons without smartphone

overreliance were included. The study's use of another measure of smartphone

overreliance from Bianchi and Phillips (2005) is relevant to answering this question.

Given that Bianchi and Phillips's *Mobile Phone Problem Use Scale* was developed over

15 years ago – before the smartphone era – it may not align with contemporary mobile

phone use. Nevertheless, by illustrating how smartphone use is interwoven in everyday

life, Conroy et al. challenge binary categorisations of internet addiction. Rather than

conceptualising mobile phone overreliance as a simple addiction, the authors argue for developing a more nuanced understanding of the complex relationship between functional use and potential overreliance. To achieve this, they recommend developing more refined theoretical frameworks.

This review critically evaluated a variety of qualitative research approaches used to understand adults experiencing problems with technological addictions and related problems. Methodological limitations included the use of highly structured data gathering and confirmatory designs. Some studies interpreted, elaborated or expanded on existing frameworks with qualitative data (Caponnetto et al., 2025; Danso & Awudi, 2022; Ryan et al., 2016; Li et al., 2015) or used highly structured interviews (Alavi Asil et al., 2022) that would have constrained participants' responses and data richness. Rather than drawing on existing frameworks, these studies could have generated new understandings of internet addiction grounded in their participants' data. The review also highlights methodological concerns affecting the credibility of some studies, including confirmation bias, lack of reflexivity and reliance on an outdated measure. The use of focus groups by Li et al. (2015) may have exacerbated biases (e.g., conformity bias and groupthink) and, consequently, influenced participants' contributions. Also, Danso and Awudi (2022) and Alavi Asil et al. (2022) did not demonstrate sufficient caution when deriving causal explanations from their qualitative analyses. Moreover, the use of negatively connoted language by Alavi Asil et al. (2022) may have reflected or introduced bias in interpreting their findings. Another concern was identified with Yang et al.'s (2019) lack of conceptual clarity when they use the terms "problematic smartphone use" and "smartphone addiction" interchangeably.

Issues around the transferability of findings were also evident in the literature review. Many studies exhibited gender imbalances among participants (Alavi Asil et al., 2022; Conroy et al., 2022; Ryan et al., 2016; and Yang et al., 2019). Additionally, the transferability of Conroy et al.'s findings was limited by their definition of smartphone overreliance. They based this on an outdated measure for internet addiction and classified participants as excessively reliant if their smartphone use was 30 minutes or more per day. Similarly, the choice of participant type limited many studies' transferability; these included recruiting students from a single university (Caponnetto et al., 2025; Li et al., 2015; Yang et al., 2019), psychiatric patients potentially with comorbidities (Chegeni et al., 2021), persons not identifying as having internet addiction (Wang et al., 2024) and persons with ADHD traits (Arness & Ollis, 2022). While studies like Romero Saletti et al. (2022) and Conroy et al. (2022) emphasise emergent themes by analysing the lived experiences of technology use, their validity was challenged by their lack of sample representativeness, methodological transparency and potential focus group biases. Notably, only two studies focused primarily on UK participants (Conroy et al., 2022; Yang et al., 2019).

1.9 Research Rationale

In the wake of the COVID-19 pandemic, people have expanded their use of and reliance on electronic communication tools for work, education, and social interactions. These developments have occurred within a broader cultural movement towards increased digital communication in the UK. As digital communication platforms become ubiquitous, the online social worlds of individuals are becoming increasingly intertwined

with their offline realities. Some have pointed to the potential personal and societal problems associated with their use (Thomson et al., 2021; Turkle, 2015).

Against this backdrop, the present study is timely as it considers the psychological nature of digitally mediated communication and its challenges to mental well-being. In the post-COVID-19 era, the increased use of digital communication raises questions about its potential long-term psychological effects. Since counselling psychology concerns itself with the contexts of human experience, understanding human relationships within digitally mediated contexts has become a pressing issue in modern society.

The literature review revealed that much of the extant research has focused on the experiences of children and adolescents and was conducted outside of the UK. It highlighted the need for studies examining how adults experience and navigate online problems in the UK. To address these limitations, the present study offers an original contribution to psychological knowledge by focusing on the lived experiences of adults who believe they have problems with their electronic communication. Moreover, the methodological concerns identified in the literature review underscore the importance of prioritising transparency in data management and analysis while emphasising the participant's voice in data collection and the identification of processes. To address this, the present study adopted Charmaz's (2014) constructivist grounded theory approach that emphasises openness and reflexivity within its processes. It uses data from open writing and interviews to develop a grounded theory of problematic electronic communication for adults living in the UK. This approach ensured that data collection was not constrained by predefined symptom frameworks, participant choices, or group dynamics, allowing for a more nuanced exploration of the phenomenon grounded in participant accounts.

Additionally, this study is underpinned by counselling psychology's humanistic value base (as outlined by Cooper, 2009). It is informed by a foundation of humanistic engagement that adopts a non-pathologising, non-judgemental perspective, acknowledging the unique subjective experiences of participants. From counselling psychology's viewpoint, addressing the psychological challenges of electronic communication requires a holistic approach that engages with the complex inner worlds of participants. It recognises that such experiences are best understood in context, as humans are socio-culturally embedded. The constructivist grounded theory method aligns well with counselling psychology's commitment to developing nuanced understandings of people's lived experiences and the meanings they assign in social contexts. Accordingly, this study gathered data from participants who self-identified as having "chat compulsions" to develop a context-sensitive, process-oriented understanding of how such electronic communication problems emerge, persist and potentially resolve. Charmaz's approach is particularly suited to answering exploratory and explanatory research questions while acknowledging the researcher as a co-constructor of knowledge. While the research was broadly focused on problematic electronic communication characterised by compulsions, all the theoretical conceptualisation was derived from a collaborative co-constructive process involving the researcher's and participants' shared meaning-making.

Since electronically mediated communication may be relevant to a client's psychological problems, counselling psychology should prioritise generating psychological knowledge applicable to clinical practice. The grounded theory developed through this research aims to provide a processual framework for supporting people

navigating technology-based problems. The framework may prove helpful for the psychological assessment, formulation, and treatment of people experiencing difficulties with electronic communication. By offering a process-oriented theory grounded in participant experiences, this study contributes new insights that may guide future research directions and clinical interventions. It could shed light on the social and psychological processes shaping the lives of people facing challenges and highlight experiences and patterns that may be relevant to therapeutic process. Overall, this research aims to produce a useful theory of problematic electronic communication to support clinical practice.

1.10 Research Question

The research question was: "What social and psychological processes are involved in beginning, sustaining, and ending a problematic relationship with electronic communication?"

1.11 Reflexivity

Due to the pervasive nature of digital communication, I have had many personal experiences, and I assume these cannot be disentangled from this work. Although reflexivity is reflected in every part of this work, the following provides the personal context for this research.

In the context of what has been presented in this chapter, I consider myself a digital native due to my experience and understanding of digital technologies. Although this admission comes with the caveat that I only started using digital communication technologies in my 20s, I feel my experience places me with an awareness of both digital native and immigrant experiences. Around 15 years ago, when I first got a computer of

my own that was connected to the Internet, I found myself increasingly engaging with others using Internet communication and noted that I felt more comfortable communicating this way. At one point during my undergraduate degree, I realised my first action after waking would be to start my computer to check for any messages from my contacts. For several years, I derived some comfort from the structure around and anticipation of connecting socially online; however, after a while, I felt that online social interactions lacked personal satisfaction.

I hold both techno-optimistic and -pessimistic perspectives. Although I have found technological innovations have enhanced aspects of my life (e.g., by providing entertainment, opportunities, and connections), they also exist in human contexts where some people are vulnerable to negative experiences from them. I also believe that others may use technologies to gain unfair advantages or further their unethical agendas. From my experiences, I felt sure that digital communication created different relational dynamics. At times, I had observed how digital communication seemed to exacerbate social problems rather than fix them, but I was unsure why that was. Around 25 years ago, when texting was new, I remember working alongside someone who used to text in what appeared to be every spare moment. She would converse with me while looking at and typing on her mobile phone. I felt like she never really saw me (both figuratively and literally). She seemed so engaged with her mobile messages that her texting interrupted our friendship, and I felt her absence when in her company.

I initially thought internet addiction might have a social component that had not been fully elaborated on in relevant theories. I wondered if there might be differences in how people experience problems over the Internet. I felt it important to explore the social

aspects of internet addiction and related problems. My personal experiences have likely shaped the research's direction towards seeking the social impacts of communication technologies. Similarly, due to my life experiences, I would be predisposed to identifying patterns that resonate with the participants of this research. Conversely, my relevant experiences may have sensitised me to participant data, which may have led to me developing a deeper, more empathic understanding of their accounts.

Also, my training in counselling psychology emphasises the significance of the therapeutic relationship and how clients experience relating in their lives. I have spent many years training in therapeutic frameworks that may have shaped research processes and the findings presented.

By engaging with continuous reflexivity across research processes, I have aimed to raise my awareness of potential influences on the construction of this thesis. I intend to continue to present these considerations across the following chapters and thereby support the integrity and credibility of this research.

1.12 Conclusion

Rapid developments in electronic communication represent a moving target for researchers who are intent on understanding its impacts on people. Understanding online problems is particularly relevant for psychologists and therapists who attempt to support people who may be suffering from mental health challenges connected to their online social interactions. Despite a small empirical base for understanding the psychological problems of communication technologies, a comprehensive theoretical understanding has remained elusive.

Extant empirical findings and theories offer fragmented explanations of the problematic use of the Internet. Although theoretical perspectives which focus on addiction, compensation, escapism, and pathology offer explanations, there remains a lack of consensus in conceptualising and measuring such problems. These inconsistencies are partly reflected in the lack of inclusion of internet addiction as a diagnostic category in the current iteration of the DSM. However, psychologists who are cautious about the pathologising nature of diagnostic categories may benefit from a processual understanding of online problems that can inform the support they provide to clients.

This chapter reviewed the most relevant theories and research to set the context for the following study. Its focus on qualitative research revealed several limitations. These included the lack of focus on the significance of problematic electronic communication in relationships. The following chapters outline how this research attempted to address these limitations. Rather than focusing on young people or seeking to confirm existing theories, the current research developed a new grounded theory with an adult population. The following will show how this tentative grounded theory was developed. It is hoped that the findings of this project will provide a clinically relevant understanding of problematic electronic communication that may support the development of effective psychological interventions.

Chapter 2: Methodology

2.1 Overview

This methodology chapter aims to provide the reader with a detailed account of the development of this research, including how the data were gathered, analysed, interpreted, and constructed into the final theory. First, I present the research question, outline the paradigmatic assumptions of this research, and explore how these have influenced the research design and shaped the findings. I explain my rationale for adopting a constructivist-interpretivist paradigm through Charmaz's (2014) grounded theory method. Then, I explore the implications of these choices and outline how this grounded theory was conducted.

In line with my chosen methodology, the constructivist grounded theory method, I provide a reflexive account of my influence on the research process throughout this chapter. In support of this, my reflexive statement elaborates on how my personal and professional values may have shaped the research process. I also demonstrate how the research design accounted for ethical concerns.

2.2 Purpose Statement

This study aimed to explore the experiences of participants who self-identified as having problematic relationships with electronic forms of communication. It specifically focused on adults in the UK experiencing such problems. This research developed an analytic theory grounded in participant data to generate a better understanding and description of people identifying in this way.

This research used a constructivist grounded theory approach (Charmaz, 2014) to investigate this phenomenon, referred to in this work as Problematic Electronic

Communication (PEC). It followed the methodological guidance offered by Charmaz to produce a credible account of PEC that represents an original, substantive contribution to psychological knowledge. I hope the presented grounded theory of electronic communication problems will provide a psychological understanding of clients experiencing difficulties and a foundation for further research.

2.3 Context and Development of the Research Question

The research question partly emerged from my wish to understand clients experiencing internet-related difficulties. Also, as is reflected in the critical literature review, the current psychological knowledge of this phenomenon is lacking.

2.4 Research Question

The question asked by this research was: *"What social and psychological processes are involved in beginning, sustaining and ending a problematic relationship with electronic communication?"*

2.5 Paradigmatic Assumptions

The philosopher of science, Kuhn (1962), explained that research "paradigms" comprise assumptions about reality, ways of knowing, research cultures, and researcher values. Since a researcher's scientific activities are shaped by these assumptions, making them explicit helps provide others with a transparent account of how research knowledge has been produced (Ponterotto, 2005).

Chilisa and Kawulich (2012) suggest that research paradigms are best understood through four philosophical considerations:

- Axiology examines how a study is shaped by the values and beliefs of the researcher and their community.

- Ontology addresses fundamental questions of existence, such as *"What is the nature of reality?"* and *"What is real?"*

- Epistemology explores the nature of knowledge, asking, *"What can be known?"* and *"How is knowledge produced?"*

- Methodology integrates axiology, ontology, and epistemology into a coherent framework for conducting research (see Figure 2).

Figure 2

The Relations Between Paradigmatic Considerations
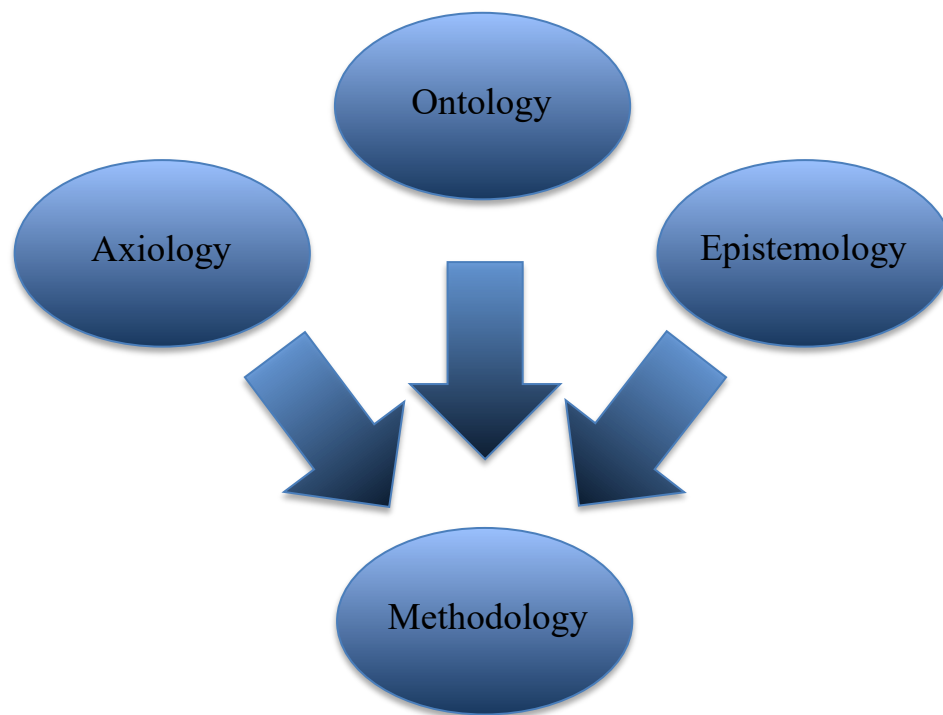
2.6 Axiological Considerations

Brown and Dueñas (2020) claim that researcher values set the foundation for all research endeavours. Axiology asks researchers to explore how their personal and professional values have shaped the research they produce.

2.6.1 Reflexivity

I include reflexivity as an axiological consideration because I assume that my lived experiences and inner world will inevitably influence the research process. Qualitative researchers often try to limit the impacts of their pre-established conceptualisations on their research, a process commonly referred to as bracketing. While Charmaz (2014) claims it is naïve to assume bracketing is simple, she points to reflexivity as a process that can elucidate how the researcher's personal context may have shaped their research findings. For this purpose, the following provides a reflexive review of my background before beginning the present research.

Before my doctoral training began, ███████████████████████ ██ ██████ I had developed several rewarding online relationships. While I occasionally met online friends in person, I often found they were unlike their online personas. Over time, my relationship with the Internet has changed to greater ambivalence. When seeking a subject for my doctoral research, I was motivated to revisit online relating experiences more formally to understand their appeal and problems.

When I first started looking into internet-related problems, I found the limitations of this research area to be intriguing. I assumed participants might have similar experiences to mine in that they might find their social needs could be fulfilled through online relating. I also wondered if technological relationships were fulfilling people's needs in different ways compared to traditional interactions and if, for some people, these could become irresistible substitutions.

I began my exploration of this area by considering technology-related compulsions. I wondered if electronic communication encourages gratifying experiences and if experiences of compulsion were connected to a "more is better" response. However, this contrasted with my experiences of interacting with multiple people simultaneously, where I felt that the quality of interactions was negatively impacted. My experiences with electronic communication have changed; I do not feel compelled to read and respond to messages as they arrive. ███████████████████████████

███████████████████████

2.6.2 Counselling Psychology Values

As counselling psychologists, our practice is fundamentally shaped by psychological evidence, yet we place great importance on clients' stories and experiences (Douglas et al., 2016). In keeping with counselling psychology's humanistic value base (see Cooper, 2009), the present research prioritises participants' stories and subjective experiences by providing an idiographic exploration of electronic communication problems. To achieve this understanding, it treats the Internet as a unique social environment and develops a contextualised understanding of participants' experiences. Acknowledging context and prioritising subjective and intersubjective experiences lends credibility to this research as it ensures the veracity of the collected data and the quality of both interpretation and co-construction.

2.7 Choosing the Constructivist-Interpretivist Paradigm

When contemplating this doctoral research, I conceptualised an "internet addiction" research question and unwittingly adopted a realist ontology by assuming that participants' subjective experiences would reflect a discoverable phenomenon. Over time,

my view of the nature of personhood influenced my movement towards the constructivist-interpretivist paradigm. Presently, constructivism provides an important foundation for my clinical work in that I believe people construct unique internal representations of their lived experiences. From this ontological and epistemological position, I assume that participants' accounts reflect inner constructions of their psychological, social, and physical circumstances. In my clinical work, I draw on the "cognitive principle," which assumes that cognitions are often involved in mental health challenges (Kennerley et al., 2017). I am also influenced by a constructivist perspective from Korzybski (1958), who asserted that "a map is not the territory it represents." This metaphor suggests that a person's inner constructions are a map of their reality, but those constructions are not the same as the reality they represent. In these terms, I assume successful therapeutic interventions involve the client revising their map of reality (e.g., by making aspects of reality feel less disturbing); as such, I see therapy as a process of co-constructing a client's inner reality to support their mental well-being. For this study, I hope my constructivist perspective will increase the findings' usefulness for other therapists with similar perspectives.

The constructivist-interpretivist paradigm adopted for this grounded theory research acknowledges co-construction and interpretation in knowledge production. Since qualitative research methods also rely on inductive logic, it is worth considering the concept of theory emergence here. Grounded theory methods often assume that theories *emerge* from research data through inductive logic (Charmaz, 2014), where specific observations support general conclusions (Hacking, 2001). However, discussions of theory *emergence* through inductive logic often imply a realist ontology, where

categories (e.g., processes) are thought to be *discovered* within participant accounts (Ramalho et al., 2015). The use of inductive logic in research implies that the patterns and commonalities *emerging* from data may reflect aspects of objective reality. Since constructivism challenges the notion of objectivity in research findings, Charmaz has considered the extent to which grounded theories derived through emergence can be considered objective. She recommends that researchers adopt an "epistemologically sophisticated" approach by recognising that grounded theories will have arisen from *both* emergence and interpretive theorising. Implicit in Charmaz's suggestion, however, is a critical realist perspective, in which a grounded theory – constructed through interpretation and emergence – is assumed to have some connection to an objective reality.

Critical realism assumes that participant accounts do not represent reality itself, as they are shaped by interpretation and co-construction. In this research, I adopt a critical realist stance, assuming categories and theorising emerge through co-constructive processes, where both researcher and participants engage in inductive reasoning, pattern recognition, and meaning-making. While the co-constructed understanding of PEC may have some relation to an objective reality beyond participant experiences, a constructivist account is not assumed to describe objective reality. Since I do not assume that the final grounded theory simply reflects absolute truths derived from the data, I do not claim to have discovered the theory or to be presenting the objective reality of PEC (Charmaz & Henwood, 2017).

The grounded theory method was initially founded on Anselm Strauss's commitment to symbolic interactionism (Chamberlain-Salaun et al., 2013); this

perspective conceptualises individuals as actively developing their worldview through sharing symbols within their social interactions. In this research, I draw on symbolic interactionism by assuming that individuals construct their sense of reality through thought, language, and interaction on physical and social levels (Quist-Adade, 2019). Epistemologically, since a social interaction facilitated data gathering for this research, I assume that the gathered data resulted from co-construction, where participants offered their personal constructions as we jointly constructed the gathered data. My assumptions echo Fassinger's (2005) contention that meaning is created through individuals sharing interactive spaces.

I acknowledge Charmaz's (2014) contention that the researcher's interpretations are involved in every aspect of the research process and that my perspectives will have influenced my understanding of participant accounts. Accordingly, my interpretations throughout the research process are constructivist, and I expect others would interpret the same participant data uniquely.

The schematic in Figure 3 provides details of my constructivist stance at multiple stages of the development of this constructivist grounded theory research.

2.8 Research design

2.8.1 Choosing a Methodology for this Research

Chilisa and Kawulich (2012) claim that the selection of research methodology is informed by a convergence of extant literature, theoretical frameworks, research traditions, ontology, epistemology, and axiology. This section provides a rationale for the methodological choices made for this research.

Figure 3

A Schematic of this Research's Ontological and Epistemological Assumptions

A Reader's Interpretation of the Presented Theory
Readers of this work will construct their own interpretation of the presented theory of Problematic Electronic Communication. The reader's understanding of this co-constructed theory will be influenced my capacity to articulate it and their interpretations of it, which may be based on their paradigmatic assumptions, personal and professional knowledge, training, experience, and goals.

Presented Theory
The theory presented is one possible co-constructed theoretical explanation of Problematic Electronic Communication. It reflects my efforts to co-construct a meaningful processual understanding of similarities and differences across participants' co-constructed realities.

Codes and Categories
The codes and categories used here are considered co-constructed processual handles reflecting *my* interpretations of *each participant's* interpretations of their experiences of electronic communication. The codes and categories were co-constructed through the meaning-making occurring within interactions between researcher and participants and through analysing data, codes, and categories.

Participant Words
Since data is gathered within social contexts (interviews, conversations, and prompted writing), the words used by participants are considered co-constructed. The participant is assumed to have constructed responses appropriate for their perceived social context. The words are assumed to reflect socially mediated participant interpretations of their experiences of electronic communication.

Participant Inner Representations
Each participant is assumed to have inner representations that are not identical to the words they use. Inner representations are assumed to include constructed meanings of the participant's subjective life experiences (based on social contexts, unique mental states, and physical reality). They are assumed to have the capacity to construct further understandings through personal reflection, interactions, and interpreting available meanings and symbols from social contexts.

Social Contexts
It is assumed that participants interact with social contexts and that these may influence their unique lived experiences, mental states, and inner representations. Although social contexts might be reflected in participant constructions, it is not assumed that these or the derived grounded theory objectively describe social contexts. Any described social context and process is assumed to be the participant's constructions/interpretations of these.

Physical Reality
It is assumed that there is a physical reality that participants inhabit. The participant's unique subjective experiences and mental states are assumed to be contingent on biological functioning within physical reality. Although physical reality might be reflected in participant constructions, it is not assumed that these or the derived grounded theory objectively describe physical reality. Any descriptions of physical reality are assumed to be participant constructions/interpretations.

2.8.2 Rationale for Adopting a Qualitative Investigation

My choice between qualitative and quantitative research methodologies rested on determining the kinds of data available and to what extent these data would be able to answer the research question (Creswell & Creswell, 2017). Since this research did not seek to establish the universal nature of PEC, quantitative research methodologies, which assume naïve realism, were considered inappropriate. Since there is a dearth of psychological knowledge based on the lived experiences of persons experiencing psychological and emotional challenges with PEC, a qualitative research methodology appeared more suitable (Smith, 2015).

Qualitative approaches are particularly well-suited to areas where knowledge is limited, as their open-ended inquiries and exploratory engagement with subjectivity are effective for developing new understandings of phenomena based on idiographic data (Willig, 2013). Quantitative research has been criticised for generating theories without grounding them in real-world data (Charmaz, 2014). In contrast, qualitative approaches gain credibility by maintaining a clear connection between the research findings and participant data (Braun & Clarke, 2006).

A qualitative account of problematic electronic communication was expected to make a substantive contribution to psychological knowledge. Mixed methodologies were considered but rejected as the research question could be adequately addressed without supplementary quantitative data. Also, collecting further data would not have been ethical since this would have placed an unnecessary burden on participants (BPS; Oates et al., 2021).

2.8.3 Rationale for Choosing a Grounded Theory Methodology

Discursive psychological research (Burr, 2015) was considered as a methodology for this project. Discursive approaches draw on the social constructionist paradigm, which assumes that knowledge is socially constructed within historical and cultural contexts. However, Willig (2013) explains that social constructionism does not attempt to explore participants' cognitions, subjective experiences, mental states, or their social and psychological processes, nor does it produce knowledge about a phenomenon or its nature. Since discursive approaches attempt to describe the use of discourses in social contexts rather than understand participants' internal constructs, I concluded that they are paradigmatically incompatible with the aims of this research.

Another methodology considered was Interpretative Phenomenological Analysis (IPA), which is underpinned by constructivist-interpretivist assumptions (Larkin et al., 2021). IPA would have offered a phenomenological account of PEC that is compatible with the paradigmatic assumptions of this research. Also, its view of personhood was compatible with my humanistic values (Cooper, 2009), and I shared its concerns about the impact of researcher bias in interpreting data (Larkin et al.). However, I rejected the IPA methodology due to its tendency to produce descriptive results within themes instead of producing an explanatory theory of a phenomenon.

The constructivist narrative analysis methodology also draws on the constructivist-interpretivist paradigm and holds much in common with the constructivist grounded theory method. This approach was rejected since it aims to identify stories that illuminate human experience; this contrasted with the present study's aim to develop an

explanatory theory of PEC (Lal et al., 2012). While narrative analysis *can* produce processual theories, Lal et al. claim that grounded theory is better suited for such aims.

Since this research sought to develop a new theory of PEC, I selected a grounded theory methodology. Glaser and Strauss (1965) criticised the development of scientific theories through "armchair theorising"; this appeared to be the case with much of the extant literature surrounding problematic electronic communication. Grounded theory methods are suited to the development of theories in areas where little is known (Strauss & Corbin, 1998) and for studying phenomena that are contextual, complex, and constructed (Charmaz, 2014). Therefore, a grounded theory methodology appeared to be the best fit for the present study's investigation of problematic electronic communication.

2.8.4 Rationale for Constructivist Grounded Theory

Since grounded theory methodologies vary in their paradigmatic assumptions (Fassinger, 2005) and may be conducted in various ways, there is contention regarding which approaches should be considered a grounded theory method (Charmaz, 2014). For example, Glaser (2002) claimed that constructivism cannot appropriately play a part in developing a grounded theory since, when used, it forces data into researcher-biased categories.

Although researchers might adapt their grounded theory methodology to fit their research question better (Morse, 2016), three main grounded theory approaches are distinguishable through their contrasting methods and paradigmatic assumptions (Charmaz, 2014). In the following, I explain why Charmaz's constructivist grounded theory method fits this research better.

Glaser and Strauss's (1967) original grounded theory method represented a turn from the reliance on traditional hypothesis testing. The approach offered methods for researchers to develop alternative theories grounded in relevant qualitative data. Grounded theory methods were considered inductive, where similarities in the data across individuals allowed for discovering processes and interrelationships that were assumed to exist objectively (Charmaz, 2014). Glaser and Strauss conceptualised their grounded theory method as an approach to generate theories based on the relationships between personal meanings and social contexts. They asserted that the theories generated would reflect underlying processes more accurately than armchair theorising (Edgington, 1967). Glaser assumed that there were discoverable truths hidden within the data that would emerge as the researcher impartially applied the grounded theory method, and researchers should simply suspend their prior knowledge of the phenomenon to avoid researcher bias. This version of grounded theory adopts a naïve realist ontology by positioning the researcher as a seeker of objective facts about reality. However, this has been highly criticised because the researchers' interpretations are assumed to provide objective accounts of pre-existing real-world social and psychological phenomena (see Charmaz). Glaser defended his contention that researchers who use his grounded theory method are free from bias and do not impose their personal constructs on their results. He wrote:

> The [grounded theory] researcher does not "compose" the "story" … they are generating a theory by careful application of all the GT procedures. The human biasing whatever is minimized to the point of irrelevancy in what I have seen in hundreds of studies. (Glaser, 2002, p. 16)

However, Henwood and Pidgeon (2017) point to the inherent epistemological tensions resulting from this realist account of knowledge production since analytic processes involving interpretation and meaning-making must be biased by researcher factors. Therefore, it is important to acknowledge how the researcher's active, constructive, and interpretative roles prevent their objectivity.

Strauss and Corbin's (1990) interpretive-pragmatist grounded theory method provided an alternative approach that explicitly recognised the interpretive role of researchers in theory development. Their approach encouraged the development of explanatory theories. Also, Strauss (1987) recognised that new researchers were struggling to develop "genuine categories" (p. 29). In response, Strauss and Corbin tried to systematise grounded theory production through a more analytical and prescriptive approach. Although broadly compatible with the paradigmatic assumptions of this research, the prescriptive style of Straussian Grounded Theory has been criticised for its reliance on pre-existing categories. Critics argue that such a prescriptive approach influences researcher expectations, which may unduly shape theory development (see Charmaz, 2014, for a discussion).

This research adopted the grounded theory method proposed by Charmaz (2014). By drawing on a constructivist epistemology, Charmaz frames grounded theory development as resulting from a process of co-construction. It adopts the constructivist assumption that knowledge is constructed rather than discovered (Gordon, 2009). I chose Charmaz's constructivist grounded theory for the present research because it acknowledges that internal representations of a phenomenon do not merely describe it. This approach offers analytical flexibility, avoids forcing data into preconceived

categories, and recognises the social contexts and internal processes involved. Throughout the following research processes, co-construction is assumed to occur through interactions between the researcher and participants (and their data).

2.8.5 Rationale for Choosing Abbreviated Grounded Theory

The following considerations led me to choose an abbreviated version of grounded theory (as outlined by Willig, 2013). Willig explains how a full grounded theory method moves towards an endpoint called "theoretical saturation." This is the point at which newly gathered data reflect processes already accounted for in the current theory. This endpoint is achieved through a cyclical process of data gathering, coding, categorisation, and constant comparisons. If gathering more data does not yield any further processes, the theory could be considered a comprehensive description of the phenomenon; therefore, theoretical saturation implies credibility for a grounded theory.

Since this research was undertaken as part of a doctoral training program, there were notable limits in personnel, budget and time imposed on the project. Although a full grounded theory is preferable, the limitations of the present research suggested that an abbreviated grounded theory would be more appropriate (Willig, 2013). While abbreviated studies follow the principles of grounded theory, this is with a limited data pool. Since no further data is gathered, the theory developed from an abbreviated method cannot be "refined" to the same degree. Willig writes:

> The abbreviated version of grounded theory, by contrast, works with the original data only. Here, interview transcripts or other documents are analysed following the principles of grounded theory (i.e., the processes of coding and constant comparative analysis); however, theoretical sensitivity, theoretical saturation and

negative case analysis can only be implemented within the texts that are being

analysed. The researcher does not have the opportunity to leave the confines of

the original data set to broaden and refine the analysis. (p. 39)

A grounded theory produced through Willig's (2013) abbreviated method results in what

she calls an "inside out" perspective. Instead of concentrating on social processes or

outcomes, Willig's abbreviated method prioritises participants' inner states and

processes; the resulting theories tend to take on a phenomenological character. To

compensate for the narrowing of breadth incurred by adopting an abbreviated grounded

theory, Willig recommends enhancing analytical depth by coding the data line-by-line.

2.9 Research Quality

The BPS (Oates et al., 2021) recommends that ethical researchers consider

research quality. While there is no agreement regarding judging the quality of qualitative

research (Corbin, 2015), some criteria have been suggested. Stenfors et al. (2020) offer

five quality criteria for assessing qualitative research: "credibility," "dependability,"

"confirmability," "transferability," and "reflexivity." Charmaz (2014) also offers four

quality criteria, "credibility, originality, resonance and usefulness." In contrast, Corbin

rejects fixed quality *criteria,* arguing that such standards promote dogma and all-or-

nothing thinking. Instead, she recommends assessing the quality of grounded theory

studies by reflecting on checkpoints within a broader evaluation of "methodological

consistency" and "quality and applicability." The checkpoints for methodological

consistency assess transparency within the research approach and adherence to grounded

theory methods. Also, checkpoints for "quality and applicability" examine the analytic

processes, the findings' implications, and the overall insight gained from the study. I shall

evaluate the quality of the present research using these criteria and checkpoints within the discussion chapter.

2.10 Procedure

2.10.1 Research Phases

The following sections elaborate on the different phases of this research project. They provide a comprehensive timeline of the essential processes that contributed to developing the final grounded theory. This comprehensive overview supports the replicability of the research and enhances the overall credibility of the resulting constructivist grounded theory. Figure 4 provides a flow diagram of the research phases.

2.10.2 Initial Literature Review

Qualitative research, especially those adhering to constructivist-interpretivist assumptions, is presented with an epistemological challenge by the process of literature reviewing. Ramalho et al. (2015) explored this controversial debate around the timing and potential impacts of literature reviews. The concerns around reviewing literature are centred on the potential impacts of introducing stories, theories, findings, and cultural assumptions that may bias the researcher and research processes. Ramalho et al. claim that reviewing literature for a grounded theory study risks contaminating or constraining theory development. This view is articulated by Holton (2008), who argues that exposure to extant literature can result in the pre-conceptualisation of participant data and a researcher favouring existing accounts rather than ensuring their theory is grounded within participant data; as a result, influential external concepts may result in the data being "forced" into externally determined codes and categories. However, when developing a constructivist grounded theory, the researcher does not rely on the *absence*

of knowledge or preconceptions to perform their analysis (Ramalho et al.). On the

contrary, they acknowledge their inevitable biases by bringing them into the research

process. They perform the analysis based on their commitment to grounding their

interpretations in the participant data.

In the case of the present research, since performing a literature review was a

requirement of my doctoral training, I would have been unable to attend to participant

data without prior knowledge. Therefore, my response to the epistemological dilemma

around literature reviewing is pragmatic and aligned with Ramalho et al.'s (2015)

characterisation of constructivist grounded theory that acknowledges the researcher's co-

constructive role and their commitment to making interpretations grounded in participant

accounts.

2.10.3 Resources Used

The costs of undertaking this research were minimal due to using internet

recruitment and interviews using Zoom (a video conferencing service). No expenses were

incurred for room hire, and both the CORE-10 (Barkham et al., 2013) and GPIUS-2

(Caplan, 2010a) questionnaires are free to use. The only cost involved was for participant

recruitment through the online service Prolific. Participants undertaking the open writing

task were compensated at a rate of £7.95 per hour, while interviewees received £15 in

appreciation for the time given. A digital audio recorder was used to record the audio

from Zoom video interviews.

2.10.4 Pilot interview

Intending to develop the interview schedule used for this research (found in

Appendix E), I conducted a pilot interview with a friend who was willing to explore their

experiences in April 2017. The interview followed the preliminary interview schedule found in Appendix J. This allowed me to reformulate my questions, so they were more meaningful and more likely to produce data related to PEC. Although the interviewee's data was not included in this research, some of their answers inspired some of the questions asked in participant interviews.

2.10.5 Ethical Considerations

Before recruitment began, ethical approval was given by City St George UniversityLondon's Senate Research Ethics Committee (Appendices K and L). The ethical considerations for this research are reflected in the British Psychological Society's code for human research ethics (Oates et al., 2021). The BPS recommends that research maximises benefits and minimises harms while upholding the scientific values of quality and integrity and making a significant contribution to research. It recommends achieving these by prioritising participants' respect, safety and needs.

Qualitative questions and interviews can increase participants' awareness of their subjective and intersubjective experiences. Such increases in awareness might be either beneficial or harmful. Although it was expected that gathering research data would not present a substantial risk to participants, preparing for any possible adverse reactions resulting from exploring troubling personal material was necessary. As a trainee counselling psychologist, I had well-developed acuity around indicators of risk/distress, which allowed me to detect any well-being concerns and intervene to minimise harm.

My reluctance to pathologise participants is reflected in Willig's (2017) exploration of the ethics of interpretation. She explores the impact of "suspicious interpretation", where researchers do not take data at face value but seek to uncover

hidden truths. Although external theoretical frameworks facilitate top-down interpretations and deeper understandings of latent phenomena, these can impose "theory-driven meanings" on data and distort research findings in ways that Willig calls "interpretative violence" (p. 45). She provides a historical example of how psychoanalytic interpretations pathologised gay men's sexuality and impinged on their dignity. She contends that interpretations are unethical when they result in negative social consequences. While being cautious not to force the data towards my preconceptions, this grounded theory approach uses both "ground-up" (descriptive) and "top-down" (theory-based) interpreting. I followed Willig's recommendations that researchers safeguard participants by allowing the research question to guide interpretations, ensuring interpretations reflect participant data, considering alternative interpretations, and interpreting the implications of findings modestly.

Since recruitment and data gathering took place over the Internet, it was important to consider the BPS Guidelines for Internet Mediated Research (Hewson & Buchanan., 2013). As self-misrepresentation is easier online than offline, there was a higher risk of recruiting participants who should have been excluded. While I prioritised providing an atmosphere of trust and did not ask for documentary evidence (e.g., of age or location), I remained vigilant around the potential of recruiting an ineligible participant.

Initially, when thinking about conducting research into PEC over the Internet, I was concerned that this was equivalent to interviewing someone about alcoholism over a drink. However, when exploring this with my supervisor, it became clear that this may be a false comparison since, in the case of PEC, the Internet would most likely be a safe social space.

Caplan (2010a) suggests that those who prefer computer-mediated interactions may avoid social demands due to their undeveloped social skills. To address this, I offered multiple channels for participation (i.e., written reflections, text interviews, audio interviews and video interviews); these options allowed participants to communicate as they preferred. I also remained aware of the participant's comfort levels and took action to reduce their social discomfort (e.g., by offering breaks).

2.10.6 Recruitment

After gaining ethical approval in April 2019, I attempted to recruit participants using internet-based advertisements (for an example, see Appendix I). Adverts were posted on social media platforms ("Facebook," "Snapchat," "Instagram," and "Twitter"). When this approach was unsuccessful, amendments were made to the ethics. These amendments were approved in June 2021 (Appendix L). The new recruitment approach involved using an online participant recruitment service, Prolific. An updated invitation was posted on Prolific's website (Appendix A); this encouraged persons to self-select to participate. When potential participants saw the research invitation, a basic pre-screening had already been achieved through Prolific's built-in screening process, which ensured that the participants were adults residing in the UK.

After self-selecting, potential participants clicked on a link to the Qualtrics survey (found in Appendix M). This survey included a welcome message and a detailed information section, where people could read about the study and download the information document (Appendix B). The information included details of the research aims, the nature of data gathering and how participants' data would be processed, stored, and used. City University's data protection notice was included. The information

Figure 4

Flow Diagram of the Research Phases
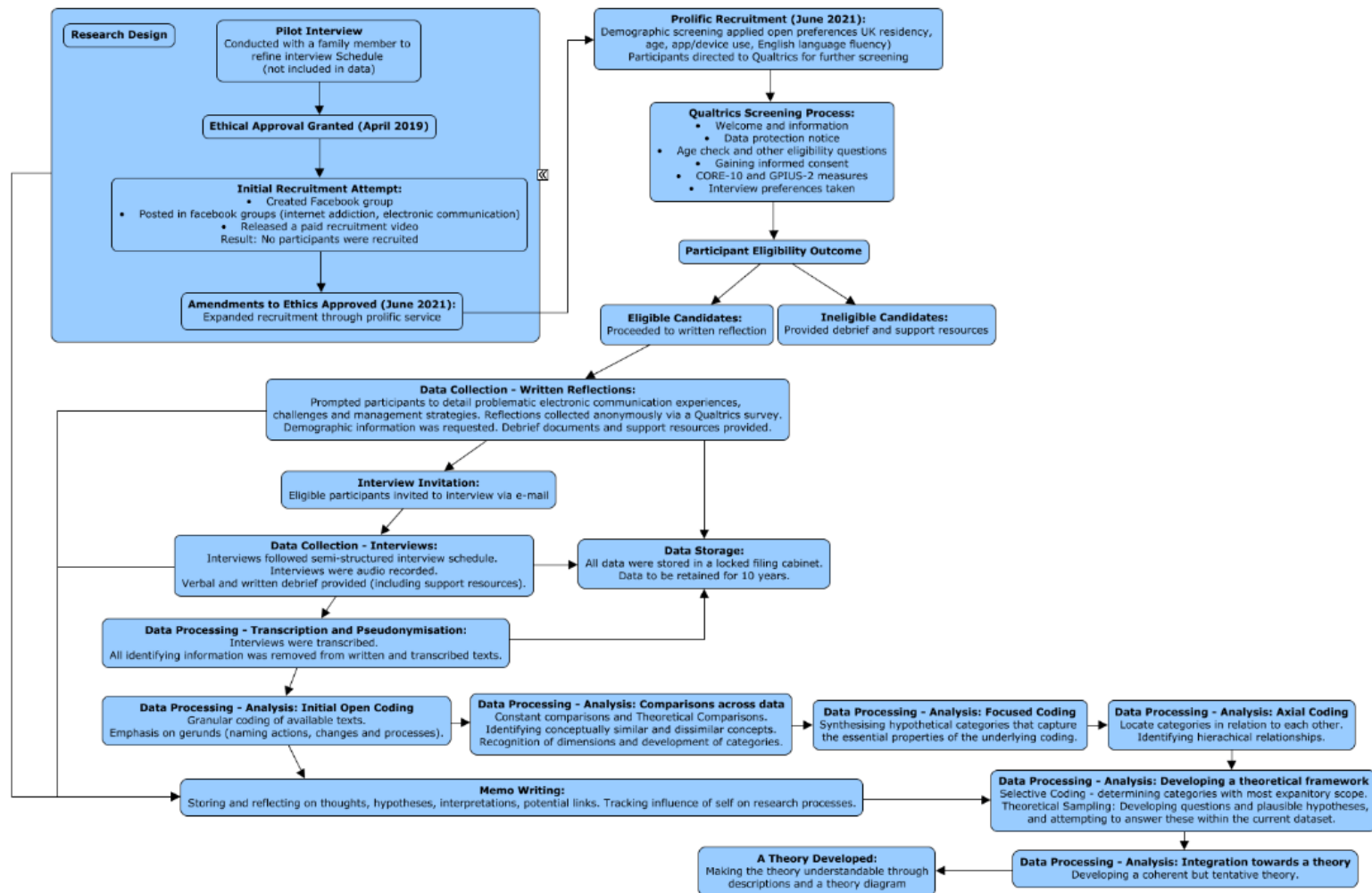
also outlined the potential risks and benefits of participation, including the potential of participants being distressed by talking about personal topics with an assurance that their well-being would be prioritised. The potential benefits included the possibility that this research could help others with similar experiences and therapists. Individuals were assured that the data gathered would remain confidential and only be used to support the research (within the analysis and supportive quotes). However, it stated that confidentiality was limited if someone was at risk of significant harm.

2.10.7 Basic Eligibility Criteria

Additional screening was performed within Qualtrics based on the following eligibility criteria:

The inclusion criteria for the study were that the participants:

- Would be adults (18+).

- Would be resident in the UK.

- Would have self-identified compulsions to communicate electronically.

- Were able to speak English fluently.

- Would have current or recent experiences of problems with electronic communication.

Also, potential recruits were excluded from participation if they:

- Were considered too vulnerable to take part (as indicated by the screening conversation).

- Had a direct prior or current relationship with the researcher.

2.10.8 Ineligible Persons

Persons who did not fulfil the criteria for inclusion in the study were provided with a Qualtrics message which sensitively explained why they would not be asked for further data. They were also provided with a downloadable list of sources of support (found in Appendix F), with email addresses for my research supervisor and me. Then, ineligible persons could return to Prolific to get compensated for their time.

If participants fulfilled the eligibility criteria, informed consent was sought for participation and use of their data.

2.10.9 Informed Consent

The BPS (Oates et al., 2021) recommends gaining informed consent and respecting participants' autonomy and dignity. After participants read the downloadable information section within Qualtrics (Appendix B), informed consent was sought digitally. Potential participants were offered the opportunity to contact me for further details via email or Prolific's chat feature. Participants who agreed to be interviewed received a copy of the Participant Information Sheet (Appendix B) via email and had the opportunity to discuss their concerns before the interview. Within the pre-interview discussion, I reaffirmed the research's voluntary nature and checked that participants had not experienced social pressure to participate in the research. I reminded the participants of their rights to cease participation and withhold their data at any stage without disadvantage (until their data were analysed). The evolving nature of grounded theory was also explained; specifically, the research focus may subtly transform into something similar for which the participants have not explicitly given their consent. When it was clear that the participant was fully cognisant of the nature of the research and the use of

their data, I sought verbal consent. Although each participant reaching the interview stage had already given their informed consent within the Qualtrics survey, they verbally confirmed the continuation of their consent.

2.10.10 Measures

Those who gave informed consent were asked to complete the CORE-10 and GPIUS-2 screening forms. These checked their current levels of well-being, suicidal risk, and problematic internet use.

2.10.11 Measure of Psychological Wellbeing

The CORE-10 questionnaire (Barkham et al., 2013; see Appendix H) was used to screen for mental health risks. It attempts to measure psychological well-being in three areas: problems, functioning and risk to self (i.e., suicidal plans). The measure consists of 5-point Likert scales rated from 0 ("not at all") to 4 ("most or all of the time"). The sum of the 10 items produces a score from 0 to 40 out of a possible 40. Barkham et al. conclude that the Core-10 has good psychometric properties ($\alpha = .90$).

The CORE-10 functioned to identify and exclude people with recent suicidal plans and "severe" levels of anxiety or depression, scoring from 25/40 to 40/40 (see Barkham et al., 2013).

2.10.12 Measure of internet Problems

Problematic Internet Use was screened using Caplan's (2010b) *Generalised Problematic Internet Use Scale-2* (GPIUS-2; found in Appendix G). This 15-item questionnaire has 8-point Likert scales which ranges from "definitely disagree" to "definitely agree." GPIUS-2 has good psychometric properties (Laconi et al., 2014).

The GPIUS-2 indicated the severity of problems associated with Internet use (GPIU); those with a score under 70 were excluded since those people were expected not to have experienced significant problems. The data from these measures were not used in the final analysis; they served only to manage risk and recruit appropriate participants.

2.10.13 Characteristics of Participants

Of the 40 candidates who self-selected, 23 did not participate for various reasons: some did not give consent, and others did not meet the eligibility criteria. The final analysis used data from 17 participants (10 males, seven females) aged between 19 and 37 years old (with a mean age of 29). All 17 were white. All contributed by providing written reflections about their experiences of electronic communication.

All participants were asked if they were willing to explore their experiences in an online interview. The first seven participants who agreed were invited to interviews. Five participants were interviewed over video, and two were interviewed through text. The available demographic details for participants are shown in Table 2. As recommended by Pickering and Kara (2017), pseudonyms are used to obscure participant identities and enhance anonymity. For convenience, pseudonyms are alphabetically coded according to participant numbers. Participant numbers are not intended to indicate the order of recruitment or processing. Also included in the table are the number of co-constructed codes resulting from the analysis of each written and interview contribution.

Table 2

Participant Demographic Information and Data

Participant Number	Participant Pseudonym	Age	Gender identity	Relationship Status	Interview length	Number of Codes
Video Interview Participants						
1	Aiden	3█	Male	███	87 minutes	674
2	Ben	3█	Male	███	79 minutes	510
3	Clara	2█	Female	███	85 minutes	551
4	Dani	3█	Female	███	77 minutes	600
5	Edward	3█	Male	███	54 minutes	300
Text Interview Participants						
6	Faye	3█	Female	███	79 minutes	91
7	Gemma	2█	Female	███	110 minutes	151
Open Writing Participants						
8	Harry	3█	Male	███	No data	22
9	Imogen	2█	Female	███	No data	7
10	Jamie	3█	Male	███	No data	25
11	Karen	2█	Female	███	No data	96
12	Larry	2█	Male	███	No data	19
13	Monica	3█	Female	███	No data	3
14	Nick	1█	Male	███	No data	23
15	Oliver	2█	Male	███	No data	15
16	Peter	3█	Male	███	No data	12
17	Quinn	3█	Male	███	No data	16

2.10.14 Data Collection (Feb 2022-March 2022)

Data collection for this research started in February 2022 and ended at the end of March 2022; this meant that participants had recently experienced the COVID-19 pandemic and accompanying lockdowns in the UK.

This research had two data-gathering stages: all participants provided written reflections on Qualtrics, and some were interviewed over Zoom. Offering a writing task aimed to provide participants with a more comfortable way to share their experiences. The writing activity was presented as follows:

I would like you to write freely, but you may find the optional questions below may assist you:

- What are your experiences of texting, messaging or voice/video chat?

- How would you describe your relationship with electronic chat?

- Describe the social sides of electronic chat.

- What thoughts and feelings do you experience around electronic chat?

- What often happens before, during and after you spend time chatting electronically?

- Is there a connection between electronic chat and how you see yourself and others?

- With a focus on text/internet chatting, what would a typical day be like for you?

- How is electronic chat different from face-to-face communication?

- What are the positives and negatives of text/internet chatting?

Please write about how texting, messaging or voice/video chat fit into your life.

Two examples from the 17 written contributions are presented in the appendices: one from Edward (Appendix R) and one from Karen (Appendix S).

2.10.15 Interview Preferences and Debrief

After providing their written contributions, participants were asked for their preferences for a follow-up interview (in the survey). Within the selection options, they could choose their preferred modality for an interview (text messaging, audio only, video, or no interview); this ensured that participants could choose their most comfortable mode of communication.

2.10.16 Pre-screen for Interview

If participants agreed to be interviewed, further screening took place through video, audio, or messaging within Zoom to explore a possible interview. Caplan (2010a) suggests that people who prefer computer-mediated interactions may accede to social demands due to problematic social skills. I reiterated the research's voluntary nature to ensure that candidates freely participated. I asked if they felt social pressure to contribute (e.g., "Does anyone have any strong opinions regarding you participating?"). The pre-interview screening did not suggest that any candidate could not provide informed consent or be too vulnerable to participate. However, if a problem were indicated, I would have sensitively explained that "although [their] contribution would have been valuable, I [would] not have permission to interview them." The screening chat also introduced the research frame, my role, and the opportunity to ask questions. Screening allowed participants to explore any aspects of the research, which ensured that informed consent was obtained.

2.10.17 Interviews

Semi-structured interviews took place over Zoom. The interviews followed the interview schedule found in Appendix E and lasted between 54 and 110 minutes. With permission, each video interview was recorded on a digital audio recorder. Two of the seven interviews took place over Zoom messaging.

When interacting with participants, I followed Charmaz's (2014) recommendations for interview style. During the interviews, I nurtured a cooperative, respectful relationship where each participant could feel comfortable, equal, and empowered. Also, I took a conversational, collaborative tone while encouraging participants to explore their unique experiences. For the two text-based interviews, I aimed to provide similar positive foundations. However, I found that the limitations of messaging reduced the relational feedback available, and I felt that this negatively impacted my capacity to develop rapport with those participants. I considered these experiences within memos and explored them as potential "parallel processes" (where my experiences communicating with the participants through messaging might mirror their online relational styles).

2.10.18 Modifying the Interview Schedule

As this research used an abbreviated grounded theory method, the interview schedule was not modified to respond to previously gathered data. There were, however, variations introduced by participants naturally exploring their own experiences. Also, my follow-up questions reflect the collaborative nature of the interactions and the deeper exploration of participant's subjective experiences.

2.10.19 Debrief

All persons who reached the Qualtrics survey were provided with debriefing information, which was downloadable (Appendix D). After interviews, debriefing was interactively provided via Zoom messaging, voice, or video chat. During the debrief, participants were invited to share their interview experiences and ask any questions. This concluding interaction also allowed the researcher to detect signs of distress and enhance the participant's understanding of the research and their continued right to withdraw. They were also told that I would be happy to send them a copy of the final thesis or a summary of the results. Those interested in receiving either had their name and email recorded on a mailing list securely stored in a locked filing cabinet away from other data. All interviewees were emailed the debrief sheet (found in Appendix D) containing sources of support.

2.11 Data Handling

This research adhered to the Data Protection Act (1998), which requires data to be held securely but not longer than necessary and only used or shared in the ways consented to by each participant. In the information sheet (Appendix B), I outlined the handling of participant data; this included audio recording, anonymising, transcribing, analysing, publishing, and the secure storage of data (in a locked filing cabinet or on a password-protected computer). All transcribed data were pseudonymised by substituting alternative words for all identifying details (e.g., circumstances, names, and locations). Permission was explicitly given to use all quotes presented within this thesis. Participant's identifying codes and transcriptions were stored separately in encrypted data files in a locked filing cabinet or on a password-protected computer.

2.11.1 Memo Writing

Memo writing is a continuous process of capturing and engaging with analytic thinking throughout the stages of analysis. It is highly valued in grounded theory research (Charmaz, 2014) and is considered a mark of research quality (Corbin & Strauss, 2015). According to Birks and Mills (2015), memos create reflective and creative spaces for researchers to explore intuitions and ideas. Corbin (2015) adds that memos capture the researcher's interactions within interviews, engagement with content, and ongoing analysis. Similarly, Holton (2008) explains that memos note theoretical ideas about the data and conceptual links across categories. When constructing a grounded theory, memos could be considered the "mortar" that binds a theory's building blocks – the data (Stern, 2007).

Throughout this research, memo writing provided opportunities to engage with my thoughts and interpretations, allowing me to make connections across emerging codes and categories. By acknowledging my natural tendency to make sense of the data within memos, I was able to refine my theoretical sensitivity. I drew comparisons between participants, reflected on the contrasts, and recorded observations, hypotheses, and insights. This process helped make my co-constructive role more transparent. I also agree with Holton's claim that memo writing slows down theory development, reducing the risk of premature conclusions. Additionally, memo writing helped me formulate new questions to investigate within my data (Birks & Mills, 2015). An example of a memo is provided in Memo 1, where I reflect on participants' use of the term "real-life" when discussing non-electronic communication.

Memo 1

How digital communication feels distinct from in-person for me. Distinguishing between "real life" and online life?

Dated: 5th May 2021

I am wondering if my age allows me to make a comparison that is not available to the younger participants. I can compare how communication is now to when it was when I was a child, when none of it was electronic. People who are a lot younger than me cannot make this comparison since they have experienced social media and digital communication for a larger proportion of their lives. In making sense of this, I should remain aware that while digital communication feels like a relatively new "add on" to my life, some participants might think of digital communication it as a natural extension to their face-to-face communication.

I felt my last interviewee experienced electronic communication as a normal part of life but then it felt like he seemed to contradict this by stating online communication was not "real life". That sounded like a clear distinction between them that I should consider further. Perhaps online socialising does not feel like "real

2.11.2 Transcription and pseudonymization

After the interviews were conducted, they were transcribed and pseudonymised. Nascimento and Steinbruch (2019) suggest that choices in transcription style can influence understanding. I adopted a naturalised style of transcription, in which transcripts conformed to formal writing conventions. This approach improved transcript readability, enhanced my understanding, and facilitated rapid coding. However, Nascimento and Steinbruch also highlight that naturalised transcriptions can remove

idiomatic linguistic expressions. They argue that transcription is not merely an objective and pragmatic process, but a socio-cultural construction influenced by researcher interpretation. To account for any potential loss of meaning, I listened to participant recordings while coding to ensure my codes captured idiomatic expressions accurately. A complete transcription of Aiden's interview is provided in Appendix T, with Aiden's written contribution included in Appendix U for completeness.

2.11.3 Software Used to Support Data Processing

The qualitative data analysis software NVivo was used to facilitate data analysis. It provided a useful platform for line-by-line coding, constant comparisons of data and codes, exploring conceptual relationships, and considering hypotheses. While NVivo was effective for open and focused coding, the program did not function well on my home computer. Consequently, I migrated the data to another software program, MindManager 9, a mind-mapping program with which I was already familiar. MindManager 9 enabled quicker comparisons and easier reorganisation of codes and categories. It also allowed me to develop and engage with diagrammatic representations of the emerging theory, further enhancing the analytic process.

While Glaser (2014) argued that analysis software undermines researcher creativity and efficiency, Dey (2007) disagreed, contending that such software can promote industry and well-managed analyses. My decision to use this software was based on several considerations. Since this research was an abbreviated grounded theory, it maximised the number of codes by employing detailed line-by-line coding. I anticipated that this method would generate a large volume of data. Also, my previous experience working with large datasets suggested that organising codes and categories on paper

might become impractical, particularly when making constant comparisons. ███████

██

██ I

believed using software to support the analysis would help me manage my workload and

reduce the potential for cognitive overload. Although some qualitative research software

offers automated analysis functions, this study did not utilise these.

2.11.4 Development of Theoretical Terminology

In this study, the term *problematic electronic communication* served as a tool to

focus the research and provide an initial starting point for theory development. The

theoretical terminology was refined throughout the analysis through iterative engagement

and co-construction, ensuring it remained responsive to participants' experiences.

Terminology evolved through cycles of coding, comparisons, and conceptual integration.

During initial coding, each participant's contribution was analysed line by line, capturing

meaningful elements, often captured by gerunds that acted as conceptual handles for

underlying processes. Constant comparisons and axial coding were used to explore

connections between codes and to develop increasingly abstract process-oriented

concepts that informed the emerging terminology. Through repeated cycles of coding,

making connections, and abstracting processes, a theoretically sensitised terminology was

formed. At all stages, care was taken to ensure the terminology remained grounded in

participants' lived experiences of *problematic electronic communication*.

2.11.5 Initial Open Coding

After transcribing the data, I undertook initial open coding. Corbin and Strauss (2008) recommend that initial open coding breaks texts into the smallest possible components to allow for the coding of components and interrelationships.

Since this research used an abbreviated grounded theory method (as guided by Willig, 2013), certain alterations were made to the full grounded theory method: each source of participant data was subjected to detailed line-by-line coding, prioritising depth over breadth; the interview schedule was not revised between interviews; the analytic cycle only asked questions of the original dataset, without gathering any additional data (theoretical sampling); and the study did not aim for theoretical saturation. As recommended by Willig, to address dataset limitations, I employed detailed line-by-line coding while also coding smaller textual elements when they conveyed process or meaning. Following Charmaz's (2014) recommendations, I remained open to the data and ensured my codes were simple, short, and specific. I also applied action-orientated coding, using gerunds to capture actions, changes, and processes contained in the text. Implicit relationships between components were explicitly coded. I was sometimes concerned that decontextualised codes might alter meaning; this concern is echoed by Charmaz (2014), who warns that failing to account for context can negatively impact effective comparisons, leading to overgeneralised categories and an oversimplified theory. To mitigate this, I reflected on context within memos or left short reminders within codes. Once initial coding was complete, I reviewed the transcripts and codes to ensure they remained meaningful and grounded in the data. Table 2 shows the numbers of

initial codes formed from each participant's contribution. In total, 3115 codes emerged

from the dataset.

For example, Appendix V includes two screenshots illustrating the initial open

coding of Aiden's data within NVivo. Both screenshots have two screen areas: on the left

is the transcript, and on the right, coding stripes are shown. The heights of the stripes

correspond to the positions of meaningful elements within the text. Each text fragment is

linked to a colour-coded stripe alongside the code for the corresponding text. Note that in

the second screenshot, the orange-yellow stripe and corresponding code, "Being in a

prescribed ring-fenced space – control." This code will be referred to as other forms of

coding are illustrated.

2.11.6 Constant Comparisons and Theoretical Comparisons

Engaging in constant comparisons allowed me to consider similarities and

differences across participant data, codes and emerging categories. These comparisons

required inductive, deductive, and abductive reasoning. By comparing codes and

categories across participants, I identified similar and contrasting processes and

recognised potential dimensions within larger categories. This process led to the

development of conceptually rich categories, making the emerging theory more

representative of the data. Additionally, memo writing provided valuable insights for

refining the developing theory.

2.11.7 Focused Coding

When undertaking focused coding, I built on the codes developed in the initial

coding by synthesising more abstract concepts across the dataset. The focused codes

produced were then used to develop hypothetical categories that captured the essential

properties underlying the coding. Often, these categories were tentative hypotheses that were subsequently tested for fit within the explanatory theory and participant accounts. The developing theory was structured as a hierarchy of interconnected concepts designed to accommodate each hypothetical category. Appendix W presents an example of focused coding for this study. The screenshot from the NVivo program displays abstracted codes in hierarchical format in the left panel. Within the panel, the code "2.1.1.10.3 control content, direction, style" is selected, with its contents in the right-hand area. Note that this area contains the highlighted code, "Being in a prescribed ring-fenced space – control."

2.11.8 Axial Coding

Axial coding was used to locate categories in relation to one another meaningfully. Through this process, hierarchical relationships emerged, revealing how some categories functioned as dimensional variations of broader, higher-order categories. Corbin and Strauss (2009) recognise that open, axial, and focused coding forms often overlap, as each involves developing increasingly abstract categories through synthesising data or lower-level codes. However, the constructivist grounded theory method takes a less prescriptive approach to axial coding that avoids rigid coding structures. Instead, following Charmaz's (2014) recommendations, this study used a more flexible approach to axial coding, which served as a tool to explore and refine conceptual connections. Appendix X presents an example of axial coding for this study. The screenshot from the MindManager 9 program displays a mind map containing categories and interrelationships from various participants. Within the screenshot, the open code "Being in a prescribed ring-fenced space – control" is highlighted.

2.11.9 Selective Coding

As the analysis progressed, the focus shifted to generating an explanatory framework grounded in the data. Selective coding aimed to identify the categories with the most explanatory power while ensuring that all categories within the emerging hierarchy remained grounded in participant data. Selective coding was an iterative process where categories were constantly refined as new relationships emerged. Preliminary results of selective coding are shown in Appendices N and O.

2.11.10 Theoretical Sampling and Sorting

Theoretical sampling occurred through developing questions and plausible hypotheses from the developing theory and attempting to answer these within the current dataset.

2.11.11 Saturation and Integration Towards a Theory

Since this research used an abbreviated form of grounded theory, theoretical saturation was not sought—instead, the analysis aimed to develop a coherent tentative theory of problematic electronic communication. One primary concern was that the theory developed should appear representative of the data gathered. Since no further data was gathered (as recommended in Willig's 2013 guidance), all comparisons were done within the same dataset. A coherent theory was indicated when continuous comparisons within the dataset did not suggest any divergence from the categories already described within the theory.

Chapter 3: Analysis

3.1 Introduction

In this chapter, I present the grounded theory of problematic electronic communication developed through the analytic approach outlined in the methodology chapter. The categories within the grounded theory were co-constructed as I sought to make sense of participants' electronic communication experiences. These categories aim to capture the processes most relevant to the research question. To provide a deeper understanding of the theory, I will elaborate on each category and include supportive extracts that may offer insight into participant experiences. Throughout, I will demonstrate how I have interpreted participants' accounts and show how my analysis remains grounded in their data. After exploring each category, I will present my tentative grounded theory of problematic electronic communication. While this theory aims to integrate participant accounts meaningfully, reflecting every code, category, and nuance from the rich dataset would be impossible. Instead, in line with the research aims, I have prioritised developing an informative and theoretically saturated account that remains faithful to the data.

3.2 Terminology

The terminology used in this analysis chapter emerged from co-construction processes across the various research stages. These processes co-constructed terms with meaningful contributions from the participants and me. Since the language used in recruitment and data gathering can shape meaning, care was taken to avoid pathologising and biased terms. Addiction-related discourses were softened or avoided to reduce potential stigma and allow participants to articulate their experiences more freely. Words

like "addiction," "addict," and "compulsive" were deliberately excluded; instead, participants were invited to self-select if they had experienced "compulsions when texting, messaging and voice/video chatting." The terms "problematic electronic communication" and "compelled" were chosen at the research design stage (i.e., ethics applications, documentation, and interview schedule development). Their presence reflects the focus of the research and, as such, may exert a top-down influence on subsequent constructions.

When gathering data, several terms were introduced through the interview schedule, researcher elaboration, participant responses, researcher interpretations, and interactive meaning-making. I contextualised the interview by asking predefined questions from the interview schedule and actively exploring participants' responses. I tried to respect each participant's language choices during their interview by using their words. However, one notable exception was when Aiden struggled to find the right word for an experience during his interview; he agreed with my suggested term "insidious."

At the analysis stage, I consciously interpreted participant data while emphasising the identification of processes. Inductive reasoning helped make explicit latent connections, groupings, categories, and dimensions in the data. Abductive reasoning allowed me to develop interpretive categories that captured underlying processes that were not immediately observable in the data. The terms "digitally modified relating" and "turning point" emerged from my meaning-making process as I sought to capture important patterns. Alternative terms for "digitally modified relating" that could have also encapsulated this process include "digital acculturation" or "online communication adaptations." While the term "turning point" is commonly associated with addiction and

recovery, its use here emerged from the data. Participants described moments of realisation and shifts in their relationship with electronic communication. Rather than borrowing the term from addiction discourse, I selected it because it best fits the patterns discovered.

3.3 Overview of Findings

The grounded theory of problematic electronic communication (PEC-M) is centred on the core category of "Navigating Electronic Communication." This category encapsulates the experiences of electronic communication that appeared to be shared by most participants. The analysis suggested five main processual categories relevant to this core category. These were "seeking solutions," "using electronic communication as a solution," "developing problematic electronic communication," "navigating electronic communication as a problem," and "reducing electronic communication problems."

Figure 5 shows a schematic of the PEC-M and the interrelationships between the categories. The schematic illustrates how participants felt "pulled back" into online communication, which appeared to be a cyclical pattern. It also highlights how participants experienced an ambivalent relationship with electronic communication until they reached a turning point where they realised their electronic communication had become problematic. Table 3 details the relations between the core category, main categories, and subcategories, with supporting quotes for each subcategory.

Figure 5

A Schematic of the Grounded Theory of Problematic Electronic Communication Showing the Interrelationships Between Categories

Navigating Electronic Communication
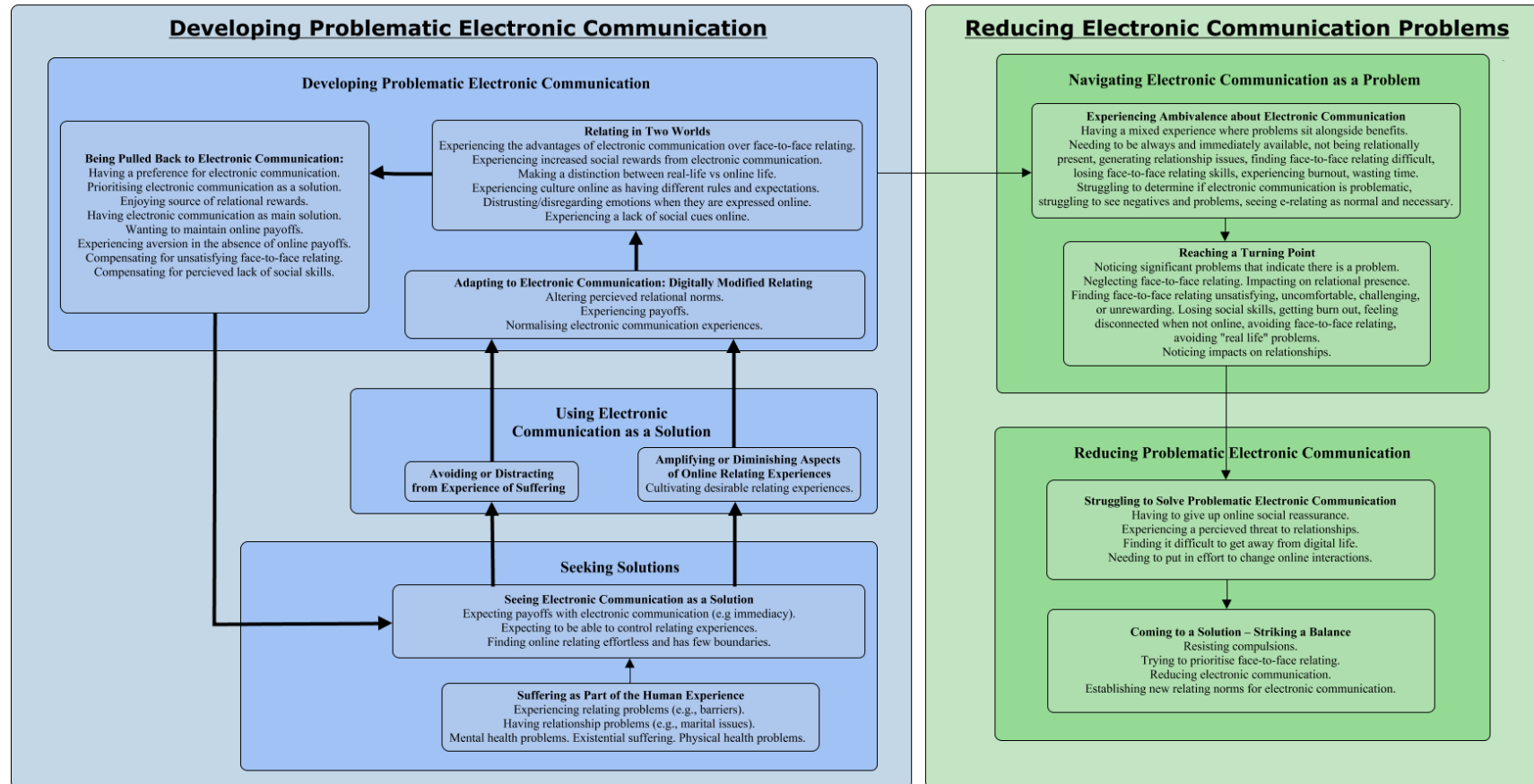
Table 3

Category Tree Showing the Relations Between Categories and Examples

Core Category	Category and Sub-category	Example Quotation
	Seeking solutions	
	Suffering as part of the human experience	"You feel like no-one's there, it's quite isolating" [Clara]
	Seeing electronic communication as a solution.	"I could either deal with the face-to-face with the kids or retreat into a more comfortable format" [Aiden]
	Using electronic communication as a solution	
Navigating electronic communication	Avoiding, or distracting from suffering	"It was quite good chatting with people in the game [….] you know, I sometimes *do* get lonely" [Ben]
	Amplifying and diminishing aspects of online relating experiences	"It made the experience more palatable and less intimidating and I felt more in control" [Jamie]
	Developing problematic electronic communication	
	Adapting to electronic communication: digitally modified relating	"It's like, having an extra, probably like an extra limb" [Edward]
	Relating in two worlds	"You don't have to follow some of the same social cues I think. […] You don't have to hug, give handshakes, pull out a chair" [Gemma]
	Being pulled back to Electronic communication	"This is where it becomes a compulsion, […] that generates itself by you proactively, um, constructing these conversations" [Aiden]

Table 3 continued

Category Tree Showing the Structural Relations Between Categories

Core Category	Category and Sub-category	Example Quotation
	Navigating electronic communication as a problem	
	Experiencing ambivalence about electronic communication	"It is very mixed feelings, definitely very mixed feelings" [Clara]
Navigating electronic communication	Reaching a turning point	"My two children would be bickering and then I'd realize actually I'm not dealing with that, I'm too busy on my phone" [Dani]
	Trying to reduce electronic communication problems	
	Struggling to solve problematic electronic communication	"But my anxious side was like, 'we can't just stop doing this because if we don't hear from each other'… then.. I don't know, she'll hate me" [Clara]
	Coming to a solution: Striking a balance	"I just tried to make a conscious effort just to be more present with [my children] and not be on my phone so much" [Dani]

3.3 Main Category 1: Seeking Solutions

In their accounts of electronic communication, the participants generally reflected

personal problems and suffering in their backgrounds. These included stress, anxiety, low

mood, ▉▉▉▉ social isolation, loneliness, existential crisis, and boredom. In seeking to

address these problems, participants gravitated towards electronic communication as a

solution. Fuelling their expectations that electronic communication would be a successful

solution were the impressions that electronic communication had few barriers, felt

effortless and potentially offered participants social solutions that might reduce their

suffering. Also, the malleability of relational experiences offered by electronic communication was seen as an opportunity to reduce their experiences of suffering.
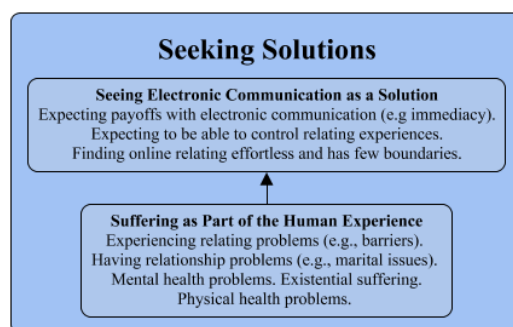
3.3.1 Suffering as Part of the Human Experience

Many participants shared how their suffering related to problems, challenges, and barriers in relating and relationships. Aiden ███████████████████████████ ████████████████████████ connected his circumstances to experiences of disconnection and loneliness, which were compounded by having a diminished support network ████████████████████ He shared how he felt his background of suffering underpinned his use of electronic communication:

> ██
>
> ███████████████████ We've got ████████ children who, █████████████
>
> ████████ Um, and I think kind of the combination of going through that process,
>
> um, alongside ██
>
> ████████ And probably the fact that my... both friends and family in terms of
>
> support network, a relatively far-flung. (Aiden)

Like Aiden, Clara felt isolated from others and lacked support in parenting. Her description of motherhood sounded lonely and stressful. She described her struggle caring for her daughter:

> She has always […] been a really vocal child… a *really* vocal child, she would just scream, cry all the time […] your life is just surrounded by a miserable child all the time. And then if you're not getting proper sleep on top of that. […] You feel like no-one's there, it's quite isolating when things are going wrong when you've got a screaming child and you're like, "I need help." And there's no one there to help you. (Clara)

Ben shared that when he was younger, he struggled with an existential crisis focused on his life's futility. In adulthood, he was also affected by low mood, demotivation, loneliness, and proneness to boredom. He believed that being a self-employed person allowed him to alleviate these challenges by using electronic communication:

> I'm prone to boredom, you know, messing around. Just.. sometimes I'm in that mood and I just can't be bothered with work and being self-employed [means] you can just slack off. So, I'll just go on Instagram and chat. (Ben)

Aiden, Gemma, and Karen also experienced boredom alongside feelings of isolation and loneliness. Karen recognised these experiences were connected to instant messaging: "Before messaging people, I usually feel under stimulated and isolated, and then messaging helps with that feeling most of the time." (Karen)

Karen, Faye, Jamie, and Gemma shared how face-to-face relating felt uncomfortable. In Gemma's case, although she had the desire to connect with others, she felt more vulnerable and less in control when relating face-to-face. She wrote about her experiences of increased anxiety around phone calls to strangers: "…some people my age

have some sort of anxiety around making phone calls [… but] it depends who I'm calling. If it's someone I'm close with then I'm fine, but if I have to make calls anywhere else (services etc) I tend to feel nervous about it" (Gemma). Similarly, in his ███████ role, Jamie dreaded the prospect of face-to-face contact with ██████ during ████████████ He wrote about how his anxiety was a bodily experience: "I would get physically sick at the ideas of these nights and it would result in a very upset stomach" (Jamie).

3.3.2 Seeing Electronic Communication as a Solution

In seeking to reduce their suffering, participants gravitated towards electronic communication as a solution. They felt that electronic communication would be successful, as it had few barriers and felt effortless. Most participants felt electronic communication offered them greater control over their relating experiences than face-to-face. Clara shared: "…the positive side [is] where you can just sit at home, log on at the right time, talk to whoever it is you need to speak to, and you haven't really gone out of your way to do so" (Clara). Edward also wrote about the ease of electronic communication and how it allowed him to disconnect from his experiences quickly: "…using electronic [communication] u can hide away a lot of other senses, and it's quick and easy with no real-time implications" (Edward).

Aiden was suffering from feelings of isolation and felt his life's circumstances and introverted personality had made electronic communication appealing. He saw it as a solution for the relational distress resulting from his children, who ████████████████ ████████████████████████ He felt that he was able to retreat from uncomfortable social interactions to electronic communication:

I'd probably rather exchange emails than have a video chat, I suppose, is what I'm saying. And to some extent, those were the options offered to me. I could either deal with the face-to-face with the kids or retreat into a more comfortable format. (Aiden)

Aiden, Ben, Clara, Gemma, Jamie, and Karen expected they could quickly address their difficult experiences with electronic communication. However, Gemma shared her ambivalence about electronic communication. She wrote about how it was an imperfect solution for her suffering: "[electronic communication] eases loneliness quickly… [but] like many things online, they offer short term solutions to long term problems ([like] loneliness, boredom)" (Gemma).

3.4 Main Category 2: Using Electronic Communication as a Solution

Participants felt electronic communication might offer opportunities to solve problems and reduce their suffering. While they found unique ways to achieve this, two solutions using electronic communication emerged. Online communication was used to reduce, avoid, or distract from suffering. Alternatively, amplifying or diminishing specific qualities of electronic communication either increased desirable relating experiences or decreased undesirable relating experiences.
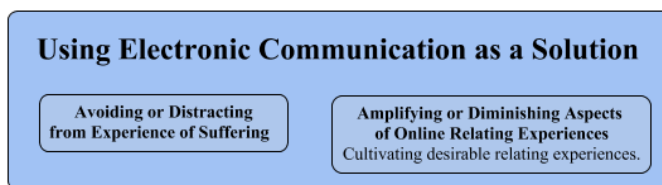
3.4.1 Avoiding or Distracting from Suffering

Participants found that electronic communication could directly reduce their suffering by addressing the social barriers they were facing. Many found that electronic

communication helped to reduce the unpleasant experiences of loneliness and isolation that resulted from pandemic restrictions. In his interview, Edward shared:

> To see my mum, um, and during, you know, the lockdown period, you know, as everyone is aware, that was a godsend, because to see, to see your family, when you, when it's not possible, it was, um, it was very handy to have that. (Edward)

Others, like Ben, had longstanding experiences of loneliness that they addressed using electronic communication. Ben shared how he used instant messaging inside a game to address this:

> I'm ▮▮▮▮▮▮▮▮▮▮ and some of my friends are married now, with kids and they've moved away… that sort of thing. I don't see them that often, so it's quite good to chat to people, I thought it was quite good chatting with people in the game [….] you know, I sometimes *do* get lonely. (Ben)

Faye and Clara also shared how electronic communication provided an escape from challenging social experiences. Faye shared how electronic communication was used as "…a means of escape" (Faye). Similarly, Clara used electronic communication to help her escape from her experiences of being overwhelmed with work, housework, and parenting:

> In the past, that was my sort of escape from life, I suppose, to just be on my phone and if she was crying, as a baby and it was like, oh, I just want a break from it. I just want a break. And you've got your phone there and you're like, "okay, this is my time out." […] it takes me out of my own life […] I think that lots of people… we use our phone as an escape from our children (laughs)… (Clara).

Ben shared that he had devised various ways to escape from troubling existential thoughts in adulthood. He was using both electronic communication and gaming as distractions from his concerns:

I think I've always found ways to, sort of, waste time, you know, so I have to distract myself from life, you know, that like I said it's video games, [electronic] chat. Uh, TV shows ... getting into watching TV shows, anything like that. Reading... movies... […] I think it stops me thinking […] sometimes you don't wanna think too much about stuff, you just want to keep busy. (Ben)

3.4.2 Amplifying and Diminishing Aspects of Online Relating Experiences

The participants generally shared how they could modify their social experiences through electronic communication. They shared various ways they were able to choose, modify or control the quality and style of online interactions. This flexibility allowed them to cultivate more desirable relating experiences.

Larry shared how he felt he had more control over interactions when communicating electronically compared to face-to-face relating. Online, it was easier to disconnect from others when he wanted. He wrote:

[With electronic communication] you can walk away from it at any time; obviously with texting you can just not respond, and even with video chat, if you really wanted to you could just make up some excuse for having to go, which is much harder and sometimes impossible during real life interactions. (Larry)

Participants also shared how they had more control of the content and style of interactions. With the hope of retreating from the stress of ██████████████ Aiden appreciated how he could control the content and style of his online relational

spaces. He shared: "…it seemed like a simpler… or safer space or something. I'm not sure. […] Yeah. Yeah. Or a more… more ring-fenced or a more, um, kind of… prescribed space." (Aiden). Aiden, Ben, Clara, Faye, Quinn, and Jamie appreciated how, through controlling the content and style of electronic communication, they could modulate the emotional intensity of their interactions. For example, Jamie was a ███████ who found ███████████ were emotionally intense due to him having to meet with strangers. During the UK's COVID-19 lockdowns, ███████ had limited each ███████ meeting to 5 minutes. Although he had not chosen this limit, he felt relieved that he could avoid the emotional intensity of meeting with these strangers. This reduced contact time resulted in him feeling less anxious and more in control:

> I would dread the face to face, social interaction of ███████████ Appointments would often run long, and it was always intimidating having ███ strangers come to talk to you. […] I would also hate having to ring ███████ to discuss concerns, so I [opted] instead for emails […] As a result of Covid, this was moved to an online video call, with a strict 5 minutes set up. It made the experience more palatable and less intimidating and I felt more in control. (Jamie).

By controlling the content and style of online relating, participants could influence the quality of relating and their perceptions of personal social significance. Their electronic communication seemed to reflect a fulfilment of their social needs.

Clara shared that when communicating face-to-face, her perception of social judgement dissuaded her from being open. However, she was less concerned about being judged while communicating online. She connected her increased openness to not being

able to see the judgement on the faces of others while texting. When visual indications of judgement were not available, she did not feel judged:

> [Online,] I feel people can be a bit more honest as well, because if you can't see the person's reaction, [then] there's no judgement. Or you don't feel like there's as much judgement. You don't feel it because you don't see their reaction. You don't see how they're reacting to your message and vice versa […] I feel like I can be more open on texts and stuff. I feel like I can say things I'm too scared to say in person, because I can't see their reaction […] I just feel a bit more comfortable saying things that I wouldn't be comfortable saying otherwise. (Clara)

In contrast to Clara, Aiden shared how he did not think visual feedback was a factor in his increased openness online. Like Gemma, he found that he and others had more scope to interact in considerate ways with electronic communication. This enhanced his capacity to share sensitive and personal things with friends and feel their support.

> I don't think I would have been as direct or open or honest with people about how difficult I was finding things in a face-to-face conversation, honestly. And I'm not saying that's because I would have read that face and gone, "Oh, they don't want to hear it." Um, but I think I would have found it, harder to, um, harder to… probably harder to articulate. […] I think with the most stripped back interactions, from their side, they have more scope to formulate responses. (Aiden)

Gemma also reflected on the absence of visual and auditory social information in instant messaging. Like Aiden, she appreciated having more space to consider interactions. Since she could not be seen, Gemma experienced electronic communication as less personal and worrisome than face-to-face interactions: "It's less personal. You

can't hear how my tone of voice/background sounds, so there are essentially less things I have to worry about. I can also think through my answers rather than thinking on the spot…" (Gemma).

Ben, Faye and Gemma expressed their preferences for using electronic communication to interact less intimately. Ben shared that although he appreciated connecting with online friends, he preferred this to be on a: "…casual level [… with its content] not going into anything deep" (Ben).

Dani shared how she preferred not to be seen either face-to-face or when relating online. She found that being seen in person or over video increased her self-consciousness, and she shared her discomfort about how others experienced her. Dani felt that when observed, she had to put in more effort to manage other people's impressions of her. Since the COVID-19 lockdowns, she had been successfully developing her friendships over electronic communication, where she found it easier to manage other's impressions. Because she had chosen to be interviewed over video, I asked how she experienced being seen and heard in that moment.

> As I'm sat here having a face-to-face conversation with you, um, I just, it just takes such an effort. You know, you've got to think about the face that you're pulling, and you've got to… like… think about your expression, your tone of voice, you know, are you responding in the way that they want you to respond? Is that what they want you to be? (Dani).

Clara, Faye, and Gemma also shared how electronic communication allowed them to manage the impressions others had of them. Gemma wanted others to see her as her

online self. She believed this was a better version of her. While she understood her online self-presentation did not reflect her true identity, she wanted to share a better version of herself by being amusing and appearing confident:

> I prefer to be seen as wittier and funnier. In person I often stumble over my words and it doesn't make me look very confident. [...If] they hear my voice wobble they may get a different impression than the one I'm trying to portray. With messaging you're more able to control how people see you […] the online version of yourself is so contorted, as I spoke about earlier, that you wonder how someone can't like the best version of yourself […] It's a persona that I want to be, not that I am. (Gemma)

Similarly, Faye preferred to have control over the impressions others had about her. She was upset when she thought she was seen as stupid or ignorant and felt this was more likely when relating face-to-face. She used electronic communication to manage other people's impressions of her to be seen as she preferred and avoid social mistakes. She wrote:

> Sometimes when speaking I can forget the word I am looking for or not use an expansive vernacular. […] I don't wish to be perceived as stupid or ignorant so I use messaging, as I find written communication conveys me as more intelligent. […when] coming away from a [face to face] situation, thinking "oh I should have said this or I shouldn't have said that" can be upsetting. (Faye)

> **Reflexive note:**
>
> Text-based Interview Experiences
>
> I felt unsettled when interviewing Faye. Although she made a valuable contribution to the research, I found it hard to connect with her through instant messaging. I decided my reaction to the interview was not due to her providing a highly contrasting account of electronic communication. Instead, it was more likely that I felt unsettled due to struggling to fulfil my duty of care to her through textual communication. Although she shared her thoughts and emotions, these were largely historical, and I was left with a strong feeling of not really knowing her in the moment. After reflecting on these experiences, I tentatively concluded that I may have felt unsettled by trying to monitor the wellbeing of a person who prefers to communicate impersonally and manage other people's impressions of her. I felt disempowered by not having the level of information I felt I needed to ensure she was responding well to the interview.

Many participants cultivated a sense of social significance through online interpersonal validation. Karen could reduce her isolation experiences by connecting with online communities with whom she identified. She cultivated feelings of comfort, friendship and belonging from her engagement with these online communities:

> In the past I have spoken to people I don't know and found comfort in speaking to people within internet spaces like Tumblr and Twitter who share the same interests as me. This has created a sense of belonging in the past, helped ease isolation and allowed me to gain friends and a community that share my opinions, interests, and culture. (Karen)

Similarly, Ben found that electronic communication helped him to cultivate feelings of belonging and friendship. He achieved this through interacting within his online gaming experiences with other players over the internet. Within his gaming role, he experienced a common purpose and social status. These helped him to find friendships and develop a sense of community belonging:

> In the game, it's like, I was, I was one of the leads in that game, in a senior rank, [I] was in ███████████████ [… because when] you're in the league, there's a chat box. We had a private chat room with some of the members as well…. [I thought] "I'll just go in there for a bit of time" and then then you know, you end up chatting for hours […] I got quite friendly with a lot of people on there. (Ben)

Aiden, Clara, and Edward also pointed to the importance of online connection. By being "kept in mind," their feelings of being alone were reduced, and they felt reassured. Aiden shared his proactive strategy around this. By interacting with multiple people simultaneously, he aimed to prompt a stream of replies that he found validating. He used the term "micro-validation" to describe his reaction to receiving a message. The effect of receiving a large volume of messages, irrespective of their content, was a sense of validation from others' engagement:

> I don't know whether it's a sort of… micro-validation, perhaps, um, I guess ultimately there's a bit in there about, um, about ego. I suppose, about wanting to know that people are engaged with you or are interested in engaging with you or have thought about you. […] Maybe, there is a micro sense of validation or self-

worth or something that comes with each interaction. (Aiden)

3.5 Main Category 3: Developing Problematic Electronic Communication

While participants shared different problems with electronic communication, the development of problems related to a cycle of re-engagement. Three processes underpinning the development of electronic communication problems were identified. "Adapting to Electronic Communication: Digitally Modified Relating" captured a process of normalising online experiences. "Relating in two worlds" captured how face-to-face interactions and electronic communication felt like distinct experiences. The category "being pulled back to electronic communication" reflected participants' motivations to re-engage with electronic communication when developing their problem.

Developing Problematic Electronic Communication

Relating in Two Worlds
Experiencing the advantages of electronic communication over face-to-face relating.
Experiencing increased social rewards from electronic communication.
Making a distinction between real-life vs online life.
Experiencing culture online as having different rules and expectations.
Distrusting/disregarding emotions when they are expressed online.
Experiencing a lack of social cues online.

Being Pulled Back to Electronic Communication:
Having a preference for electronic communication.
Prioritising electronic communication as a solution.
Enjoying source of relational rewards.
Having electronic communication as main solution.
Wanting to maintain online payoffs.
Experiencing aversion in the absence of online payoffs.
Compensating for unsatisfying face-to-face relating.
Compensating for percieved lack of social skills.

Adapting to Electronic Communication: Digitally Modified Relating
Altering percieved relational norms.
Experiencing payoffs.
Normalising electronic communication experiences.

Seeking Solutions

Using Electronic Communication as a Solution

3.5.1 Adapting to Electronic communication: Digitally Modified Relating

Many participants described electronic communication as integrated and intertwined with their lives. The subcategory "Adapting to Electronic Communication: Digitally Modified Relating" captures how they had adapted to new ways of relating facilitated by electronic communication. For example, Edward said that he perceived

electronic communication as a technological extension of himself, viewing it as both essential and beneficial for his life and social integration:

> I find more positives than negatives with electronic chat because I feel without it, in today's society.. in life, I think you kind of need it there, it's kinda like a must, I, I would feel lost without it. And, um, it's like, having an extra, probably like an extra limb at the end of the day. (Edward)

Ben, Clara, and Edward shared that electronic communication had been part of their lives since childhood. Clara began using electronic communication at the age of ■ and Edward started using chat rooms and texting after getting his first mobile phone at ■ Ben had similar experiences but found it difficult to articulate how his relationship with electronic communication had evolved. He said, "I've been using the internet probably since the dial-up days, so it's quite hard to answer that… because it's been over 20 years. I can't remember when the first time was... teenager? ■ maybe, or even preteens" (Ben). Other participants were more aware of how their relating experiences had been modified by adapting to electronic communication (a process I called digitally modified relating). Aiden understood the change in his relating experiences in terms of addiction, where he felt the interactions offered by electronic communication might "rewire" the brain:

> Each time I get in touch with somebody or respond to something. I think it's a… It's a bit about.. to what extent does your brain get rewired to crave that hit? I suppose but… I think the desire to engage in those sorts of interactions is more instinctive, primitive, than it is considered. (Aiden)

Karen also felt that online communication led to changes in her social world. She wrote about the pressure always to be digitally connected and felt this had modified her experience of relational needs:

> It's not as stimulating as in-person socialising, there are dangers with internet/messaging use, sometimes there can be a burnout from expecting to message all the time […] It has made me feel like I need to be communicating with someone 24/7 to feel engrossed or happy. (Karen)

Aiden, Clara, and Gemma thought their use of electronic communication increased their insecurities around relationships. Clara connected her increased relationship anxieties to online relating. For online interactions, she tended to over-analyse and worry about the meanings of messages. She was more likely to blame herself for non-replies, perceived judgement, and bluntness:

> Whenever anyone messages me, I would read it, and I'd think like, Hmm. Is that how they meant it? Like… Did they mean it to come across like that? Because that sounded a bit, yeah [negative]. And then, yeah, I will take it personally and I think it definitely has an effect on your anxiety levels. […] if I don't get a response, my mind goes off in every direction. (Clara)

Aiden felt that electronic communication had increased his need for external validation through further messaging. He suggested that the main way in which a messaging application can become self-perpetuating is by "latching onto" and "amplifying" an already present social need:

> Could communication apps exacerbate an underlying thing which already exists? or

does it generate, provoke, or create the problem? […] I think probably everybody

has a part of that in them. […] the design of these products perhaps, or the way in

which you would kind of *have to* interact with them irrespective of the design.

(Aiden)

3.5.2 Relating in Two Worlds

The subcategory "relating in two worlds" captures how participants perceived their

online life as distinct from their face-to-face interactions. Many contrasted their

experiences of electronic communication with "real life." For example, Edward

connected "real life" with physical presence in our online interview:

It's strange, isn't it? In real life I'm talking, you can see the person face-to-face.

Um, but that's a silly argument because I could say this [online interview] isn't real

life. But it is. […] I feel odd I've said it now, and that's quite strange […] If I was

to say, have this chat, maybe in a coffee shop, […] I think it would be more natural

face-to-face in a coffee shop, than over a camera. […] [with face-to-face there's]

probably more feelings there, I don't know, like you're seeing the person… you're

seeing their flesh. (Edward)

Also contributing to the subcategory of "living in two worlds" was participants'

awareness of contrasts between online and in-person cultural norms. Ben, Clara, Edward,

Gemma, and Larry shared how they understood the relational norms of online culture to

contrast with face-to-face relating. For example, Gemma wrote about her appreciation of

reduced social obligations when relating online:

You can [be] replying in chunks of text and you don't have to follow some of the

same social cues I think. […] You don't have to hug, give handshakes, pull out a chair etc. you can send emojis and gifs, you're not obliged to laugh out loud at people's jokes. (Gemma)

Part of the participants' experiences of different social norms was the observation that people tend to be less reserved online. Just as Aiden and Clara found themselves more open when communicating digitally, Edward and Larry reflected on how they felt more able to express themselves bluntly. Edward, in particular, felt more freedom to be "blunt" when correcting others or defending himself online. He also noted that online communication leads people to express themselves more impulsively, engage in arguments, and fall out with others. He felt these behaviours reflected a lack of proper consideration of social consequences:

I think it's like a snowballing effect when you're in an argument on a messaging app. People can probably get away with saying more than what they would in "real life." So, I think you're quicker to probably answer without thinking. Online, people say and do what they want without thinking of the consequences so much. (Edward)

While Clara agreed that online interactions often tend to be "blunt," she felt she did not respond well when on the receiving end. She shared: "Sometimes these things, do feel too blunt... again I take that personally" (Clara).

Clara and Aiden appreciated another online culture - the expectation that someone would always be available. They valued the ability to reach out for social support at any time. They found comfort in knowing they could talk about their difficulties (e.g., with

parenting) and felt less alone. Clara shared:

> It's really good to have your phone and texts because if no-one's there, especially like, you know, in unsociable hours, if you're struggling, um, with your child or whatever, and you want some support or some reassurance and you want to speak to a friend, you can message them and they'll get it.. and they might reply. (Clara)

In his written contribution, Edward explained how barriers to feeling emotions through electronic communication affected his sense of realness in interactions. He wrote about his distrust towards online emotional expression, noting that text-based communication consists of symbolic representations of emotions rather than physical expressions of emotion itself:

> You really don't know what's going on the other side of the electronic device and you cannot feel emotions through such devices […] Electronic chat I would say is far different from real interactions in the fact that face to face is real whereas over messaging apps, pc and platforms u only see words! not real emotions. (Edward)

Karen was using electronic communication as a source of stimulation, but, like Edward, she felt the medium could not accurately communicate emotions. She believed the reduced communication channels affected emotional expression, making online communication less meaningful than face-to-face interactions. Similarly, Gemma and Larry found electronic communication less emotionally engaging than face-to-face socialising. Gemma felt emoticons and textual indications of emotion (e.g., the acronym "lol" indicating laughing out loud) failed to represent real emotions. While both Gemma and Faye preferred less personal modes of communication, Faye believed that if she

<u>Reflexive note:</u>

The development of the "relating in two worlds" category was partially prompted by many participants consistently referring to face-to-face relating as "real life." This term prompted me to wonder if "real life" had an opposite pole that might be characterised as "fantasy life." I wondered if some aspects of electronic communication were part of a fantasy life, where participants were able to present a desirable version of themselves, have interactions that they wanted to have and get the social outcomes that they wanted. I engaged with theoretical sampling of the data to explore whether electronic communication had a fantasy component. Alongside Dani, Faye, and Gemma's wish to present themselves as their best selves, is an interesting contribution from Edward (below) who articulates a distinction between real-life and electronic communication. Edward's contribution comes close to suggesting that electronic communication requires a fantasy or imaginary component to be effective. While these constructions sit within the category, they provide notable ontological and epistemological challenges regarding symbolic representations when using electronic communication. Despite the thought-provoking nature of Edward's contribution, to maintain fidelity to most participant accounts, the opposite of "real life" relating is assumed to be "electronic communication" without categorising it as "fantasy life" within the final theory.

wanted to form a close relationship through digital communication, it would be difficult since she could not determine the other person's sincerity. Echoing Clara's suggestion that not seeing or hearing indications of judgement made her feel less judged, Aiden pointed to how the lack of visual and auditory cues in online interactions allowed him to communicate with a degree of detachment:

I guess text chat or whatever we're calling it.. strips away, a lot of the emotional

triggers or indicators that you get face-to-face. So I guess you don't, you don't have

that. Whatever part of your brain that that instinctively responds to somebody's

expression or mannerisms or, or tone or whatever. (Aiden)

Other participants reflected problems resulting from the reduction of information

within electronic communication. Clara, Faye, and Gemma experienced difficulties with

being "left on read"; this refers to the experience of sending a message, seeing it had been

read but not receiving a response from the recipient. For Clara, being "left on read"

caused her to anxiously worry that she was the cause of her friend not responding to her:

I'd be like, "oh my God, she hasn't replied to me. What's happened? Like, you

know. Is she okay? Have I done something wrong? Is she ignoring me?" Um, and

my anxiety would get really, really bad. And at one point I went

trying to manage it. (Clara)

I wondered if Clara had interpreted the style of textual communication as an

indication of relationship security. Such an interpretation might mean a delayed response

could feel like being given "the silent treatment", and a patchy response could feel like a

lack of relationship commitment. Clara reflected on how it was easy to misinterpret

electronic communication messages due to a lack of information within interactions. Her

account contrasted with Edward, Karen, Larry, Gemma, Faye and Aiden's experiences of

electronic communication as untrustworthy, hollow, emotionless or benign. For Clara,

text with the absence of further information could be highly emotional:

It's so easy to misinterpret things […] If someone says something in person it

doesn't come across… necessarily come across as hard hitting as it does online. […] I think when you read it, you take it to heart and every word counts. You don't know if it's meant in the way - perhaps - the way it's taken. […] But in person, I probably wouldn't have given it a second thought because you can hear the way they're saying it in the tone of voice… and if it's meant to be a joke. (Clara)

Aiden shared how online interactions felt different from face-to-face interactions and that he had noticed a deterioration in his face-to-face social skills. He felt that adapting to the smaller payoffs derived from electronic communication (what he called "micro-validations") had displaced larger face-to-face rewards:

[Communicating electronically] is very different to how you interact with somebody face-to-face. When I see friends now, it can sometimes feel like we run out of things, not that we run out of things to say to one another, but, um, it's more effortful than it would have felt before. And I wonder whether that's that's because you get used to saying 200 things, perhaps none of which are very meaningful and feeling as though that's been a conversation, whereas having the less, less laconic style of face-to-face conversation perhaps...um, if you said 200 things to one another [online], I think that would feel like a much more substantial interaction […] You get used to the small payoffs [with electronic communication], so you don't appreciate the larger ones [from face-to-face relating]. (Aiden)

3.5.3 Being Pulled Back to Electronic communication

Participants conceptualised their consistent return to electronic communication as a lifestyle choice, habit, or preference. For many participants, electronic communication

appeared to be interwoven into the fabric of their daily routines. Karen shared that a "typical day involves waking up and immediately checking my messages." Oliver thought electronic communication was necessary. He shared: "I'd say texting is almost a necessity for me to go about my daily business." Ben and Faye also thought electronic communication was essential to everyday life. Faye added that she was "quite reliant on electronic chat."

Many participants shared how they experienced benefits in reducing loneliness, boredom, or low mood and how electronic communication felt more satisfying or comfortable than face-to-face relating. Some found electronic communication solved problems by cultivating rewarding social experiences (e.g., increasing social significance, validation, or feelings of belonging). Such rewards were experienced by Dani, who derived pleasure from her group membership, especially when making significant contributions to group chats. These rewarding experiences were accompanied by compulsions to continue contributing to group chats:

> When it's kind of like jokey banter, um, that's when it gets me the most, um, you know, when you're joking about something, a shared interest. In group chats, I find, [I experience] that compulsion when everyone's kind of chatting back-and-forth, and it's funny […] I enjoy the entertainment side of it and its just, sometimes when it is funny, it just makes you feel good and makes you feel you're part of something. (Dani)

Dani also spoke about her ambivalent relationship with electronic communication. Despite feeling she could not face further online social demands, she returned to

electronic communication to reduce her anxieties around "missing out" and losing her

group memberships:

> [I] need to know what's going on [or] I'm going to miss out. But then, like I said
>
> earlier, [I experience] the complete opposite of that sometimes - I just can't face
>
> it… and I just, I sit there with [unanswered] messages. I joked to my friend about
>
> this.. I've kind of renamed it: "WhatsApp anxiety"… (Dani)

Aiden derived a sense of validation from believing others thought and cared about

him. He described how, after proactively generating streams of communication, receiving

replies confirmed that he was in other people's minds and that they cared about him. He

felt his messaging compulsions were the result of how he proactively used electronic

communication to reduce his experiences of loss, loneliness, and isolation. He shared:

> If you open up your phone and you have a bunch of messages, then there's a part of
>
> you, that feels like you *do* have some friends who actually, whatever, whatever care
>
> about you. This is where it becomes a compulsion, […] that generates itself by you
>
> proactively, um, constructing these conversations, but that's a better feeling than
>
> sitting there feeling quite lonely or isolated… or… or loss-ridden (Aiden)

Aiden also shared how he had gotten used to the satisfaction he derived from

receiving many short messages. He felt these were "micro-validations" that eventually

felt more satisfying than face-to-face interactions. With similar concerns about being in

the minds of others, Clara shared her struggle to believe she was being considered at all.

When she did not receive messages from another person, she felt this meant they did not

value the relationship. She needed to receive regular messages to help maintain her sense

of significance to others:

> I really can't comprehend that I can be in other people's heads without them
> contacting me. It's really weird. […] If they don't message me, then they don't
> need me in their life anymore. Well, then what's the point? […] I'm just scared of
> being forgotten about. (Clara)

Clara's experience was echoed by Karen, who wrote: "If we don't message for a
few days then that [means] there must be something wrong with our friendships" (Karen).

 Some participants appreciated having more time between interactions to
contemplate responses (Aiden and Faye). Faye used this contemplation time to manage
other people's impressions of her. Alongside her relief from being seen positively, Faye
also reflected how she felt more social freedom online through not having to respond
immediately: "[when relating face-to-face]… people expect an immediate response […]
people don't like to be kept waiting [… but online] they have no choice but to wait for a
response" (Faye). This contrasted with Ben, Clara and Dani, who experienced
compulsions to fulfil an implicit online social contract. Clara shared her experience of
lack of freedom in her use of Snapchat: "I got to a point with it where it felt like you kind
of had to, you had to Snapchat people. Me and my friend got to a point where we were
Snapchatting each other, all day, every day" (Clara). Ben also felt obliged to use
electronic communication. This often meant contributing to group chats connected to his
online gaming. He felt pulled back to messaging to maintain his group membership and
fulfil his social responsibilities:

> If there's a big discussion then sometimes you can't avoid going in [to a chat

room]. But then I'm thinking, 'I've got to work. Surely, they can just sort it out without my input?' But I was one of the leads, a senior rank, in like the ████ group [within the game]. So, I've got to go [online], there's like a problem and I've got to go on [online, to] sort it out and chat with people. So, I sometimes just feel compelled to do that […] I've got to go on [online] and be, be a part of it. (Ben)

3.6 Main Category 4: Navigating Electronic Communication as a Problem

While most participants reflected an ambivalent experience of electronic communication where they could identify both positive and negative experiences, a few participants shared how they had navigated electronic communication as a problem. The main category, "Navigating Electronic Communication as a Problem," captures how some experienced ambivalence around their use of electronic communication as they struggled to determine whether electronic communication was problematic in itself. It also reflects how some participants reached a turning point where they realised their electronic communication use was problematic.

Navigating Electronic Communication as a Problem

Experiencing Ambivalence about Electronic Communication
Having a mixed experience where problems sit alongside benefits.
Needing to be always and immediately available, not being relationally present, generating relationship issues, finding face-to-face relating difficult, losing face-to-face relating skills, experiencing burnout, wasting time. Struggling to determine if electronic communication is problematic, struggling to see negatives and problems, seeing e-relating as normal and necessary.

Reaching a Turning Point
Noticing significant problems that indicate there is a problem.
Neglecting face-to-face relating. Impacting on relational presence. Finding face-to-face relating unsatisfying, uncomfortable, challenging, or unrewarding. Losing social skills, getting burn out, feeling disconnected when not online, avoiding face-to-face relating, avoiding "real life" problems.
Noticing impacts on relationships.

Each turning point was characterised by a shift in the participant's relationship with electronic communication, where they realised the negative impacts outweighed the

apparent benefits. Notably, some participants, like Edward, did not perceive their electronic communication as wholly problematic. This reaffirms the understanding that each participant had their own threshold for determining whether electronic communication was problematic.

3.6.1 Experiencing Ambivalence about Electronic Communication

The participants "experienced ambivalence about electronic communication" as they considered its perceived benefits alongside emerging problems. For most, electronic communication felt embedded in life as a normal activity; it was useful and often necessary for social connectivity and work, and many participants shared how it had played a facilitative role in the recent national lockdowns in the UK. Electronic communication offered them tangible benefits and maintained a significant place in their lives (as reflected in section   ); however, these benefits sat alongside perceived challenges, including anxiety, burnout, and relational strain. These mixed experiences made participants feel ambivalent towards electronic communication, and they struggled to determine if electronic communication was problematic in itself.

Aiden and Clara shared how hard it was to judge their use of electronic communication due to its many perceived benefits. Clara felt that the existence of both positive and negative experiences left her unsure of how to evaluate her behaviour. She said, "There are definitely some, some good things about going online or electronic communication as well. So, I don't think it's all, it's not all negative. […] it is very mixed feelings, definitely very mixed feelings" (Clara).

An impediment to judging electronic communication was its perceived status as a normal part of life. This barrier to evaluation was experienced by participants like Ben, Clara and Edward, who had used electronic communication since childhood. To Edward, electronic communication felt like a normal part of his life, and he expected most other people to feel the same. He asserted that not using electronic communication would mean being disconnected from people in general. He shared, "I think it's part of everyone. Uh, I would love to meet someone that didn't use any messaging apps. Unless you live somewhere secluded in the woods on your own. I think everybody in the world, you know, pretty much uses it" (Edward).

For some, ambivalent experiences stemmed from tensions between electronic communication's tangible benefits, social norms and personal costs. Being able to reach out to others when he was struggling with his marital separation had helped Aiden to maintain relationships, have time away from relationship stresses, process events, and reduce his feelings of loneliness. However, Aiden pointed to his difficulty in judging his use of electronic communication as his problematic behaviour had not departed from what he felt were social norms. He went on to argue that his perception of electronic communication as a normal social activity may have locked him into problematic use:

> I feel like the lock-in mechanism, if you want to call it that, of say compulsive use of messaging apps is stronger than the lock-in mechanism for drinking [problematic alcohol consumption] because the social aspect to it kind of allows for a rationalization of your own behaviour. (Aiden)

When Aiden struggled to find the right words to describe how hard it was to observe his development of problematic electronic communication, he liked my suggestion that developing problems could be an "insidious" process and expanded on this:

You just lose very small intervals of time, which in aggregate, I guess, are quite large. And as I said, I think you can probably fool yourself into thinking that there's no [personal] cost […] there's no mess, there's no need to go out and buy more bottles. There's no cost in terms of, you know, financial costs. Um, and there's no obvious demonstrable consequence. (Aiden)

Similarly, Gemma conceptualised online communication as a cultural norm that fostered dependency due to social obligations. She believed that most people are addicted to online messaging, and the experience of addiction would cause them to struggle to determine if their behaviour was problematic. She wrote: "When the majority of people have an addiction (which is what I'd call it), they struggle to see what they're doing wrong. I don't think anybody feels happier messaging online than talking in person, but it's a cultural thing that you don't have any choice but to partake in" (Gemma).

Clara felt she was often too absorbed in her mobile phone activities to identify problems. However, she was troubled by her interpretations of messaging behaviour. She tended to look for hidden meanings and relationship problems within electronic communication exchanges. On the back of her interpretations, she would blame herself, rather than electronic communication, for any perceived problems:

I would be thinking like, "oh, since our last communication, have I said something

to make them hate me, or has someone said something to them to make them turn

against me." It really does go in any direction. […] as soon as I hear from them,

I'm fine [...] but then I'm angry with them for not replying [sooner]. (Clara)

3.6.2 Reaching a Turning Point

The subcategory "Reaching a Turning Point" captures a critical process where there

was a shift in some participants' perceptions of electronic communication. Participants'

turning points with electronic communication reflect how they recognised significant

negative experiences connected to their online activities and realised that electronic

communication itself was problematic. In the lead-up to Aiden's turning point, he

struggled to determine if his electronic communication was problematic. It was only

when the impacts became apparent, that Aiden concluded the development of his

problem had been difficult to observe: "There's no obvious indicator of whether it's

getting worse or becoming a problem, until it sort of hits a certain point" (Aiden).

Participants' turning points with electronic communication were connected to

perceived threats to their relationships, work, physical health, mental health, and face-to-

face relating skills. These perceived threats led participants to realise that electronic

communication was a problem, and they took ownership of it.

Some experienced their turning point when electronic communication negatively

impacted the quality of their preestablished face-to-face relationships. This consequence

was evident for Aiden, Clara, and Dani, who were most concerned about their lack of

relational presence with family members. Aiden reached his turning point when he

realised his electronic communication was affecting his relationship with his children. He

felt ashamed that he was not relationally present for them and did not enjoy their company: "It's a bit of a source of personal shame really… that I got to a point where I wasn't enjoying or being in the moment with my own children" (Aiden). Aiden felt disturbed when he realised his attention was directed more towards online messaging than his children. Similarly, Dani experienced her turning point when she noticed her lack of presence with her children and became concerned about the impact on her relationship with them:

> My little girl would be playing and then, I'm just like, I'll just pick up my phone, because I'm thinking, "oh, she's all right. She's happy playing." Um, but then I think, "oh, I shouldn't be caring about talking to people online. I should just be enjoying this time with her." Um, or like my ▇▇▇ children would be bickering tand then I'd realize actually I'm not dealing with that, I'm too busy on my phone. Um, and I'm just not present all of the time. So, I am quite wary of that. I don't want them to grow up and just remember me sat on my phone. (Dani)

Clara and Dani felt electronic communication had negatively impacted the quality of their partner relationships. Dani shared that her preoccupation with her phone had become such an issue for her husband that he confronted her about it. She shared that her husband would say: "Dani, get off of your phone! You're always on your phone! Um, is it more interesting on Instagram?" (Dani). Dani felt her husband's concerns had introduced tensions around her phone use, and she shared how she struggled to attend to their relationship:

> Sometimes I feel uncomfortable. Um, like if I know I've got a message from

somebody and I need to reply to it, um, but I'm with my husband and I'm thinking, "Oh, he's going to kind of get really annoyed if I pick up my phone now!" Um, so then I know I'm - kind of - sat there thinking I need to be paying attention to us, but what I'm thinking about is, "I want to read my message from my friend." (Dani)

Clara and Gemma also shared how they realised they had become preoccupied with electronic communication. For Gemma, it felt like a turning point when she started experiencing an intense fear of missing out when separated from her phone. She introduced the term "fear of missing out" in her interview when explaining why she was responding more quickly to messages than other people:

I started to notice that my internet and phone usage was particularly bad when I'd respond to people instantly, and they'd usually take a couple of hours to message back. When I am without my phone it feels like an intense FOMO [fear of missing out]. (Gemma)

The turning point for Clara occurred when her relationship with her best friend broke down. She had determined that she had become unhealthily preoccupied with Snapchat and was experiencing social anxieties about her online life, resulting in her inability to think clearly. She noticed that when her friends did not reply to her online messages, her anxiety levels would increase, and she would become impatient with her family. In her interview, she shared how her anxieties around messaging negatively affected her patience with her daughter:

I'd get more and more anxious. And then I could feel myself getting more short with people, more angry… not angry but I just didn't have the patience for people

in my house (laughs). […] my daughter would say "Oh, I want this! I want that!" […] obviously, I just didn't have the patience for it. Whereas normally I think I would've done, but it was because my anxiety was just going up and up and up. And then you just... you can't see clearly. [...] I couldn't think straight. (Clara)

Other participants also felt that electronic communication had negatively impacted their mental health. Dani, Karen and Larry connected it to their experience of psychological burnout. For example, Karen had been using messaging to reduce her experiences of isolation and loneliness. While online, she felt connected, but the feelings returned as soon as her online conversations ended. She felt this pattern resulted from the absence of more satisfying, face-to-face interactions in life. The turning point for her was the realisation that she was burnt out from her online life. She wrote: "I am currently in a social interaction burnout from ■ years of constant internet and messaging use" (Karen). Also, Gemma believed she became burnt out from the demands of maintaining a desirable online persona. She shared how she felt trapped in the task of managing her online image, which involved hiding aspects of herself that she disliked. Gemma connected her turning point to the exhaustion of maintaining her online image. Moreover, she believed her online impression management had increased her insecurities and decreased her self-confidence:

Presenting a persona is exhausting […] Maybe you don't think you're funny or interesting. You try to hide this when you're messaging online by taking more time and thought to respond. But by doing this, you're only reinforcing those insecurities that you're boring or unfunny. (Gemma)

Gemma also felt she was losing too much time to electronic communication:

I spend the majority of my time on social media, which I think is a complete waste. It would be different if I was spending my time replying to emails or applying to jobs, but when I see that my most used app is TikTok it shows me that I value quick entertainment more than I do spending my time valuably. (Gemma)

Dani connected her burnout experiences to her anxious expectation that she should be constantly available online. She spoke about her ambivalent relationship with this online norm since she expected others to be similarly available. The pressures resulting from these expectations had fed into her turning point when she realised she wanted freedom from social media demands altogether:

People expect this constant communication now. That you have to be instant. If you've read a message from somebody, how dare you not reply to it? […] sometimes I'm sending and I'm like, "Oh, why aren't they reading it? I need to know!" And then I'm like, "Dani, you can't really comment because you know, you choose not to reply to people straight away" […] but I want people to reply to me instantly […] it's… double standards, I guess. (Dani)

To manage online pressures, Dani had avoided answering her messages by leaving them unread. Their visible unread status served as a reminder that those messages should eventually be answered. While she intended to answer these messages, her strategy had the unfortunate consequence of building a backlog of unanswered messages whose existence was another source of anxiety. She felt overwhelmed by anticipating all the decisions she would need to make if she dealt with the backlog:

I just can't face having to read all of those messages and then respond to them. […] I find it hard when it's mixed with the demands of online expectation[s] […] Then it's like, "Oh, what if there's something that I'm going to have to make a decision about in this chat? Like, are they talking about doing something? Am I then going to have to decide whether I want to do it or not?" […] I really find decisions difficult. (Dani)

3.7 Main Category 5: Trying to Reduce Electronic Communication Problems

The category "Trying to Reduce Electronic Communication Problems" reflects the experiences of a few participants who reached their turning point. It encapsulates their struggle to control their electronic communication behaviour. Participants' challenges in solving the problem included it being a necessary part of their life, the fear of losing people due to disconnecting, not feeling confident with face-to-face interactions and the experience of cessation anxiety. The subcategory "coming to a solution" reflects how participants found solutions for their electronic communication problems.

Reducing Problematic Electronic Communication

Struggling to Solve Problematic Electronic Communication
Having to give up online social reassurance.
Experiencing a percieved threat to relationships.
Finding it difficult to get away from digital life.
Needing to put in effort to change online interactions.

Coming to a Solution – Striking a Balance
Resisting compulsions.
Trying to prioritise face-to-face relating.
Reducing electronic communication.
Establishing new relating norms for electronic communication.

3.7.1 Struggling to Solve Problematic Electronic communication

Participants who had reached their turning point found solving their problematic electronic communication a struggle. For example, Clara had been using online communication to elicit reassurance, so she found reducing its use unsettling. She worried that reducing electronic communication would negatively impact her friendships. In particular, she feared that stopping her Snapchat use would damage her relationship with her best friend:

> At the end of the day, what I needed to do was try and break that cycle of being on Snapchat. But that was too hard to do. […] you don't need that constant reassurance really. It just felt like you did. But my anxious side was like, "we can't just stop doing this because if we don't hear from each other"… then.. I don't know, "she'll hate me"... it doesn't make any logical sense. (Clara)

Clara shared how stopping electronic communication felt anxious because it felt like a threat to her friendship. Dani's struggle to stop electronic communication also increased her anxiety. Since she had a backlog of messages she had not responded to, making efforts to stop messaging exacerbated her anxiety: "Because I'm trying not to be on my phone too much, those messages are probably building up more. So, then my anxiety is building up more" (Dani). Dani changed her lifestyle by separating herself from digital devices but shared how difficult this was to achieve:

> So sometimes I have to almost put it somewhere else or turn it over. So I can't see. Um, and then now you get a smartwatch and then it comes through on your watch. […] You just can't get away from it. (Dani)

Aiden also faced difficulties reducing his electronic communication so he could focus more on his children. He reflected on how he had to make conscious efforts to remain present with his children and not return to electronic communication: "[It took a] certain amount of conscious effort to be focused on what the children were doing and what, what we were doing, rather than just opening up, opening up some chat conversation" (Aiden).

3.7.2 Coming to a Solution: Striking a Balance

Some participants felt they had made their electronic communication activities less problematic. For Aiden, Clara, and Dani, finding a solution meant striking a balance between real life and electronic communication, which they felt was less problematic. At the time of her interview, Clara had just "broken free" of what she felt was a constant need for electronic communication. Her solution to the problem included prioritising "real world" interactions and focusing on her life. She said, "I think it is better to try and live in the real world. […] you need time in your own world to process your own life, um, rather than being so consumed with what everyone else is doing." (Clara)

As part of their solutions for their electronic communication problems, Aiden, Clara, and Dani tried to maintain their boundaries. Because Clara felt susceptible to being "swept up" in other people's stories and plans, her boundaries included focusing on her own life, and she incorporated non-digital activities to distract her from electronic communication. For Aiden and Dani, having boundaries meant making a conscious effort to be relationally present with their children. Dani shared that her solution involved being relationally present and not allowing electronic communication to interrupt face-to-face

contact:

> I just tried to make a conscious effort just to be more present with [my children]
> and not be on my phone so much. Um, and actually having the willpower to say, if
> somebody, you know, if my friend calls me, I'll just say, "actually, I can't talk right
> now. I'm doing this." (Dani)

Similarly, Aiden found that reducing his electronic communication was a conscious process of restricting his physical and mental access to his phone, withdrawing from electronic communication spaces, and, like Clara, trying to be present in the real world. While Aiden felt his boundaries around electronic communication had improved, and he could focus on his children, he still found electronic communication intrusive. He shared:

> I think, I think I've got better at handling sort of drawing the line, I suppose, around
> letting that [electronic communication] intrude into other bits of life. I probably do
> that okay, in terms of times when the children are around. But, um, I think it
> probably still intrudes into my working day quite a bit. (Aiden)

For Dani, resolving her electronic communication problems also involved introducing aspects of face-to-face relating within her online interactions. She felt that by using voice messages, she was providing the recipient with more information; by sharing her tone of voice, Dani felt she could communicate the meaning of words as intended, and this reduced her worries about upsetting others. She also tried to change other people's expectations of her by actively challenging the "always available" culture of electronic communication. She shared:

> Now I feel like it's okay [not to answer messages], because people go, "oh, it's

okay. It's Dani, she takes forever to reply." So now it's – kind of – given me

permission to not reply straight away. So, it's – kind of – made it acceptable. (Dani)

3.8 From Categories to Theory

In the preceding sections, this chapter has demonstrated the connections between

participant experiences and the processual categories most relevant to the research focus.

In this section, I present the emergent grounded theory of problematic electronic

communication and detail the relationships between the identified categories. The flow

diagram in Figure 5 summarises the theory. While there are visible changes between the

model iterations (e.g., changing of category titles), the diagrams broadly represent the

same processes.

3.9 A Grounded Theory of Problematic Electronic Communication

The core theoretical category, "Navigating Electronic Communication,"

encapsulates five main processual categories: "seeking solutions," "using electronic

communication as a solution," "developing problematic electronic communication,"

"navigating electronic communication as a problem," and "reducing electronic

communication problems." The theory presents a sequential model illustrating how

problems may arise when navigating electronic communication. It suggests that

individuals may turn to electronic communication as a solution for their suffering, that

online experiences can contribute to the development of problematic electronic

communication and the struggle to recognise it as such, and that some individuals reach a

turning point where they acknowledge the issue and work to reduce electronic

communication problems. The following description reflects my understanding of the

theory and outlines the tentative connections that have emerged from my interpretation of participant accounts.

3.9.1 Seeking Solutions

The participants shared that their use of electronic communication was connected to them seeking solutions for their problems. These problems included various forms of suffering including relating problems, relationship problems, mental health problems, existential concerns, and physical health problems. In their search for solutions, the participants saw electronic communication as an opportunity to reduce their suffering. They experienced electronic communication as effortless and inexpensive. It offered them a distraction from difficult situations or thoughts and a means to control their relating experiences in ways that are not possible with face-to-face relating.

3.9.2 Using Electronic Communication as a Solution

The participants found unique ways to use electronic communication as a solution. They could avoid or distract themselves from their suffering or change aspects of electronic communication to their own satisfaction. With the increased control over interactions, they could modify their perceptions of judgement, social barriers, social pressures, and the amount of time available for responding. They could also manage the impressions others had of them and cultivate a sense of social validation through group membership, friendship, and feeling remembered or others cared.

3.9.3 Developing Problematic Electronic Communication

Over time, adapting to electronic communication led some participants to develop problems. The concept of digitally modified relating captures how participants felt they

had adapted to online social interactions, norms, and expectations. Since social

interactions were more controllable than face-to-face interactions, they were often

perceived as more desirable. Participants reflected distinct experiences of relating where

online interactions were often more appealing than face-to-face social communication.

Understandably, participants developed a preference for electronic communication.

Participants also shared how they felt pulled back to electronic communication as an

effective solution that addressed their needs. This cycle of re-engagement was where

participants started to prioritise electronic communication over face-to-face interactions.

3.9.4 Navigating Electronic Communication as a Problem

Many participants described a mix of problems and benefits when sharing their

ambivalence towards electronic communication. This experience of ambivalence lay at

the heart of these participants' struggle to determine if electronic communication itself

was a problem. As electronic communication felt like a normal and necessary part of

daily life, there were few indications of problems; this made electronic communication

difficult to evaluate. The participants who had started using electronic communication in

childhood found evaluating it particularly challenging.

Some participants, however, felt they had reached a turning point – a critical shift

in their relationship with electronic communication. According to participant accounts,

the turning point marked a transition from ambivalence towards the realisation that

electronic communication was problematic. In the period leading up to their turning

points, participants experienced various issues, including the pressure to be always and

immediately available, not being relationally present, generating relationship issues,

losing face-to-face relating skills, experiencing burnout, and wasting time. For many, the turning point was reached when they realised electronic communication threatened their health or an important relationship. For example, the growing preference for digital communication resulted in the erosion of the quality of their relationship with their partner or children.

3.9.5 Reducing Electronic Communication Problems

All the participants who experienced their turning point had tried to reduce their electronic communication to address the problems it appeared to be causing. They shared that it was a struggle to reduce their use. As electronic communication was readily available, they needed to consciously separate themselves from it and resist compulsions (e.g., hiding their mobile phone). When separating themselves from electronic communication, they also experienced increased anxiety and uncomfortable thoughts.

Coming to a solution meant balancing their continued electronic communication with face-to-face interactions. They would try to prioritise "real life" and face-to-face relating (e.g., by remaining relationally present). They had to make a conscious effort to remain present and connect in person. One participant tried to establish new norms for relating to the people around her; in this way, she reduced the pressure to always be available.

3.10 Conclusion

In its exploration of participants who self-identified as having problematic electronic communication, this chapter encapsulates a range of experiences. While the research focused on problematic electronic communication, non-problematic use was also

evident within a broader pattern that led to difficulties for some. For some, an initially

positive experience – where electronic communication appeared to address problems and

alleviate suffering – evolved into a problematic pattern of re-engagement and an altered

sense of social interaction. Central to this transformation was digitally modified relating,

a process that captures how participants adapted to the flexibility of online interactions in

ways that ultimately led to new challenges, including difficulties in important

relationships. A critical turning point emerged in some accounts, where ambivalence

towards electronic communication gave way to its recognition as problematic, prompting

efforts to resolve issues.

Chapter 4: Discussion

4.1 Overview

Within this chapter, I revisit the research objective, rationale, question, and methodology before presenting an overview of the findings and their theoretical contributions. I then position these findings within the existing literature while critically evaluating the emergent Problematic Electronic Communication model (PEC-M). Next, I explore how the findings relate to the research question, methodology, and analysis. I also assess this study's quality and credibility, discuss its implications for counselling psychology, and reflect on its strengths and limitations. Finally, I suggest potential directions for future research.

4.2 Research Purpose, Rationale, Methodology, and Question

This study explored the experiences of individuals who self-identified as having a problematic relationship with electronic communication. Using the constructivist grounded theory method (Charmaz, 2014), the research aimed to develop a credible theoretical account that would offer an original and substantive contribution to psychological knowledge (as recommended by Charmaz). Given its use of an abbreviated grounded theory method (from Willig, 2013), this study sought to construct a theory that could be clinically useful or inspire further research. The research question guiding this inquiry was: "What social and psychological processes are involved in starting, sustaining, and ending a problematic relationship with electronic communication?"

4.3 Overview of the Findings

The findings were based on the contributions of 17 participants, each of whom provided a written submission. Seven participants were subsequently interviewed. Five interviews were conducted via video chat and two via instant messaging. By adopting a constructivist-interpretative paradigm, this study's findings and emergent theory are conceptualised as resulting from a process of co-construction. Consequently, this research presents one of many possible understandings of problematic electronic communication (PEC) and should not be interpreted as an objective conceptualisation.

The analysis of participant data led to the development of the grounded theory of Problematic Electronic Communication, which is presented schematically in Figure 5. This tentative model (PEC-M) was based on my understanding of participants' constructions of their experiences of PEC. The core category, "Navigating Electronic Communication," had the broadest explanatory scope, encompassing five main categories: "Seeking Solutions," "Using Electronic Communication as a Solution," "Developing Problematic Electronic Communication," "Navigating Electronic Communication as a Problem," and "Reducing Electronic Communication Problems."

The theory captures how participants, experiencing problems often rooted in personal suffering, sought to address them through electronic communication. The flexibility of digital communication technologies enabled them to cultivate preferred modes of electronic communication, shaping their relational experiences. While this often alleviated their problems and reduced perceptions of suffering, some participants psychologically adapted to their electronic communication experiences, leading to a

preference for electronic interaction and the emergence of new difficulties. For some, the negative impacts of electronic communication were so significant that they recognised it as a problem and attempted to address it.

The findings of this study suggest that while electronic communication may start as a practical or even therapeutic tool for managing life's challenges, certain features of digital communication (e.g., interaction flexibility, constant availability, control over self-presentation, and immediate feedback) can foster a reliance on electronic communication that alters social experiences.

4.4 Theoretical Contributions

Rather than using pre-existing conceptual frameworks for addiction, I sought to develop a new process-oriented understanding of PEC. This understanding was achieved through the constructivist grounded theory method, which followed the process of co-construction outlined in the methodology chapter. The emergent theory provides a unique multi-stage framework explaining PEC among UK adults who self-identified as experiencing online communication problems characterised by compulsions. Its core category, "Navigating Electronic Communication," describes a person's journey from using electronic communication to solve problems to developing PEC, followed by their recognition of PEC as a problem and efforts to rebalance behaviour.

The following section explores how PEC-M positions itself within the existing literature. I shall compare PEC-M with existing theories and studies discussed in the literature review. Additionally, I will focus on the most significant contributions that offer new perspectives on electronic communication problems.

The emergent theory of PEC offers the following insights:

- The Development of PEC: A processual framework that delineates the development of a cycle of re-engagement and a growing preference for electronic communication. While it includes Digitally Modified Relating, it provides a unique process-oriented account of how PEC may develop in adults in the UK.

- Digitally Modified Relating (DMR): A novel concept capturing how individuals adapt to electronic communication. This process may contribute to the development of PEC (characterised by compulsions).

- Reaching a Turning Point: A pivotal moment where a person recognises their electronic communication is problematic.

4.5 Positioning the Theory of Problematic Electronic Communication

The current study is one of only three qualitative psychological investigations of communication technology issues experienced by adults in the UK. Another is Conroy et al. (2022), which used interpretative phenomenological analysis (IPA) to explore their participants' appreciation of their mobile phones (e.g., convenience) and subsequent concerns about overreliance. This study extends Conroy et al.'s findings by articulating how an individual's general electronic communication can develop into overreliance. It highlights the turning point in their awareness and subsequent struggles to modify their problematic behaviour. Another UK qualitative investigation of adult experiences by Yang et al. (2019) was similar to the present study in that it identified both positive and negative experiences of communication technology. However, gathering qualitative data

from 265 participants with open questions rather than interviews prioritised breadth over depth. The current study offers a more idiographic focus by capturing the richness and nuance of participant accounts through semi-structured interviews. A further limitation in the transferability of both Yang et al. and Conroy et al.'s studies is their focus on participants from a single university. The current study addresses this by recruiting participants from various backgrounds across the UK. Also, with its focus on electronic communication, a feature common across many platforms, this study's transferability is not limited by examining a single platform experience like TikTok (Caponnetto et al., 2025), Facebook (Ryan et al., 2016) or Instagram (Romero Saletti et al., 2022).

The following section further contextualises the current study's findings within the existing literature by examining each aspect of PEC-M.

4.5.1 Seeking Solutions

The current study found that people who develop PEC may be "seeking solutions" to their problems and suffering and might find electronic communication an easy, readily available solution. The subcategory of "seeking solutions," titled "suffering as part of the human experience," echoes Tirado-Morueta et al. (2021) and Kuss et al.'s (2014) findings that challenging backgrounds may be relevant to the development of internet addiction. The backgrounds of this study's participants appeared consistent with Kuss et al.'s predisposing factors for internet addiction: sociodemographic (████ single life), psychological (stress, boredom, emotion avoidance, escapism), social (isolation, loneliness, lack of support, insecure attachment), comorbidities (social anxiety, low mood), and specific internet use factors (e.g., early exposure to the Internet in childhood).

The present study's finding that participants experienced underlying problems and suffering was consistent with the reviewed literature, with both Arness and Ollis (2022) and Chegeni et al. (2021) reporting self-regulation issues connected with internet addiction. Similarly, the reviewed studies found that internet problems were related to social barriers and challenges (Chegeni et al., 2021; Danso & Awudi, 2022; Li et al., 2015). Many participants also shared their struggles with social connection, stress and boredom as factors contributing to their use of electronic communication. Their experiences echoed Arness and Ollis's (2022) finding that participants used the Internet to psychologically escape from their life's circumstances.

The present theory's findings align with Davis's (2001) PIU model, which posits that mental health challenges ("psychopathology") and impoverished social connections may contribute to the development of internet addiction. Davis's conceptualisation of online problems emerging from a primary mental health challenge has received empirical support from de Bérail et al. (2019) and the current study. For example, while Ben did not share an official diagnosis, he pointed to his struggles with low mood, demotivation, loneliness, and boredom proneness, and he connected his mood with electronic communication. He understood his use of electronic communication as a response to his mood: "Sometimes I'm in that mood, and I just can't be bothered with work.." [Ben]. Nowland et al. (2018) found a similar pattern: their participants turned to the Internet to address their loneliness.

Caplan (2010a) theorised that internet addiction is a dysfunctional strategy for self-regulation that compensates for social skills deficits. This pattern was also evidenced by Marino et al. (2018) and discussed in the literature review, which connected electronic

communication problems with declining social skills (Alavi Asil et al., 2022). Similarities were found in the present study; for example, Aiden shared how he felt he had lost some of his in-person social skills and discovered the social validation he could experience through notifications and messages.

4.5.2 Using Electronic Communication as a Solution

The main category, "Using Electronic Communication as a Solution," reflects how participants utilised electronic communication to address their problems and experiences of suffering. While the breadth and richness of the participant data revealed a multitude of ways participants controlled and influenced the quality of their electronic communication experiences, two subcategories emerged, "Avoiding or Distracting from Suffering" and "Amplifying and Diminishing Aspects of Online Relating Experiences." The approaches included impersonal relating, contemplative responding, cultivating external social validation, impression management, and immediate responding. The category aligns with Katz et al.'s (1973) Uses and Gratifications Theory (UGT) as applied to online behaviour (e.g., Choi & Choung, 2021; Ryan et al., 2014) and is consistent with findings that people use the Internet in unique ways to address their needs (Wong et al., 2015). It aligns with UGT's recognition that people actively use the Internet to address their needs. This subcategory might also correspond to Palmgreen et al.'s (1980) "gratification sought" process, where electronic communication is seen as an opportunity to address needs and desires.

The participants' unique uses of electronic communication might be instances of specific Internet usage, as Davis (2001) theorised. They may also be conceptualised in

Caplan's (2010a) model of problematic Internet use as active adaptations to online relating that manage a person's mood.

4.5.3 Avoiding or Distracting from Experience of Suffering

The subcategory, "Avoiding or Distracting from Suffering," is consistent with Douglas et al.'s (2008) Internet Addiction Model, which suggests that people might seek psychological escape from unpleasant life experiences and circumstances through internet use. Menon and Meghana (2021) found support for UGT's similar concept of "diversion," where the person is motivated to escape from their routines or emotions (Blumler & Katz, 1974, p. 512). Participants like Ben used electronic communication to escape their offline problems, where the Internet and gaming were useful distractions.

However, Balick (2018) draws on relational psychodynamic theory to suggest that the underlying motivations behind internet behaviour are not merely to reduce tensions or gain gratification. Instead, he claims, they reflect the human need for social connection. This conceptualisation aligns with this study's participants' use of electronic communication to reduce their unpleasant experiences of disconnection and isolation (e.g., during COVID-19 lockdowns). Similarly, the literature search shows that the Internet can be used to reduce loneliness (Chegeni et al., 2021) and improve mood (Romero Saletti et al., 2022).

4.5.4 Amplifying and Diminishing Aspects of Online Relating Experiences

The processes underlying "Amplifying and Diminishing Aspects of Online Relating" allowed participants to fine-tune their relating experiences. This study's participants appreciated the ability to control and curate their online experiences. PEC-M

suggests that people may sculpt their online interactions or personas to improve their connection experiences. Clara used the flexibility of online interactions by excluding visual and auditory channels when communicating. In the absence of physical and verbal social cues, she experienced limited social judgement: "…if you can't see the person's reaction, [then] there's no judgement…" [Clara]. Similarly, Aiden proactively used messaging to prompt rewarding replies. This aligns with Romero Saletti et al.'s (2022) finding that a platform can be used for self-expression, identity formation, and social validation.

Aiken (2016) suggests that impression management is often highly important to people online. Her concept of the "cyber-self" provides an understanding of how an idealised presentation of self may hold complex relationships between the online disinhibition effect (Suler, 2004; 2015) and identity formation (Cooley, 1902). Aiken's theory suggests that the current study's participants understood themselves by identifying with their perceptions of how others saw them. While both Gemma and Faye felt they could become their "best selves" online, Gemma remained concerned about the impression others had of her and was upset when they did not see her as confident and amusing. Aiken's cyber-self concept also subsumes Suler's (2004) online disinhibition effect, which suggests that a person may become more expressive due to reduced concerns about their online persona. The present theory found that participants actively altered their online personas and interactions, and consequently, many experienced an enhanced sense of freedom to express themselves.

4.5.5 Developing Problematic Electronic Communication

The PEC-M provides a process-oriented account of the development of Problematic Electronic Communication. The category that captures this, "Developing Problematic Electronic Communication," suggests that people may adapt to their electronic communication experiences in ways that cause them to experience face-to-face relating as less satisfying or desirable than electronic communication. Its subcategory, "Living in Two Worlds," also captures how distinct experiences with face-to-face and online social spaces may contribute to a compulsive cycle of re-engagement with electronic communication (as captured by the subcategory, "Being Pulled Back to Electronic Communication").

4.5.6 Adapting to Electronic Communication: Digitally Modified Relating

A significant contribution to current knowledge, which captures how participants adapted to electronic communication, is the concept of "Digitally Modified Relating." While participants' adaptation to their electronic communication experiences may be understood as "cyber-socialisation," this is the first UK-based research to ground this process in adult accounts. According to Aiken (2016), cyber-socialisation is a process whereby people assimilate and accommodate online norms and rules from their online social experiences. The present study's participants found electronic communication and online norms contrasted with face-to-face interactions. The PEC-M's conceptualisation of "Digitally Modified Relating" suggests that cyber-socialisation is instrumental in developing PEC. While Boyd's (2014) evidence shows that teenagers' relationships are shaped by their use of social media and aligns with the present theory, it also

demonstrates how people may actively cultivate desirable relating experiences to address their problems and experiences of suffering, which aligns with UGT (Marino et al., 2018). It is possible, however, that both processes co-occur, whereby people may socialise according to online norms while engaging with online opportunities that modify expectations and behaviour.

The studies in the literature review support the view that online social spaces provide unique social environments (Caponnetto et al., 2025; Ryan et al., 2016; Wang et al., 2024). However, Aiken (2016) claims that many people are unaware of or in denial about online spaces being unique social environments. She suggests that the instincts relevant to relating with other human beings are poorly attuned to online interactions. This lack of attunement stems from in-person social styles and instincts developed in pre-technological societies. In contrast, online spaces offer a flexibility that was unavailable until the Internet became widely accessible. In Aiden's account, he asserts that online social environments might induce changes in the brain, whereby a person's natural responses could become amplified. He based this assertion on his utilisation of online flexibility, which allowed him to derive reassurance and satisfaction from receiving many replies after proactively messaging multiple people. With such opportunities to engineer more desirable social experiences online, electronic communication may facilitate supernormal stimuli – exaggerated natural cues that, according to Barrett (2015), are commonplace in human cultures. The PEC-M suggests that the flexibility of the Internet facilitates more intense interaction experiences that I call "supernormal online relating" (an adaptation of the term "supernormal stimuli"). To illustrate the importance of

supernormal online relating, we can draw a parallel with exposure to online sexual content, as researched by Dwulit and Rzymski (2019). They claim that, when presented online, sexual content can be supernormal and exposure to this may result in reduced sexual satisfaction for in-person encounters. Correspondingly, PEC-M suggests that exposure to supernormal online relating experiences may lead to adaptations that alter how ordinary face-to-face social encounters are experienced.

Those with unaddressed social needs might find their instinctual responses to electronic communication amplified in satisfying ways that are not possible in their face-to-face interactions. The current study's participants appeared to experience supernormal online relating by encouraging the kinds of online social interactions they preferred. They also shared how they adapted to these preferred social experiences. When their curated social experiences were more comfortable or satisfying, they developed a preference for online interactions. Adapting to supernormal online relating experiences may be a driver of DMR, whereby face-to-face interactions can pale in comparison to electronic communication. DMR extends Caplan's (2010a) theory of problematic internet use by highlighting how cultivating desirable (perhaps supernormal) online relating experiences might reinforce an individual's preference for online interactions.

4.5.7 Relating in Two Worlds

While the PEC model acknowledges how online and offline social worlds are interconnected, the subcategory "Relating in Two Worlds" reflects how digitally modified relating might lead to distinct experiences for face-to-face and online relating. Romero Saletti et al. (2022) and Wang et al. (2024) also found contrasting experiences of

online and offline social norms. The present study found that its participants perceived online life and "real life" as distinct, yet both felt important. It also observed contrasting accounts, where some participants were overwhelmed by the significance of their online obligations, and others experienced detachment from online interactions where emotional expression was distrusted and their actions felt inconsequential. Some of these experiences can be understood through Suler's (2015) online disinhibition effect. The participants' distinctions between online life and "real life" resemble Suler's concept of *dissociative imagination*, where online life is experienced as a fantasy world. In contrast, other participants experienced online inhibitions around perceived norms and obligations. This study also observed experiences resembling Suler's solipsistic introjection concept, which suggests that the internalisation of interactions with the absence of communication cues leads to false perceptions of others. Participant experiences included high levels of concern about the meanings of interactions or reduced concern about social judgement through not seeing social cues on the faces of others. Some participants also shared experiences like Suler's concept of "dissociative anonymity," where their preference for impersonal interactions was facilitated by electronic communication where they could not be observed.

4.5.8 Being Pulled Back to Electronic Communication

While the present theory echoed aspects of the biopsychosocial concepts of addiction like pleasure, reward, loss of control, and cravings (see Chandler & Andrews, 2019), the subcategory "Being Pulled Back to Electronic Communication" resembled two key indicators of addiction: compulsions and repetition of behaviour. Since this research

specifically asked about experiences of compulsion, it is perhaps unsurprising that its participants expressed a preference for or felt compelled to return to electronic communication. Nevertheless, this category aligns with a key component of Caplan's (2010a) model, the "preference for online interactions." Perhaps the current study's findings can extend Caplan's model by showing how a preference for online interactions may develop via online flexibility, digitally modified relating, and perhaps supernormal online relating. Caplan also points to the role of cognitions in reinforcing problematic behaviour, and the present theory suggests various reinforcing cognitions, including techno-optimism, social obligations, control, and social validation. Moreover, Gemma and Faye's view that they were their "best selves" online might have reinforced their online communication.

From the perspective of biopsychosocial addiction theories (such as Chandler & Andrews, 2019), people may return to electronic communication due to aversive experiences, such as withdrawal. The present study found a wider set of aversive experiences that reinforced re-engagement, most notably, negative social consequences. Akbari et al. (2021) suggest that Gemma's aversive experience of FOMO was one such reinforcing cognition. Other studies explored in the literature review reflect similar aversive pressures to use electronic communication: normalisation (Wang et al., 2024), FOMO (Yang et al., 2019), fear of the consequences of disconnection, abstinence struggles (Conroy et al., 2022), social isolation (Li et al., 2015), social comparison, and social validation (Romero Saletti et al., 2022).

4.5.9 Navigating Electronic Communication as a Problem

Although participants experienced benefits from electronic communication, many also noticed negative impacts and problems. The category "Navigating Electronic Communication as a Problem" was initially characterised by ambivalence and a turning point in their perception of electronic communication, where they recognised it as a problem. Following this turning point, some attempted to resolve the issue.

4.5.10 Experiencing Ambivalence about Electronic Communication

The subcategory, "Experiencing Ambivalence about Electronic Communication," captured the challenges a person might face trying to determine if they have PEC. As found by Caponnetto et al. (2025), Romero Saletti et al. (2022), and Yang et al. (2019), most of the present study's participants had both positive and negative experiences with electronic communication. When considering their use of electronic communication, their assessment was complicated by three main factors: electronic communication was beneficial, required, or normal.

While one participant believed electronic communication was mostly beneficial (Faye), most reflected problems such as anxiety, burnout, and relational strain alongside benefits like convenience, social connection at a distance, group membership, distraction, immediate support, and social validation. A similar pattern of mixed experiences was reported in the reviewed literature. Yang et al. (2019) reported positive impacts such as convenience, academic benefits, and good social interaction. Despite acknowledging compulsive use and negative self-comparisons, Romero Saletti et al.'s (2022) participants appreciated Instagram for self-expression, identity formation, and social validation.

Arness and Ollis (2022) found that their participants, who were struggling with self-regulation, used social media for connection, entertainment, education, and escapism.

Many participants in the present study also struggled with electronic communication being necessary for human connection, work, fulfilling social obligations, or as the only source of support. Suggesting dependency, Edward metaphorically suggested that electronic communication was part of him and an essential part of his life: "… it's kinda like a must, I, I would feel lost without it. And, um, it's like having an extra, probably like an extra limb at the end of the day" [Edward]. The reviewed adult studies also found that their participants experienced electronic communication as a necessity, used to improve emotional well-being (Wang et al., 2024) and manage stress, anxiety, and loneliness (Chegeni et al., 2021).

The perceived normality of electronic communication was a major contributor to experiences of ambivalence. Aiken's (2016) cyber-socialisation concept suggests that those exposed to online social spaces will normalise the perceived online culture, activities, and expectations. Support for this is found in Wang et al.'s (2024) study, which found that participants were socialised by social contexts that normalised and justified extensive internet use. The theory of PEC suggests that the perceived norms after cyber-socialisation may complicate evaluating electronic communication. One explanation for this complication could be normalcy bias (Drabek, 2012), a cognitive process that undermines the appropriate assessment of threats due to perceiving them as normal. The participants, who might be categorised as digital natives (Joiner et al., 2013), having experienced electronic communication from childhood (e.g., Edward and Clara), shared

that it felt normal and essential but struggled to determine if it was problematic. Aiden agreed with my word "insidious" as he described the development of PEC as being outside his awareness. Li et al. (2015) and Danso and Awudi (2022) also reported their participants' difficulties in differentiating between normal internet use and compulsive use. Additionally, while Conroy et al.'s (2022) participants described felt their smartphone use was "like an addiction," they reported struggling with self-deception, which suggests they were not able to recognise their overreliance fully.

Difficulties in identifying PEC as a problem might be explained by Caplan (2010a), who theorised that people may have impaired abilities to judge or modify their behaviour due to deficits in self-regulation. Support for this comes from Manic (2022), who identified low levels of self-evaluation for persons with internet addiction.

4.5.11 Reaching a Turning Point

Another significant contribution from the current study is the concept of a turning point. The subcategory "reaching a turning point" captured a key moment when the negative effects of electronic communication became undeniable, prompting participants to evaluate their behaviour critically. While it corresponds with Danso and Awudi's (2022) "Awareness Creation" control mechanism, it extends this finding by exploring the role of awareness in reaching a turning point. Participants typically recognised electronic communication as problematic when it appeared to threaten valued parts of their lives. For example, some participants realised their electronic communication behaviour had resulted in relationship disruption or damage, negative impacts on work, or a feeling that it had taken over their lives. Before their turning point, participants perceived "real life"

and online social experiences as separate, but when online social experiences intruded upon offline life, the illusion of separation was shattered.

Patton and Best (2022) explored the significance of turning points in recovery journeys following problematic substance use. They explained how a person may need to undertake a cost-benefit analysis before identifying key aspects of their life that motivate them towards change. While turning points can be positive life events, the present study found its participants' turning points were described as "rock bottom" moments, where they realised their electronic communication behaviour had adversely affected their partners or children. In contrast to the notion of a single turning point moment, Schinkel (2019) argues that a turning point is just one part of a broader, more complex recovery process. While the current study identified specific turning points where participants felt a shift in their relationship with electronic communication, their accounts suggest multiple factors contributed to their change in perspective. Some participants may have presented their turning points as discrete moments to justify and reaffirm their need to change. For example, Aiden described his turning point as a moment of "personal shame" due to his lack of relational presence with his children. However, he acknowledged this was a salient moment among smaller, less observable intrusions. His recognition of his turning point enabled him to evaluate the sum of these disruptions "in aggregate" and stop "fooling" himself. The present theory may extend Conroy et al.'s (2022) theme of "self-deception" by showing how it may be linked to struggles in self-evaluation and the turning point process.

The current study extends Ryan et al.'s (2016) finding that preoccupation accompanies internet addiction. It describes how preoccupation with electronic communication can contribute to a lack of presence with family members and, ultimately, turning points. Dani, for instance, was particularly worried that her children would remember her as being preoccupied with her mobile phone throughout their childhood. In her turning point experience, Clara recognised that her preoccupation with electronic communication was strongly connected to her anxiety (echoing Li et al., 2015). While she had previously noticed the connection, her turning point resulted from her realisation of how her anxiety had negatively impacted her familial relationships.

In their framework for problematic smartphone use, Yang et al. (2021) refer to a "Need to Change." While this implies that their participants experienced turning points, they do not elaborate on the process. Similarly, Conroy et al.'s (2022) investigation captures participants' struggles to navigate the dual role of smartphones in facilitating connectivity while also disrupting agency and well-being. While Conroy et al.'s use of IPA provides a nuanced account of lived experiences, they do not offer a theoretical account of the mechanisms behind smartphone overreliance or the process of reaching a turning point. At present, the current study offers the only processual account of turning points among adults in the UK within the context of online addiction research.

4.5.12 Struggling to Solve Problematic Electronic Communication

The present study found that participants struggled to solve their online relating problems. A parallel with the struggle to solve PEC also echoes Conroy et al.'s (2022) theme, "It is Difficult to Maintain Abstinence," which captured the barriers participants

encountered when attempting to control their phone use and reduce their reliance. Clara spoke about her need for constant reassurance and fear that stopping her online interactions with her friend would threaten their relationship. Although fuelled by reassurance rather than reward, Clara's experiences suggest a compulsive cycle reminiscent of addiction (Chandler & Andrews, 2019). Echoing Clara's fear that stopping Snapchat would damage her relationship with her friend, Conroy et al. highlight that their participants feared the social repercussions of disconnection. Similarly, Dani struggled with disconnection due to the pressure to respect online cultural norms.

Conroy et al. (2022) found that their participants struggled to implement control over their behaviour due to self-deception and the ability to circumvent abstinence periods easily. Arness and Ollis (2022) reported how their participants felt "lost in social media" and "stuck" as they struggled to direct their attention and manage their time due to mobile phone distractions. Aiden shared how he consciously pushed himself to remain present with his children and not return to electronic communication. His experiences corresponded with Arness and Ollis's finding that their participants used "conscious effort" to separate themselves from their mobile devices.

4.5.13 Coming to a Solution - Striking a Balance

Aiken (2016) suggests that Western cultures may perpetuate a person's electronic communication problems due to social norms and expectations. Also, since the Internet is generally available and accessible, it is challenging to avoid electronic communication or its "related stimuli" (e.g., notifications). The present study's participants reflected on how they would struggle to fulfil work roles or relate to friends and family if they were not

connected through digital technologies (e.g., Ben). Many believed it would be impossible to escape entirely from electronic communication due to the UK's culture of reliance on it (e.g., Edward).

Since stopping electronic communication may not be viable in technologically oriented societies like the UK, the participants of this study sought a compromise. The subcategory "Coming to a Solution - Striking a Balance" reflected how participants attempted to reduce the negative impacts of electronic communication while not stopping electronic communication altogether. Creating a balance between online and offline socialising led Aiden, Clara, and Dani to develop boundaries around their electronic communication. Dani managed boundaries by challenging others on the appropriateness of the culture around constant availability through electronic communication. All three spoke about their conscious efforts to attend to face-to-face relationships and resist electronic communication. This resembles addiction theory's characterisation of recovery as a learning process where substance use is managed, and the person moves towards a healthier lifestyle (Chandler & Andrews, 2018). However, perhaps because electronic communication is perceived as essential for modern living, creating a balance between online and offline relating was the only consideration. No participant suggested that they thought they could stop altogether.

Danso and Awudi's (2022) internet addiction study also explored mechanisms for controlling internet use. They identified four control mechanisms: self-restraint, awareness creation, administrative restrictions and purposefulness. However, Danso and Awudi offer limited insights into how their participants utilised these control mechanisms

or whether they had proved successful. Caponnetto et al.'s (2025) investigation specifically explored "Strategies and Tips to Reduce Problematic TikTok Use" derived from participant data. While they outlined practical measures that may reduce problematic TikTok use (e.g., setting timers and self-control techniques), they did not provide evidence to support the efficacy of these approaches.

4.6 Contributions to Existing Literature

The current study significantly contributes to the literature by offering a process-oriented framework for understanding problematic electronic communication. This multi-stage framework aligns with and extends existing electronic communication, internet addiction, and cyber-socialisation conceptualisations. The study provides a unique perspective based on the experiences of a diverse group of UK adults.

The model of problematic electronic communication (PEC-M) is a processual account that maps how individuals with self-identified PEC navigated electronic communication. The core category, "Navigating Electronic Communication," encapsulates five main processes: "Seeking Solutions," "Using Electronic Communication as a Solution," "Developing Problematic Electronic Communication," "Navigating Electronic Communication as a Problem," and "Reducing Electronic Communication Problems." These processes capture how using electronic communication as an adaptive solution to personal problems may lead to problematic, compulsive behaviours.

A significant contribution from PEC-M is the concept of Digitally Modified Relating (DMR). While Aiken (2016) has posited that exposure to online social spaces

leads to cyber-socialisation and the online disinhibition effect (Suler, 2015), the concept of DMR extends this by explaining how the Internet facilitates curated communication experiences to which individuals may adapt. With increased controls over self-presentation, the form of online interactions, and the absence of social cues, individuals can experience a transformation of interaction experiences and perceived social norms. Their ability to curate interactions online can eventually recalibrate their expectations and experiences of face-to-face interactions through DMR. This concept may also extend existing models, such as Caplan's (2010a) theory of problematic internet use, by offering an additional mechanism (DMR) through which preferences and online interactions may be reinforced. Moreover, the present theory suggests that DMR may be driven by the active cultivation of preferred social experiences – a process I call *supernormal online relating*. This term adapts the concept of *supernormal stimuli* (Tinbergen, 1953) to illustrate how, for some, "Using Electronic Communication as a Solution" involves the cultivation of online relating experiences that would not be possible in person. This suggests that while DMR may involve adaptive strategies that mitigate personal suffering, it can also reshape a person's social existence, potentially leading to compulsive patterns of use.

Another significant contribution from the present study is the concept of the turning point in problematic electronic communication. While previous research acknowledges the importance of awareness of and efforts to reduce problematic internet use and internet addiction, this study offers a deeper understanding of the mechanisms involved. PEC-M characterises the turning point as a moment or moments where an

individual becomes aware that online interactions are a significant problem. With parallels in other addiction research, the turning point captures the moment when the adverse impacts of electronic communication are undeniable, such as when threats to familial relationships are acknowledged. This study situates the turning point as emerging from an ambivalent experience where both positive and negative experiences of electronic communication complicate evaluations. The turning point realisation serves to redirect the individual towards efforts to rebalance online and offline social spaces.

Overall, the present study offers a detailed account of problematic electronic communication. Adopting the constructivist grounded theory method produced a process-oriented understanding grounded in the lived experiences of adults across the UK. In contrast to previous investigations, the present study captures the depth and complexity of participant experiences. It articulates these within a theory that maps their journeys from adaptive use to the development and resolution of PEC. While it acknowledges that people can adaptively use electronic communication to solve their problems and reduce personal suffering, it highlights how the flexibilities that allow adaptations can also provide a context for developing PEC.

4.7 Evaluation of the Research Findings

The following sections critically evaluate the research findings and consider factors influencing their interpretation. The research question was: "What social and psychological processes are involved in starting, sustaining, and ending a problematic relationship with electronic communication?" While the scope of the emergent theory appropriately encompasses PEC's beginning, middle, and end, it also touches on

behaviours that might occur in non-problematic internet use. For example, while digitally

modified relating may be important to the development of PEC, it may also be a process

experienced by a wider group of people who interact online without problems, and its

presence may not always result in PEC. This raises the question of whether the PEC-M

can inform us about general internet use. It is perhaps unsurprising that since the research

question asks about the *development* of problematic electronic communication, PEC-M

captures the beginning of PEC, which is characterised by an adaptive use of electronic

communication that would appear non-problematic. However, the results presented here

reflect the experiences of participants who self-identified as having problems with online

"compulsions" and who had indications of internet addiction when measured with the

GPIUS-2 (Caplan, 2010a). Since this study only investigated the experiences of this

participant type, the findings cannot be transferred to the wider population of internet

users. Therefore, PEC-M is not a theory of general internet use.

Another consideration regarding including non-problematic electronic

communication within PEC-M is its category, "experiencing ambivalence around

electronic communication." This category captures the struggle a person with PEC may

experience when evaluating their electronic communication behaviour. Inherent in the

challenge of ambivalence is the presence of non-problematic experiences of electronic

communication. The assessment of electronic communication is complicated by what

appears to be non-problematic behaviour that may be normalised, necessary, or expected.

While the overlap between problematic and non-problematic electronic communication

suggests PEC-M theorises about non-problematic electronic communication, an

alternative interpretation is that ambivalence is a major challenge in assessing problematic electronic communication. Existing theories of internet addiction might be enhanced by considering how experiences of ambivalence, which are culturally reinforced, may complicate and delay recovery processes.

The grounded theory presented here may provide valuable insights into problematic electronic communication. While elements of the theory may reflect processes relevant to all forms of electronic communication (e.g., using the flexibility of the Internet to satisfy needs and digitally modified relating), the theory remains a description of problematic electronic communication. The question of whether PEC-M processes (like digitally modified relating) are involved in non-problematic electronic communication can only be answered by investigations focused on general internet use.

4.8 Development of Theoretical Framework

4.8.1 The Pandemic Context

Since the current study's participants referred to the effects of the COVID-19 restrictions on their use of electronic communication, this post-pandemic context needs to be acknowledged in interpreting the current study's findings.

On 23rd March 2020, the UK government announced numerous restrictions due to the COVID-19 pandemic. These included lockdowns, restricted social interactions, and working from home. In the UK, at the time of data gathering (from February to March 2022), COVID-19 lockdowns had recently taken place, and several restrictions were still in effect, including limits on social gatherings and requirements for face coverings and social distancing. While lockdowns were not occurring, the planned easing of restrictions

was postponed due to concerns about other COVID-19 variants (e.g., the "Delta" variant). The importance of the recent lockdowns was evident in participant contributions. They shared how lockdowns had caused them to feel disconnected from their friends, family, and social circles. In response to this prolonged experience of social disconnection and isolation, they used electronic communication to mitigate their experiences. A briefing from the UK Centre for Mental Health (CfMH, 2020) highlighted the mental health impacts of lockdowns, citing Herman (2002), who claimed, "The core experiences of psychological trauma are disempowerment and disconnection from others." Based on this conceptualisation, the CfMH suggested that both individual and collective trauma would arise from lockdowns, and they shared their concerns about how associated stressors (i.e., feeling powerless and alone) might affect vulnerable persons, such as those with mental health problems. Corresponding support has been found for the negative impacts of disconnection due to lockdowns. For example, von Mohr et al. (2021) highlight how physical touch deprivation was associated with increased stress, anxiety, depression, sleep disturbance and PTSD symptoms. COVID-19 restrictions have also been associated with increased internet addiction symptoms (Masaeli & Farhadi, 2021).

While the final ethical approval for this research was received in June 2021, I chose not to change the focus of my research to specifically look at the impacts of the pandemic on problematic electronic communication. Consequently, the interview schedule did not explore the influence of the pandemic on electronic communication or participant experiences. Since this research used an abbreviated approach (Willig, 2013), the interview schedule did not adapt to accommodate questions about the recent

pandemic. Nevertheless, as the research took place in a pandemic context, just after national lockdowns, the data show the effects of this highly influential context. This raises the possibility that PEC-M might be highly shaped by the sociocultural context of a world pandemic, and this may limit its transferability to social contexts without similar concerns, restrictions, and tensions. Since the pandemic context may have substantially impacted the participants' experiences, a more up-to-date study might prove more transferrable. Without a post-pandemic context, a new Constructivist Grounded Theory study of PEC might have increased transferability. It would also benefit from using the full grounded theory method, where the interview schedule can adapt to participants' contextually sensitive experiences.

4.8.2 The Role of Language in Theory Development

This research used the constructivist grounded theory approach, which acknowledges co-construction in theory development. The development of PEC-M involved the evolution of terminology through the processes outlined in the methodology chapter. Notably, some terminology emerged from this research design and was introduced into research processes through recruitment texts and the interview schedule. One important contribution was the term "Problematic Electronic Communication," which was decided before data gathering. While this term avoided discourses associated with internet addiction and aimed to allow participants to define it with their contributions, it may have exerted a top-down influence on theory development, perhaps encouraging me to recognise unproblematic experiences as problems when processing the data.

As has been reflected in prior chapters, due to axiological considerations, the pathologising of participants was avoided by avoiding addiction discourses. For instance, instead of using terms like "Internet Addiction" and "compulsive online behaviour," the recruitment and data gathering used terms like "chat compulsions" and "compelled." While the use of these terms aimed to avoid negative impacts on participants when exploring internet addiction, where there are no established operational definitions, this may have shaped the characteristics of the participants that were recruited. A parallel can be drawn with Conroy et al.'s (2022) recruitment process that assumed individuals who used their phone daily for at least 30 minutes were over-reliant users; however, this low threshold for overreliance may have included participants with non-problematic use. The current study's use of the word "compulsions" in its recruitment literature may have also encouraged individuals without severe problems to participate. Support for this possibility was observed in participant accounts, where some had "mostly positive" experiences, did not feel that they had a problem, or claimed not to identify with common addiction discourses, like "Internet Addiction," "cravings," or "urges." While such responses suggest that the participants did not have internet addiction symptoms or concerns about their electronic communication, all participants reached the threshold for inclusion with GPIUS-2 scores of over 69 (Caplan, 2010a). Notably, although participants were invited to participate based on identifying with having "compulsions," the GPIUS-2 ultimately determined their inclusion in the study. While participants' lack of identification with addiction terminology could indicate that they were unsuitable for the study, their score on the measure suggested that inclusion was appropriate. Related to this was my interview with the participant Faye, whose lack of identification with the

term "compulsions" prompted me to consult with my supervisor regarding her inclusion in the study. My supervisor and I considered excluding Faye's data due to her lack of identification with addiction discourses. However, her contributions were considered relevant due to her high score on the GPIUS-2. It was decided that, while identifying with addiction discourses suggested eligibility, all those who fulfilled the inclusion criteria would be included in the analysis. Yang et al. (2019) had similar issues where their participants who had low scores on the Smartphone Addiction Scale (SAS-SV; Kwon et al., 2013) expressed concerns about their use, and high scorers did not self-identify as using their smartphones compulsively or problematically. One explanation for this discrepancy is offered by the present study's finding that PEC is characterised by ambivalence. While an external measure of internet addiction suggested significant problems, participants may not have reached that conclusion about themselves. This raises questions about the validity of these internet addiction measures and whether a measure should be trusted more than participants' views of themselves. Nevertheless, a pragmatic approach was adopted in the current study, where the GPIUS-2 was assumed to be appropriate for determining internet addiction traits and inclusion.

Another consideration regarding terminology is how the use of GPIUS-2 (Caplan, 2010a) and CORE-10 (Barkham et al., 2013) may have had a priming effect on participants. The terminology used within these measures may have influenced how participants responded to subsequent questions. Participants may have been primed to use the measures' terminology or confirm their conceptualisations of internet addiction (from the GPIUS-2) or assume a pathological focus (due to the CORE-10's focus on mental

well-being). It is also possible that the contents of any of the research materials may have exerted a top-down influence on my interpretations and co-construction of the theory.

A notable gap in the recruitment process was that it did not specifically seek participants who had "recovered" from PEC; consequently, the final theory captures only a few participants' recovery journeys. A potential way this could have been addressed is by inviting participants who felt they had "problems so significant that [they had] wanted to stop communicating electronically but [had] found it a struggle to reduce or stop [their] online activities." Similarly, rather than relying on addiction discourse for self-identification, subsequent studies could ask if candidates identify with descriptions of problems associated with internet addiction (e.g., "struggling to reduce online interactions" or "being overly distracted from important matters").

4.8.3 Participant Conversion Rates

This study had a phased participant selection design: it first screened interested candidates, then eligible participants provided written contributions, and finally, some went on to be interviewed. While 40 candidates were initially interested in participating in the research, only 17 contributed through open writing, and seven had follow-up interviews. The following explores why the participant conversion rates were low.

After the initial ethical approval for this research was given in April 2019, the attempt to recruit participants was unsuccessful. To address this, the amended ethics application (approved in June 2021) proposed to recruit through Prolific, an online recruitment service. While this service offers pre-screening for registered service users, my full screening process was impossible. This limitation meant that candidates for this

study were screened in the Qualtrics survey (Appendix M). At the time, Prolific required payment for all contributions, even those involving screening. Since all candidates were paid for their time, they were incentivised to agree to be screened even if they knew they would be ineligible. This incentive may have increased the number of ineligible candidates completing the screening task. Another possible influence on the conversion rate is the choice of language in this study's recruitment materials (i.e., "compelled" and "compulsions"). This non-pathologising language may have encouraged persons without the characteristics of internet addiction to become unsuccessful candidates.

While all 17 written reflection contributors were invited, only seven agreed to a follow-up interview. Since they had already fulfilled the eligibility criteria, it would have been informative to know why these 10 participants declined to be interviewed. There are various potential reasons why they may have declined. Despite being offered alternative ways to be interviewed (video conferencing, voice, and messaging), the more interactive environment of an interview might have felt too much of a challenge to some participants. Perhaps a proportion of those who declined to be interviewed had more severe electronic communication challenges that made an interview unappealing. Since their experiences could have been informative, a future study could have offered the option of contributing in writing to a questionnaire based on the current interview schedule. While this would not have the flexibility of interviews, it would have enriched the data pool.

Another consideration that arises from the use of both mental health (CORE-10, Barkham et al., 2013) and internet addiction measures is that their combination may have

excluded persons experiencing severe internet addiction problems that were affecting their mental well-being. While the mental health measure was intended to protect participants from undue emotional distress, it may have resulted in a low conversion rate by ensuring the study recruited only participants with moderate internet addiction issues. Similarly, the use of non-pathologising language may have encouraged people to volunteer but ultimately be excluded due to a low score on the internet addiction measure. Also, persons with severe difficulties may have been excluded due to their concerns about an in-depth interactive exploration with a trainee psychologist. If these explanations are correct, PEC-M may reflect the experiences of only those with moderate difficulties. However, since information about participant choices is unavailable, it is impossible to determine the reasons for the low conversion rates definitively. Future studies might benefit from recruiting from platforms with no incentives for screening, offering additional options for providing more data and collecting information about participants' reasons for not being interviewed.

4.9 Is PEC-M an Internet Addiction Theory?

While the current study avoided pathologising language, its use of the GPIUS-2 as a screening tool (Caplan, 2010a) aimed to ensure those participants recruited had internet addiction characteristics. Despite some participants not identifying with internet addiction terminology, all those included in the final analysis scored over 69 on the GPIUS-2 and so had traits commonly associated with internet addiction. However, the absence of established diagnostic criteria for internet addiction means that even from a realist perspective, it is impossible to say if the participants were "addicted" to computer-

mediated communication based on their scores. The lack of criteria also means that the measure of internet addiction for inclusion in this study had an arbitrary threshold. While this points to a methodological dilemma around using the GPIUS-2 measure (or a similar measure of internet addiction), its use in this study could be considered pragmatic since it increased the chances of gathering data relevant to the investigation.

Since it is beyond the scope of this research to determine thresholds for addiction, this study cannot confirm whether the participants had internet addiction and by extension, it cannot definitively confirm whether the theory derived from participant data constitutes an internet addiction theory. It can, however, consider how PEC-M aligns with an established internet addiction model.

Aspects of PEC-M are consistent with Griffiths's (2005) characterisation of internet addiction (IA). He conceptualises IA as a behavioural addiction with associated experiences (see D'Arienzo et al., 2019). Aspects of both the present theory and participants' individual contributions are consistent with all five criteria offered by Griffiths: 1) "mood modification" broadly corresponds to the process of reducing suffering through electronic communication; this outcome was achieved when participants successfully modified their experiences of electronic communication to solve problems (i.e., by distracting themselves from an area of suffering or by curating preferred social interactions); 2) "tolerance" corresponds to the person's adaptation to electronic communication captured by DMR; 3) withdrawal symptoms were reflected within the subcategory "struggling to solve problematic electronic communication"; 4) "conflict" corresponds to the negative psychological and relationship consequences

emanating from online behaviour (as seen within the category "Experiencing Ambivalence about Electronic Communication"); 5) "Relapse" is also reflected in the category, "Struggling to Solve Problematic Electronic Communication." Also, within PEC-M, cycles of re-engagement were captured by the category "Being Pulled Back to Electronic Communication", and challenges in cessation were observed in "Struggling to Solve Electronic Communication." These processes naturally align with theoretical accounts of addiction. While many psychological difficulties can be understood in terms of re-engagement with problematic patterns and a struggle to stop negative cycles of engagement, PEC-M appears to be a theory of internet addiction due to its alignment with the expected features. Moreover, PEC-M provides an empirical solution to Thomson et al.'s (2021) concern about the limitations of understanding online addiction by drawing on existing frameworks. Nevertheless, further investigations could help establish the status of PEC-M as a theory of internet addiction.

4.10 Methodological Reflexivity

When undertaking the research project, I engaged in reflexivity as a foundational research process that continued throughout. Since reflexivity requires researchers to consider how their own lived experiences and expert knowledge might alter the direction and outcomes of the research, I recorded these potential biases in memos and reflexive writing. In this section, I reflexively explore my relationship with internet use and how it changed across the research project.

When considering this research topic in 2017, I was struck by how inconsistencies in definitions, measurements, and conceptualisations were impeding the development of

psychological knowledge. I felt there was an opportunity to bring clarity to the subject through developing a theory grounded in personal experiences. I planned to investigate the phenomenon through a grounded theory method but was unsure what paradigmatic assumptions would be most appropriate. While I am comfortable with research with a constructivist-interpretivist ontology, I initially struggled to engage with Internet addiction in constructivist terms. It felt like a hangover from my previous undergraduate training around the biology of addiction. Moreover, I found myself dissatisfied with how the literature was framing internet addiction as a set of fixed criteria that appeared similar to substance abuse models. I was uncomfortable with the rigidity of the approach and how it was missing the nuance of individual experiences. This prompted me to use a constructivist approach to explore internet addiction from the perspectives of those experiencing it. I decided to align the research topic with counselling psychology's relational focus by studying compulsions in online interactions. I called this problematic electronic communication.

In the early stages of data collection, I found that participant accounts aligned with what I expected. While I derived some comfort from the content validating my assumptions, I was also concerned that I might simply confirm other findings. This experience of confirmation was disrupted by a participant whose experience contradicted my previous interviews. In my text interview with Faye, I was initially concerned that I felt unable to determine her mental state. While this was Faye's preferred communication method, I felt disconnected and disempowered during the interview. My disconcerting experience was compounded by Faye's account starkly contrasting with my expectations;

however, these contrasts made her contributions invaluable. While I felt quite confused after her interview, I am grateful to Faye for sharing experiences that challenged those early theoretical ideas. This resulted in me developing my analytical thinking and deepening my understanding of PEC. Her contribution challenged my unconscious assumption that connecting with others online was reinforcing because it generated desirable experiences (pleasure or amusement). By performing a negative case analysis on Faye's apparent contradictions (e.g., her preference for impersonal, unemotional interactions), I developed new categories that deepened the scope of the developing theory. Generally, contradictions are welcomed in grounded theory since these can lead to the development of new perspectives (see Charmaz, 2014). Since a grounded theory attempts to capture both the commonalities and the divergences within the data, a detailed theoretical picture of a phenomenon (in this case, as understood by participants) can be constructed. It was only through engaging with Faye's data that the importance of negative case analysis became clear to me.

Another important shift in my relationship with PEC is the recognition that ambivalence may impede a person's assessment of their online behaviour. It points to the importance of normalisation and the necessity of online connectivity, which has caused me to reflect on my own areas of ambivalence. I began to realise how interwoven my own life is with digital and communication technologies. While I do not currently consider myself to have PEC, I found many of the theory elements presented here relevant to my life. For example, I have started considering how messaging

asynchronicity provides more time to consider my answers and less pressure to reply immediately.

Another important shift in my thinking about PEC was the recognition that online social interactions were not just reinforcing electronic communication but were actively modifying it. This was conceptualised as digitally modified relating, a form of cyber-socialisation where participants' adaptations to enhanced online social experiences had altered their perceptions of offline relationships. This concept led me to consider whether a key indicator of PEC is the contrast between online and offline interactions. The preferences expressed by the participants appeared to reflect a social recalibration that favoured online interactions over offline interactions.

At the end point of this research, I have noticed myself feeling uncomfortable with the term *Internet addiction*. As the term is engrained in academic discourse *on Internet addiction*, I take a pragmatic approach when discussing it alongside PEC. While it is a useful entry point into discussions, I am concerned that it oversimplifies a complex, adaptive process.

It is important to recognise that potential biases may arise from my identity as a white, cis-gendered male trainee psychologist. Notably, research has historically privileged white, cis-gendered, male accounts of phenomena despite actively welcoming diverse experiences. It is essential to acknowledge how power imbalances can shape knowledge generation. Harding's (2016) standpoint theory offers a critical view of how the perspectives of marginalised people (e.g., women) are filtered through power structures in ways that perpetuate privileged perspectives. When looking at the

knowledge production within this research, while I have attempted to reflect the constructions of participants fairly, I acknowledge that my elevated hierarchical status may unconsciously bias me towards perpetuating my privilege and being less sensitive to diverse experiences. Also, for marginalised persons, I acknowledge there may be barriers to sharing their data due to them being othered or silenced by privileged others who may look and sound like me.

The present research has encouraged me to think more about the importance of online relationships for clinical work. My clinical practice has been enhanced by acknowledging how the Internet and electronic communication are interwoven in clients' lives. This understanding suggests that assessment and formulation should include exploring a person's online life. Although in the context of psychotherapy, there are useful contributions from Balick (2018), Weitz (2018) and Suler (2015), I feel practising therapists and psychologists should be familiar with the potential relevance of online life on psychological processes and therapy effectiveness.

4.11 Research Quality and Credibility

This research had no external funding or commitments. Since it formed a significant part of a doctoral training programme, quality assurance processes were structured by City, University of London. The training processes are intended to produce doctoral-level research. They include developing the research over a long period, considering ethics, undertaking a rigorous ethical approval process, and receiving continuous academic feedback. These processes culminated in this research becoming a deeply considered project where quality was prioritised.

While qualitative research has been criticised for being less methodologically rigorous than quantitative research (see Noble & Smith, 2015), such concerns often reflect the contrasts in underlying epistemological and ontological assumptions (Yadav, 2022). The most substantial claims about objective reality are typically made by research that assumes realism when interpreting data. Since this research assumed an interpretivist-constructivist paradigm, quality criteria for qualitative research should be used to assess it. There are many criteria for assessing qualitative research (see Yadav's recent review), so the following has selected a few relevant perspectives to evaluate quality.

Stenfors et al. (2020) offer five quality criteria for assessing qualitative research: reflexivity, dependability, confirmability, transferability, and credibility. This research demonstrates its commitment to reflexivity since it is embedded throughout all research processes. In this thesis, I have endeavoured to outline my role in co-constructing knowledge. This research also demonstrates dependability by providing a detailed account of the procedures followed, which would allow other researchers to undertake a similar study. The research is highly confirmable due to its links to participant data, coding, and findings. The use of quotes allows readers to determine how the presented theory is grounded in participant accounts.

A priority of this research was to produce a useful theoretical account of PEC, demonstrating its commitment to the transferability of findings, where the PEC-M explains how a person experiencing communication compulsions may navigate electronic communication. PEC-M provides an internet addiction theory where electronic communication is characterised by compulsions. While its compatibility with well-

established theoretical frameworks indicates the transferability of the model, the ultimate test for transferability is in determining how applicable the findings are in clinical settings.

Stenfors et al. (2020) also point to the criteria of credibility, where the findings are considered in terms of their plausibility and trustworthiness. They claim credibility is demonstrated by the research processes' coherence (i.e., consistency and logical connection). This study's credibility is demonstrated by the clearly outlined logical connections between the research question, paradigmatic assumptions, methodological approach, data analysis and the resultant model. Charmaz (2014) explores the concept of constructivist credibility, which refers to aligning the research processes with four standards: transparency, reflexivity, alignment, and co-construction. Since I have already explored reflexivity and transparency, and these are similar to Stenfors et al.'s concept of dependability, the following will focus on Charmaz's alignment and co-construction criteria. In her explanation of "alignment," Charmaz points to the importance of findings that are aligned with the participants' experiences. My commitment to alignment can be seen in my integration of Faye's experiences within PEC-M despite her not identifying as having PEC with having "compulsions." After deciding within supervision that her data should be included in the analysis, I increased the research's alignment by integrating Faye's experiences that appeared to contradict prior participants' contributions.

By adopting the constructivist-interpretivist paradigm, this research explicitly demonstrates its commitment to constructivism. It assumes Charmaz's (2014) understanding of research emerging from co-construction between participants and research, where the researcher's involvement is inherently interpretative and influential

on research processes. I used memo writing and reflexivity to record my thoughts, reactions, theories, and potential biases to account for my role in knowledge generation. Co-construction occurred where abductive reasoning was used; this process involved cycling between identifying patterns observed in the data and formulating the most probable explanations for those patterns (see Timmermans & Tavory, 2012). While co-constructing the research results, I carefully interpreted the data in ways grounded in the original data. Memo-writing and reflexivity gave me a nuanced understanding of how my psychological material might shape the research process and results. By endeavouring to prevent any unfounded interpretations at any point in the research, each participant's account of their experiences can be understood in terms of the final theory.

The research quality of this study may have been affected by its use of an abbreviated form of grounded theory (as described by Willig, 2013). Despite the PEC-M being derived from a limited data pool, Willig suggests that abbreviated versions of grounded theory can compensate for the limited data by going into more depth within that data pool. However, since this is compensatory, it cannot fully account for limited research data. While using an abbreviated grounded theory method is not ideal, it is considered acceptable when responding to limited resources and time constraints (Willig). Since theoretical saturation was not achieved, there is likely to be more to understand about PEC.

The use of triangulation within the data collection stages increased the credibility of this research. Gathering data through three different approaches (freely written text, textual interviews, and video interviews) enhanced the breadth of the data by including participants who might not have agreed to be interviewed. As this research focuses on

digitally mediated relating and communication, offering participants choices around how they might contribute to the study allowed them to choose their most comfortable way to express themselves. This enhancement of breadth may have further compensated for the limitations arising from this study's use of an abbreviated grounded theory.

4.12 Use of Qualitative Software Packages

Another potential influence on the development of this research was my use of software for storing and organising research data. ██████████████████ I felt it would be helpful to organise the qualitative data using software (NVivo). Subsequently, I organised the emergent codes and categories within MindManager 9 (a commercial mind mapping program). MindManager 9 enhanced the processes of constant comparisons and negative case analysis. Since no automated data processing was undertaken, the impact of using software is expected to be minimal.

4.13 Strengths of this Research

The PEC model presented here demonstrates several strengths. It provides a processual framework for understanding how exposure to online relating may alter a person's relating experiences and potentially impact other relationships. By using a qualitative research method, this research addressed the relative dearth of knowledge based on ideographic approaches investigating PEC as experienced by adults in the UK. The constructivist grounded theory method allowed this research to base its conceptualisation of PEC on subjectivities and allow the unique voices of participants to come through and contribute to the explanatory theory. I attempted to connect closely with participant stories while remaining aware of the contexts of their constructs and,

through this, demonstrated quality by observing the principles of constructivist grounded theory (as outlined by Charmaz, 2014). While the results are compatible with previous research, the presented findings are not simply confirmational; they expand previous empirical knowledge that may serve theorists, researchers, and therapists.

This research offers a coherent, grounded theory of problematic electronic communication that outlines a person's motivations for electronic communication, engagement with electronic communication, development of problems, and solving problems. Since adult experiences of internet addiction have received limited attention in the UK, the findings presented here may prove helpful to the development of therapists' online cultural competence and the processual understanding of internet addiction problems.

The emergent theory of PEC offers the following insights:

- The Development of PEC: A processual framework that delineates the development of a cycle of re-engagement and a growing preference for electronic communication. While it includes Digitally Modified Relating, it provides a unique process-oriented account of how PEC may develop in adults in the UK.

- Digitally Modified Relating (DMR): A novel concept capturing how individuals adapt to electronic communication. This process may contribute to the development of PEC (characterised by compulsions).

- Reaching a Turning Point: A pivotal moment where a person recognises their electronic communication is problematic.

Due to my counselling psychologist training, I brought a unique set of skills to the investigation of problematic electronic communication. Since counselling psychology training emphasises awareness and ethical use of the therapeutic relationship for effective interventions, I was attuned to aspects of participant accounts highly relevant to psychological therapies.

Because this grounded theory approach focused on a limited number of participants, it went into more depth in their accounts, and the process of co-construction produced meaningful findings that may be informative for several areas. By developing a tentative grounded theory, this research provides a framework for other researchers to explore the indicated processes and overall model.

4.14 Limitations and Future Research Directions

While the research does not answer other questions, the findings suggest other potential research directions. Since this research was not without limitations, certain improvements are indicated for future studies.

The current study had a small sample size, with 17 written submissions and only seven interviews. While this permitted the development of a theory of problematic electronic communication, the full spectrum of experiences was probably not captured in the final theory. This limitation is evident by only a few participants sharing their recovery journeys. By recruiting a larger, more diverse group of participants, the resultant

grounded theory would be more representative of the phenomenon. An improved recruitment strategy would initially try to recruit from platforms without incentives for screening and aim to recruit persons who had recovered from a challenging experience of PEC. Future studies might avoid the potential of excluding candidates with severe internet addiction experiences by not combining mental health and internet addiction measures. Instead of using measures to screen participants, future studies could allow participants to decide how safe *they* feel to participate. This approach would reduce the potential that combining a mental health measure with a measure of internet addiction might exclude persons experiencing severe internet addiction problems. Instead, a single internet addiction measure could be used to determine severity. It might also be preferable to ask for the internet addiction measure to be completed after collecting qualitative data since this would reduce the priming effects of internet addiction discourses from the measure.

The recruitment strategy might also consider how to navigate the terminology used in recruitment where the severity of participant experiences can co-exist with language that reflects the severity of difficulties. For instance, a new study might invite participants who identify with a "struggle to reduce" online interactions or who feel they have "recovered from excessive online communication." Such changes might help to address the self-selection bias that might explain the low participant conversion rates observed in the current study.

Using a full grounded theory method would introduce opportunities for refocusing on aspects of PEC. While the full grounded theory would require more resources and

recruit more participants, it would permit a more explorative approach to the phenomenon where additional or returning participants provide further opportunities to develop the scope and depth needed to reach theoretical saturation.

While the current study could not avoid the influence of the pandemic context, conducting the research immediately after COVID-19 lockdowns may limit the transferability of PEC-M. Transferability issues are suggested by the participants' experiences of a unique sociocultural context. While a future grounded theory study could produce a theory less influenced by a post-lockdown context, there is also scope for other research designs to explore the validity of PEC-M as a theory.

As with much qualitative enquiry, the generalisability of this research is limited. Despite this, further research could not investigate the findings presented here to see if there are additional predictive, diagnostic, or therapeutic benefits.

It did not prove easy to recruit participants for this research. This challenge might have reflected ambivalence around the issue that complicated their assessment of problematic electronic communication as a problem.

Future research might focus on one of the concepts from the current study that may be relevant to general internet use. These concepts include the possibility that the affordances of the Internet might allow people to curate desirable online relating experiences that could be considered *supernormal online relating*. Connected to this is *Digitally Modified Relating* (DMR), which may be similar to cyber socialisation. DMR may result in a person developing a preference for the curated rewards and comforts

available through non-problematic electronic communication. This study's participants shared their experiences of online relating as a reinforcing process that drew them back to electronic communication in search of further solutions for suffering. Research directions could focus on PEC-M's turning point, where ambivalent experiences may eventually give way to the acknowledgement of significant problems.

4.15 Contribution to Psychological Knowledge

This research potentially enhances knowledge about internet addiction by providing a theory of problematic electronic communication (PEC-M). It provides a processual account of how people may navigate electronic communication. Initially, they adaptively used electronic communication to solve problems and reduce their experiences of suffering through the flexibility of online social spaces. However, by adapting to electronic communication experiences, through the process of digitally modified relating, the person may develop distinct experiences of online and offline communication. Since online communication can provide preferred experiences, the person may find themselves repeatedly drawn back to electronic communication and develop a cycle of problematic re-engagement. Due to experiencing both positive and negative experiences and a sense of it being normal behaviour, they may experience ambivalence and a struggle to identify electronic communication as problematic. Only when they reach a turning point, where their online behaviour threatens valued parts of their life, do they recognise electronic communication as a problem they attempt to solve. The effortful process of attempting to reduce electronic communication may be a struggle. However, they can eventually

rebalance their social worlds with a conscious effort by resisting compulsions and prioritising face-to-face relationships.

PEC-M may explain the relationship between electronic communication, psychological needs and human suffering. In addition, it highlights how participants' exposure to supernormal online relating may feed into digitally modified relating experiences and the development of PEC.

The presented model suggests factors that might be considered warning signs or indications of problems. While many of these echoed Caplan's (2010a) theory of Problematic Internet Use (i.e., barriers to face-to-face relating, negative impacts from electronic communication, and a preference for social interaction), other indicators were found that may be psychologically relevant. These included exposure to supernormal online relating, a tendency to generate rewarding interaction (e.g., for validation, approval, support, or sympathy), and feeling trapped in a cycle of online engagement.

While this research specifically focused on problems the participants were experiencing around electronic communication, it may also contribute to psychological knowledge about internet addiction and problems associated with internet use. It may prompt revisions to existing theories or inspire investigations into the applicability of this knowledge to others with similar problems. The knowledge presented here may also inform social strategies to protect vulnerable persons from experiencing the problems described.

4.16 Implications for Cyberpsychology

The extant cyberpsychology literature provides another vital reference point for the present research findings and theory (e.g., Aiken, 2016). The model of PEC and the concept of digitally modified relating suggest that particular kinds of online communication may lead to transformed experiences of relating and relationships. While my analysis was probably influenced by my counselling psychology training, which acknowledges the importance of relationship quality, the findings suggest that the psychological processes accompanying cyber-socialisation (Aiken, 2016) might be present in problematic electronic communication as digitally modified relating. This research also highlights how adaptations to the norms and expectations of online contexts could impair a person's recognition of their electronic communication as problematic.

The participants' transformative experiences also echoed McLuhan's (2012) theory on the effects of media on culture and individuals. McLuhan theorised that the characteristics of each medium for communication were social contexts with implicit underlying messages; he contended that messages from communication mediums have the power to transform people and cultures. Boyd (2014) shows the contemporary relevance of this theory in her account of how teenagers' relationships were shaped by exposure to social media and their use of it. The present theory extends this by articulating how people may acclimate to and actively modify their online relating experiences.

4.17 Implications for Counselling Psychology

Counselling psychologists may benefit from this new knowledge in multiple ways. Firstly, this research provides an idiographic exploration of individuals who have experienced problems with electronic communication, which may inform clinical practice (Piccirillo & Rodebaugh, 2019). The co-constructed model, PEC-M, specifically highlights how participants felt online communication altered their experiences of face-to-face relating (through the process of digitally modified relating). PEC-M offers counselling psychologists a foundation for clients experiencing electronic communication issues.

The model suggests that electronic communication problems may be invisible to people until they become impossible to ignore. Some clients' online lives may be relevant to understanding their presenting problem, even when electronic communication is not problematic. If online relating contributes to problems, it may not be immediately evident. If the client or therapist experiences online relating as just another part of normal life, this may obscure its importance in therapy.

Recent events suggest that online relating will become increasingly important to counselling psychology. Over the last few years, innovations in artificial intelligence (AI) have resulted in companies like OpenAI offering sophisticated natural language models that can interact with the public in human ways. Generative AI chatbots can offer people sophisticated interactions that can look, sound and feel like interacting with another human being. Large language models like this can be asked to role-play characters and could fulfil a person's needs in ways human beings would not. GPTs ("generative pre-

trained transformers") never get tired and always try to interact in satisfying ways. They can be available 24 hours a day to offer support. They will not take offence and can provide the experience of a safe, accepting social space. These features mean that GPTs and similar technologies can offer people new sources of supernormal online relating that could negatively affect some people. As AI and GPTs are new technologies, there is limited research into their psychological ramifications; most research concentrates on opportunities for AI-assisted therapy (e.g., Garg et al., 2023). The theory of PEC and DMR suggests that counselling psychologists should investigate the ramifications and complexities of electronic communication and artificial intelligence. As these technologies become more relevant to human lives and relationships, their relevance to the work of counselling psychologists increases. Research can further psychological knowledge, determine their relevance to therapeutic work, and explore what it means to be human in increasingly complex contexts.

4.18 Conclusion

This research investigated persons who self-identified as having a problem with electronic communication. The grounded theory method used for this research provides a credible constructivist account of problematic electronic communication. The theory, co-constructed from participant data, presents the social and psychological processes involved in starting, sustaining, and ending a problematic relationship with electronic communication. While it used an abbreviated grounded theory and is paradigmatically limited in its claims, the theory of problematic electronic communication represents an original, substantive contribution to psychological knowledge.

PEC-M outlines how participants navigated electronic communication to solve their problems, but this led to a preference for online relating. The model explains how participants sought to decrease their experiences of suffering through digital communication technologies. The affordances of electronic communication allowed participants to control their relational experiences and cultivate preferred forms of electronic communication. While this often reduced their perceptions of suffering, some participants shared how their electronic communication experiences had psychologically changed them. The malleability of electronic communication meant that some participants could cultivate supernormal online relating experiences that satisfied their relational needs more than face-to-face relating. Being exposed to supernormal online relating experiences, however, may have led some participants to develop a preference for electronic communication. This may have resulted in negative consequences that, for some, were so significant that a problematic relationship with electronic communication was undeniable.

The model of problematic electronic communication presented here provides a conceptualisation of online problems that is consistent with many extant findings in the areas of cyberpsychology and internet addiction. It offers a new processual conceptualisation of internet addiction that shows how the flexibility of online interactions may feed into the development of preferred forms of communication that can reinforce re-engagement with electronic communication. It articulates how the curated experiences offered by online interactions may result in distinct experiences of online and offline social spaces. The model also explores how someone with PEC may struggle to

acknowledge the problem due to mixed experiences, cultural norms, and expectations. Only when they experience significant threats to valued parts of life do they reach a turning point where they can acknowledge and solve the problem.

PEC-M offers new tools for counselling psychologists to understand the psychological problems connected with digital communication. As a framework, PEC can accommodate other conceptualisations of online problems like internet addiction (Kuss et al., 2014), the cyber-self (Aiken, 2016), and UGT (Katz et al., 1973). However, it also provides significant advances by explaining PEC in terms of motivations, processes, and challenges.

While the PEC-M offers a primer for understanding clients with electronic communication problems characterised by compulsions, it also provides a useful framework for understanding clients experiencing online problems feeding into other presenting issues. This research also points to the invisibility of PEC due to the normalisation of electronic communication in Western cultures. Suppose PEC is invisible until it is undeniable. In that case, it becomes even more important to proactively consider a client's online life, develop online cultural competence, and understand the potential significance of PEC and DMR. The PEC-M and concept of DMR extend current perspectives in ways that may reinvigorate psychological research and set a solid foundation for clinical work with persons experiencing problematic electronic communication and internet addiction.

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Appendices

Appendix A: Recruitment Advert

Title: Research into Compulsions to Text, Message and Chat Through Video/Audio.

Description of what participants will be doing in the study:

This is research into chat compulsions. It is being done by a doctoral student, studying at City University in London. It has a written contribution stage (this stage) and later it has an interview stage (see below).

The first stage of this research (this stage):

-       In this first stage, you will be informed about the research, and your informed consent will be asked for.

-       You will be asked to complete some short forms to work out if it is appropriate to ask you to do this research.

-       You will then be asked to write about your experiences around texting, messaging and video chatting.

-       This research aims to understand the social and psychological sides of *compulsions* when texting, messaging and voice/video chatting.

-       The first stage of the research will ask you to write about your experiences.

-       It is hoped that you will provide detailed descriptions of the social and psychological sides of chatting compulsions.

The second stage of this research (future potential stage):

-       As a follow-up to this stage, there will be a second stage where some but not all of the contributors to the first stage will be invited to undertake an interview over the internet (through messaging, audio, or video chat).

-       You will get a chance to indicate (in the first stage) if you would be open to being invited to take part in a future second stage.

-       Interviews will be a way to find out more about participants' experiences.

-       You can choose not to do an interview without any disadvantage to you.

-       Interviews are expected to last from 45 to 90 minutes.

-       Interviews will be transcribed and used to help build a picture of chatting compulsions.

-       Interviewees will be given payment for generously sharing their experiences and giving there their time.

Appendix B: Participant Information Sheet

Information about this Research:
"Compelled to Communicate Electronically"
City Ethics Reference Code: ETH2021-2180

Before you decide whether you would like to take part it is important that you understand why the research is being done and what it would ask of from you.

What is the purpose of the study?
This research aims to understand people who feel compelled to communicate through texting, messaging or voice/video chat over the internet. It will develop a theory of how people are compelled to communicate electronically. The research should be completed by March 2021. The finished report is expected to be completed by September 2022.

Why have I been invited?
You have been invited to be a participant because you responded to an online invitation to share your experiences of compulsions around electronic communication. If you consent to talk about any compulsions, this may be useful for understanding the phenomenon.

Do I have to take part?
No, this research is completely voluntary. Even if you consent, you can still withdraw your participation afterwards and ask that your data is not used. If you wish to withdraw your data from the study, you must do this before the analysis takes place. If you choose to withdraw from this study, doing so will not result in any disadvantage or penalty. For this approach, contributions are analysed very quickly. This means you will need to tell the researcher within 24 hours if you do not want your data used.

What will I do next?

- *Read on to find out more about this research.*
- *After reading about this research, feel free to email me if you want me to answer any questions about this study.*
- *To ensure that you are the type of person this research is looking for, you will be asked to complete two short questionnaires. These would not take long to complete (no writing involved). One will ask about your mood and the other will ask about your experiences of texting or online communication.*
- *If you are a good fit and you are happy to proceed, you can give your consent electronically.*
- *Then you would be asked to write about your experiences of compulsions with texting/messaging/voice or video chatting.*

Optional Interview Stage

There is an optional interview stage for this research. The written contributions will help me develop questions for interviews.

- *You may be offered an online interview that can take place over Zoom or Teams, or messaging using text.*
- *This interview is optional.*
- *As this is a more in-depth interview, I will invite you for a screening phone call. This short friendly call would just be to ensure you are a good fit for the interview.*
- *We will arrange the interview which may last from 45 to 90 minutes.*
- *Interviews will be sensitively done.*
- *Interviews will be audio recorded.*
- *You can freely decide not to take part in an interview without any disadvantage or penalty.*

What happens to my data?

The text and interviews will be analysed to try to find patterns in people's experiences. The researcher will try to produce a theory that could help us understand compulsive texting and online communication.

About the optional interview:

The interview will ask you to share your experiences with and around "electronic chat". Although this interview has set questions, the researcher will invite you to talk about what you think is important.

What are the possible disadvantages and risks of taking part?

This research will explore personal areas that some people may find difficult. It is not expected that such an exploration would cause distress, but it is possible. Fortunately, the researcher is trained in counselling psychology and will prioritise your wellbeing. If anything has distressed you, please let the researcher know.

What are the possible benefits of taking part?

In doing this research, you may discover things about yourself that you find helpful. Taking part may also help people who have similar experiences to you. This research aims to learn from you and then educate therapists about the area.

Payment

There is a "thank you" payment given for your contribution here. Details of this will have been given to you before starting this survey (£7.95/hr). If you do not have those details, please get in touch with me and I will tell you how to get paid for participation. For interviews, you will be paid by emailing you a voucher code (e.g., for Amazon or Apple; you can choose) of the value £15.

Will my taking part in the study be kept confidential?
Absolutely. Only the researcher will access your data. All written accounts, audio recordings and transcriptions will be anonymised (removing identifying information), kept confidential and will be secured in a locked filing cabinet or password-protected computer. All data will be held for 10 years in line with City University's data storage guidelines. After this time, data will be destroyed. With any research, there are occasionally reasons to break confidentiality and anonymity. This would only happen if the researcher acted to protect someone from harm.

Use of your words in the research report
With your permission, quotes from you may be used in the final write up. Quotes will not identify you and would only be used to help explain the research findings.

What will happen to the results of the research study?
The final research report will be published by City University London. Later, it could be published in a journal and or presented at a psychology conference. You can request a copy of the final research paper or an easy-read summary of the results. Please let me know if you would like these sent to you.

Who has reviewed this study?
This study has been approved by City University London Research Ethics Committee, ethics code: ETH2021-2180.

Further information and contact details:
David Hull (doctoral student). Email: ███████████████
OR
Emma Hollywell (project supervisor). Email: ███████████████

Data Protection Notice to be provided to all research participants
What are my rights under the data protection legislation?
City, University of London is the data controller for the personal data collected for this research project. Your personal data will be processed for the purposes outlined in this notice. The legal basis for processing your personal data will be that this research is a task in the public interest, that is City, University of London considers the lawful basis for processing personal data to fall under Article 6(1)(e) of GDPR (public task) as the processing of research participant data is necessary for learning and teaching purposes and all research with human participants by staff and students has to be scrutinised and approved by one of City's Research Ethics Committees. Further, City considers the processing of special category personal data will fall under Article 9(2)(g) of the GDPR as the processing of special category data has to be for the public interest in order to receive research ethics approval and occurs on the basis of law that is, inter alia, proportionate to the aim pursued and protects the rights of data subjects.

The rights you have under the data protection legislation are listed below, but not all of the rights will be apply to the personal data collected in each research project.

- *right to be informed*

- *right of access*
- *right to rectification*
- *right to erasure*
- *right to restrict processing*
- *right to object to data processing*
- *right to data portability*
- *right to object*
- *rights in relation to automated decision making and profiling*

For more information, please visit www.city.ac.uk/about/city-information/legal

What if I have concerns about how my personal data will be used after I have participated in the research?

In the first instance you should raise any concerns with the research team, but if you are dissatisfied with the response, you may contact the Information Compliance Team at dataprotection@city.ac.uk or phone 0207 040 4000, who will liaise with City's Data Protection Officer Dr William Jordan to answer your query.

If you are dissatisfied with City's response you may also complain to the Information Commissioner's Office at www.ico.org.uk

What if there is a problem?

If you have any problems, concerns or questions about this study, you should ask to speak to a member of the research team. If you remain unhappy and wish to complain formally, you can do this through the University complaints procedure. To complain about the study, you need to phone 020 7040 3040. You can then ask to speak to the Secretary to Senate Research Ethics Committee and inform them that the name of the project is: Grounded Theory of electronic communication compulsions.
You could also write to the Secretary, Anna Ramberg, at:
Anna Ramberg
Secretary to Senate Research Ethics Committee
Research Office, E214
City University London
Northampton Square
London
EC1V 0HB
Email: █████████████████████████

City University London holds insurance policies that apply to this study. If you feel you have been harmed or injured by taking part in this study you may be eligible to claim compensation. This does not affect your legal rights to seek compensation. If you are harmed due to someone's negligence, then you may have grounds for legal action.

Appendix C: Consent Form

Title of Study: Compelled to Communicate Electronically

Ethics approval code: [ETH2021-2180]   Please initial boxes

1.	I have had the project explained to me, and I have read the participant information sheet, which I may keep for my records.	
2	I agree to take part in the above City University London research project. I understand this will initially involve:	
	• Completing a questionnaire asking me about electronic communication compulsions	
	• Completing a questionnaire asking me about my mental well-being	
	• Providing a short written account of my experiences of about electronic communication compulsions	
3	I agree to take part the **optional** follow-up stages of this research involving:	
	• Being interviewed by the researcher over the internet	
	• Allowing the interview to be audio recorded	
	• Agreeing to further interviews should that be required (you can choose not to do this)	
4.	This information will be held and processed for the following purposes: To transcribe, analyse and develop a theory of compulsions around electronic communication The legal basis for processing your personal data will be that this research is a task in the public interest, that is City, University of London considers the lawful basis for processing personal data to fall under Article 6(1)(e) of GDPR (public task) as the processing of research participant data is necessary for learning and teaching purposes and all research with human participants by staff and students has to be scrutinised and approved by one of City's Research Ethics Committees.	
5.	I understand that the following special category data will be collected and retained as part of this research study: *data concerning mental health and associated behaviours.* City considers the processing of special category personal data will fall under: Article 9(2)(g) of the GDPR as the processing of special category data has to be for the public interest in order to receive research ethics approval and occurs on the basis of law that is, inter alia, proportionate to the aim pursued and protects the rights of data subjects and also under Article 9(2)(a) of the GDPR as the provision of these personal data is completely voluntary.	
6.	I understand that any information I provide is confidential, and that no information that could lead to the identification of any individual will be disclosed in any reports on the project or to any other party. No identifiable personal data will be published. The identifiable data will not be shared with any other organisation.	
7.	I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalized or disadvantaged in any way.	
8.	I agree to the arrangements for data storage, archiving, sharing.	
9.	I consent to extracts of my anonymised transcript to be used in the final written thesis.	
10.	I agree to extracts of my anonymised transcript to be used in publication.	
11.	I agree to City University London recording and processing this information about me. I understand that this information will be used only for the purpose(s) set out in this statement and my consent is conditional on the University complying with its duties and obligations under the Data Protection Act 1998.	
12.	I agree to take part in the above study.	

_____   _____   _____
Name of Participant   **Signature**   **Date**

David Hull   _____   _____
Name of Researcher   **Signature**   **Date**

When completed, 1 copy for participant; 1 copy for researcher file.

Note to researcher: to ensure anonymity, consent forms should NOT include participant numbers and should be stored separately from data.

Appendix D: Debrief Information

Title of study: **"Compelled to Communicate Electronically"** ***City Ethics Reference Code:*** ETH2021-2180

Thank you for taking part in this study on electronic chat! What follows is a debrief form that provides you with other information.

This research aims to use participant interviews to generate a theory of electronic communication compulsions. To achieve this, it attempted to find participants who could safely contribute to the study. After consenting to take part, participants were asked to complete a questionnaire about Problematic Internet Use. This was intended to check if they were a good fit for data gathering. If this suggested that the participant was appropriate for the study, they were invited to write about their experiences.

There will be a follow-up interview based on the answers you have provided today. You may be invited to take part in a paid interview.

It is hoped that the data from these interviews will inspire further questions that will help to illuminate the nature of electronic chat compulsions in additional interviews. When all the participant data is combined, a theory of electronic chat compulsions will be developed. This may provide valuable information to therapists helping people struggling with electronic chat.

If you would like to chat about this research, I can arrange to call you or email you back. Please let me know by emailing me: ▮▮▮▮▮▮▮▮▮▮▮.

Sources of support

Thank you for giving your time to this research. On this page, you will find sources of support that you may find useful.

If you feel that this research has raised concerns for you, you may find this list of possible support helpful to you.

•*Contact your* **GP**

•*If you have a* ***personal therapist****, contact them.*

•***Mind*** *(promoting views and needs of people with mental health problems): Tel: 0300 123 3393 (Mon-Fri, 9am-6pm).* www.mind.org.uk*.*

•***Rethink Mental Illness****. (Support and advice for people living with mental illness). Phone: 0300 5000 927 (Mon-Fri, 9.30am-4pm).* www.rethink.org*.*

•***Mental Health Foundation****. Provides information and support for anyone with mental health problems.* www.mentalhealth.org.uk*.*

*•Contact the **Samaritans***: http://www.samaritans.org/how-we-can-helpyou/contact-us . *Free phone call: 116 123. Email* jo@samaritans.org.

*•**SANEline**. Providing emotional support and advice. Tel: 0300 304 7000.*

*•Contact your local **psychological therapies service (IAPT)** using this NHS search engine:* https://www.nhs.uk/service-search/Psychological-therapies(IAPT)/LocationSearch/10008.

If you have concerns about this research that you wish to discuss with the researcher or the research supervisor, feel free to contact them through email:

*•Contact the **researcher**: David Hull. Email:* ▆▆▆▆▆▆▆▆▆▆▆▆

*•Contact the **project supervisor**: Carla Willig. Email:* ▆▆▆▆▆▆▆▆▆▆▆

Appendix E: Interview Schedule

<u>Initial Open-ended Questions:</u>

What was it like for you to write about your experiences of electronic chat?

How do you chat electronically? Does it happen through your mobile or computer; does it occur at certain times?

How would you describe your relationship with electronic chat? Has it changed over time?

With a focus on text/internet chatting, what would a typical day be like for you?

What do you experience when chatting electronically?

What kinds of thoughts and feelings do you tend to experience around your chatting activities?

What tends to lead up to those thoughts/feelings? What tends to follow those thoughts/feelings?

Has anyone influenced or affected your relationship with electronic chat?

<u>Intermediate Questions:</u>

What often happens before chatting electronically?

Are there certain situations that tend to happen just before you chat electronically?

What often happens during electronic chat?

What often happens after chatting electronically?

What thoughts and feelings do you experience around electronic chat?

Is there a connection between electronic chat and how you see yourself and others?

With a focus on text/internet chatting, what would a typical day be like for you?

What kinds of challenges, if any, do you experience with electronic chat?

What kinds of challenges, if any, do you experience with face-to-face communication?

If at all, have your thoughts and feelings about yourself and others changed since you started to chat electronically?

How does electronic chat currently fit into your life?

Have you noticed any positive or negative changes that may be related to chatting electronically?

Have you noticed changes in your relationship with electronic communication? How did it change?

Do you experience relationships differently when chatting electronically? If so, how?

OR: How is electronic chat different from face-to-face communication?

Does electronic chat help or hinder you in any ways? How?

What are the positives and negatives of electronic chatting?

What are the positives and negatives of face-to-face chatting?

Does electronic chatting provide solutions or cause problems?

Could you describe the most important thing you have learned from your experiences of electronic chat?

Are there things that push you towards or pull you away from electronic chat?

Ending Questions:

Can you tell me how your experiences and views of electronic chat have changed over time?

What advice would you give to somebody who was having similar experiences to you?

Is there something about your experiences that you feel this interview has missed?

Is there something else that I should know about you that would help me to understand your experiences of electronic chat better?

Is there anything that you might not have thought about before that occurred to you during this interview?

Is there anything else you would like to ask me?

Appendix F: Sources of support

Thank you for giving your time to this research. On this page, you will find sources of support that you may find useful.

If you feel that this research has raised concerns for you, you may find this list of possible support helpful to you.
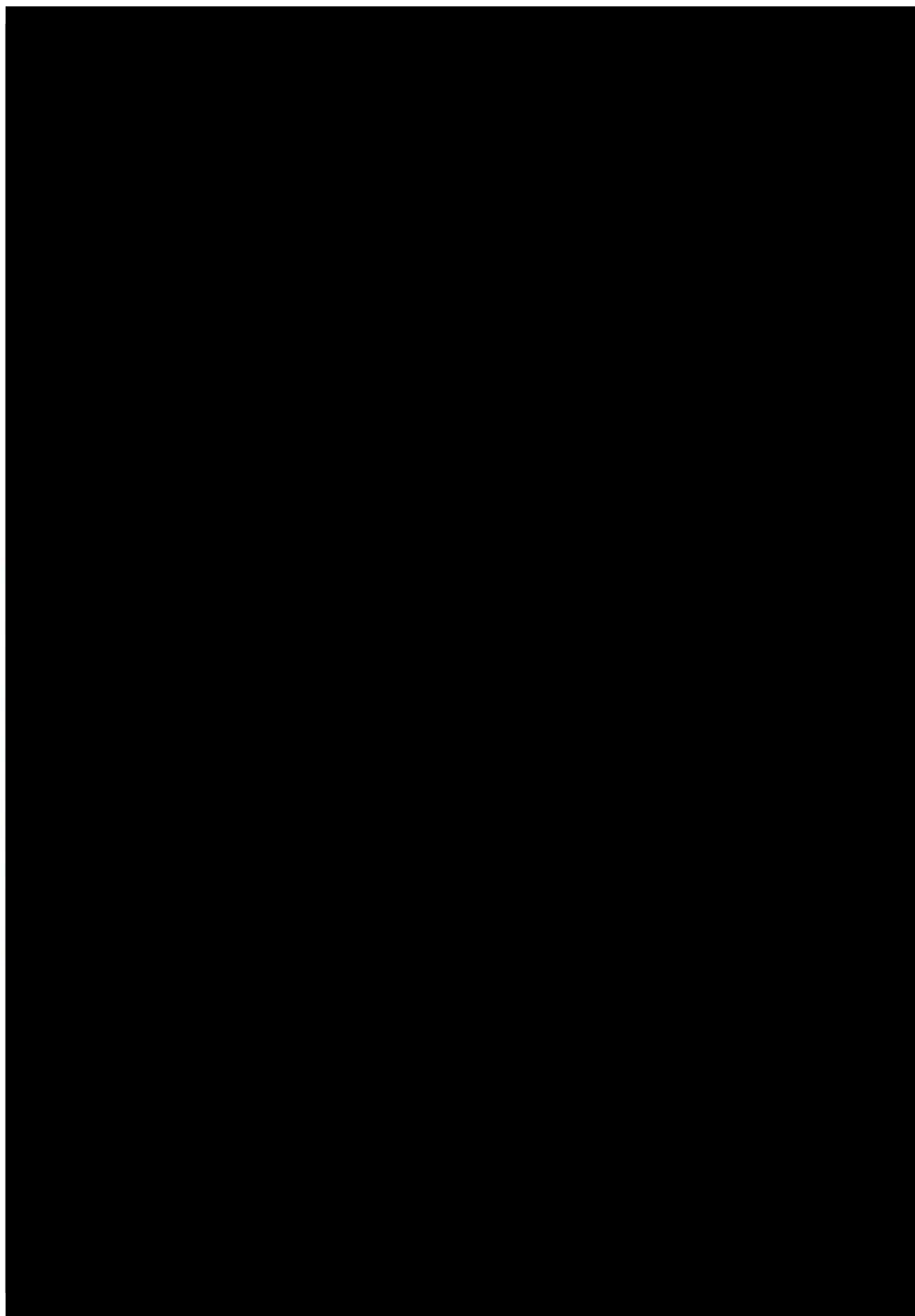
- *Contact your **GP***

- *If you have a **personal therapist**, contact them.*

- ***Mind** (promoting views and needs of people with mental health problems): Tel: 0300 123 3393 (Mon-Fri, 9am-6pm). www.mind.org.uk.*

- ***Rethink Mental Illness**. (Support and advice for people living with mental illness). Phone: 0300 5000 927 (Mon-Fri, 9.30am-4pm). www.rethink.org.*

- ***Mental Health Foundation**. Provides information and support for anyone with mental health problems. www.mentalhealth.org.uk.*

- *Contact the **Samaritans**: http://www.samaritans.org/how-we-can-help-you/contact-us . Free phone call: 116 123. Email jo@samaritans.org.*

- ***SANEline**. Providing emotional support and advice. Tel: 0300 304 7000.*

- *Contact your local **psychological therapies service (IAPT)** using this NHS search engine: https://www.nhs.uk/service-search/Psychological-therapies(IAPT)/LocationSearch/10008.*

If you have concerns about this research that you wish to discuss with the researcher or the research supervisor, feel free to contact them through email:

- *Contact the **researcher**: David Hull. Email:* ▮▮▮▮▮▮▮▮▮▮▮

- *Contact the **project supervisor**: Carla Willig. Email:* ▮▮▮▮▮▮▮▮▮

Appendix G: Generalised Problematic Internet Use Scale 2 (GPIUS, Caplan, 2010).

Question:	Definitely disagree		Neither agree or disagree		Definitely agree

Appendix H: CORE-10 Measure (Barkham et al., 2013)

Appendix I: Online invitation

Do you feel compelled to chat over the internet or text?
Does this impact on your life?
Would you like to improve understanding about this?

I am a trainee counselling psychologist studying at City, University of London (located in the UK). I am looking for people in the UK who think they may be compelled to communicate with others electronically (online or on mobile). If you think you might be compelled in this way, perhaps you could write about your experiences for the research. If you would like to contribute, can you email me and I can send you more information. After people have provided written information, I will then start conducting interviews with a few of those compelled to communicate electronically. If you think this describes you and you are interested in taking part (to provide a written description of your experiences and/or have an interview) please email me on my university email address ▮▮▮▮▮▮▮▮▮▮▮ and I'll tell you more. Thank you.

This study has been reviewed by, and received ethics clearance from City, University of London, Psychology Department Research Ethics Committee. Ethics approval code: ETH1819-0122. If you would like to complain about any aspect of the study, please contact the Secretary to the University's Senate Research Ethics Committee on 020 7040 3040 or via email:

▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

Internet addiction?
Compelled to chat over the internet or text?
Would you be willing to share your experiences?

Appendix J: Interview Schedule (Preliminary)

In this interview, I am interested in your experiences and patterns around using text messaging on the electronic devices.

"What made you decide to do the interview?"

How would you describe your relationship with the Internet?

How do you experience a culture of the internet?

How would you describe your relationship with electronic communication?

What happens when you communicate with others?

Is electronic communication different from face-to-face communication? How?

Is something easier about one versus another? (electronic versus face-to-face communication)
What makes it that way?
Are there differences in the way you feel when communicating electronically rather than face-to-face?

Are there differences in the way you think when communicating electronically rather than face-to-face?

What do you think are some problems with electronic communication?

Appendix K: Ethics ETH2021-1930: (Medium risk)

Date Created	17 May 2021
Date Submitted	17 May 2021
Date of last resubmission	20 Jun 2021
Date forwarded to	21 May 2021 committee
Academic Staff	Mr Dave Hull
Student ID	090052050
Category	Doctoral Researcher
Supervisor	Prof Carla Willig
Project	Grounded Theory of Compulsive Electronic Communication
School	School of Health & Psychological Sciences
Department	Psychology
Current status	Approved after amendments made

Ethics application

Risks

R1) Does the project have funding? No

R2) Does the project involve human participants? Yes

R3) Will the researcher be located outside of the UK during the conduct of the research? No

R4) Will any part of the project be carried out under the auspices of an external organisation, involve collaboration between institutions, or involve data collection at an external organisation? No

R5) Does your project involve access to, or use of, terrorist or extremist material that could be classified as security sensitive? No

R6) Does the project involve the use of live animals? No

R7) Does the project involve the use of animal tissue? No

R8) Does the project involve accessing obscene materials? No

R9) Does the project involve access to confidential business data (e.g. commercially sensitive data, trade secrets, minutes of internal meetings)? No

R10) Does the project involve access to personal data (e.g. personnel or student records) not in the public domain? No

R11) Does the project involve deviation from standard or routine clinical practice, outside of current guidelines? No

R12) Will the project involve the potential for adverse impact on employment, social or financial standing? No

R13) Will the project involve the potential for psychological distress, anxiety, humiliation or pain greater than that of normal life for the participant? No

R15) Will the project involve research into illegal or criminal activity where there is a risk that the researcher will be placed in physical danger or in legal jeopardy? No

R16) Will the project specifically recruit individuals who may be involved in illegal or criminal activity? No

R17) Will the project involve engaging individuals who may be involved in terrorism, radicalisation, extremism or violent activity and other activity that falls within the Counter Terrorism and Security Act (2015)? No

Applicant & research team
T1) Principal Applicant

Name
Mr Dave Hull

Provide a summary of the researcher's training and experience that is relevant to this research project.
BSc Psychology (including dissertation)

MSc Psychological Research Methods(including dissertation)

4th year Doctoral student in Counselling Psychology

580 hours clinical experience (one to one counselling) - making me attuned to the mental states and potential distress of participants in such a project.

T2) Co-Applicant(s) at City

T3) External Co-Applicant(s)

T4) Supervisor(s) Prof
Carla Willig

T5) Do any of the investigators have direct personal involvement in the organisations sponsoring or funding the research that may give rise to a possible conflict of interest? No
T6) Will any of the investigators receive any personal benefits or incentives, including payment above normal salary, from undertaking the research or from the results of the research above those normally associated with scholarly activity? No
T7) List anyone else involved in the project.

Project details
P1) Project title
Grounded Theory of Compulsive Electronic Communication

P1.1) Short project title
Understanding those Compelled to Communicate Electronically

P2) Provide a lay summary of the background and aims of the research, including the research questions (max 400 words).
Multiple factors have been implicated in the generation and maintenance of compulsive electronic communication; however, it is unclear how these factors may interact to produce problematic behaviour. Psychology's difficulties in understanding compulsive electronic communication result from difficulties in measuring the behaviours reflected in "Internet addiction" (IA). IA's measures are based on incompatible theoretical assumptions. These measures do not have established diagnostic thresholds. At the moment, definitions of compulsive electronic communication are hampered by lumping all technological compulsive

behaviours into one group "Internet addictions". Some researchers have argued that Internet addiction is not a unitary problem. Therefore technological compulsions might need to be separated out, to be studied more appropriately. We have some theories regarding compulsive electronic communication; most notably the construct of "problematic Internet use" includes a subscale measuring preference for online social interactions. This preference might naturally lead to compulsive online social interactions. Since current theories are hypotheticodeductive (typically scientific), they are not grounded in the data collected from those who are actually experiencing the problem. In addition, current research ignores an important social component: the culture of the Internet.

This research recommends using "Grounded Theory" to help understand compulsive electronic communication. Through participant interviews a theory based on participant data will attempt to reflect both the social and psychological processes within the phenomenon. With technological compulsions becoming more relevant in society and therefore the counselling room, it is vital to establish a clearer theory of this phenomenon that includes psychological and social processes. The resultant theory might resemble a cognitive model that may support formulation in therapy. When psychologist and counsellors have this, they will be more able to support those having difficulties with compulsive electronic communication.

P4) Provide a summary and brief explanation of the research design, method, and data analysis.
This research will be based on Strauss and Cobin's interpretivist-pragmatic grounded theory method. Data (in the form of an audio voice recordings) will be gathered through a Voice over internet service (in Zoom or Teams). These audio recordings of real spoken interviews will be transcribed. Through the analysis of this data, the researcher will identify participants' patterns of behaviour and inductively synthesise these into an explanatory theory.

The method will involve:

•	Informing the recruits regarding the aims and nature of research, limits of confidentiality, and my role as a researching counselling psychologist in training.

•	Briefing the participants will involve running through the information contained within the information sheet (found in appendix B). In addition, participants will be invited to discuss the nature of the research and ask any clarifying questions over the phone.

•	Gaining informed consent

•	Checking suitability for the research using GPIUS-2 and the CORE-10 (to be described later)

•	Excluding potential participants unsuitable for the research (due to risk/unsuitability)

•	Inviting the writing and sending over email/SMM of brief accounts of experiences of compulsions around electronic communication (under a page in length).

•	Developing the interview schedule from the thematic analysis of the text accounts of experiences of compulsions around electronic communication

•	Recruiting between 16-20 participants for interviews

•	In depth semi-structured vocal interviews over a voice over internet service based on current interview schedule (using Zoom or Teams)

•	Providing a debrief, including explaining rights to withdraw

•	After the data gathering has been completed, the participant will be given a debrief sheet (found in appendix D) and will be invited to share their experiences meeting. This will allow the researcher to detect any signs of distress and enhance the participants understanding of the research.

•	Transcribing the interviews

- Analysing the qualitative data – from a critical realist/interpretivist position

- Developing a theory of the phenomenon from the gathered data (social, cognition and behavioural patterns)

- Refining and developing the interview schedule for future interviews

- Potentially asking participants for follow-up interviews

- Further developing the explanatory grounded theory until "theoretical saturation" has been reached

- Providing the results (usually a summary) to participants who would like to receive this.

Analysis will involve:

Initial Open Coding: The data gathered will be broken down into their smallest functional and meaningful components (e.g., "actions, reactions, interactions, problems, meanings, events").

Memo writing: Which will allow a continuous process of analytic thinking to be included in the process of analysis.

Constant Comparisons and Theoretical Comparisons: To allow me to determine how the data under review related to similar data already encountered.

Axial Coding: Which will attempt to meaningfully locate categories in relation to each other.

Selective Coding: Which will attempt to generate an explanatory framework grounded in the data, the analysis focused on the highest levels of abstraction within the hierarchy of categories.

Focused Coding: Which will use the codes developed in the initial coding to synthesise more abstract concepts across a wider body of the data.

Saturation and Integration: I will work towards developing that appears to be representative of the data.

Due to this being a doctoral thesis (due to be completed in 2019/20), this grounded theory will be a more abbreiviated version. This places limits on the number of participants and interviews. This is primarily to ensure the research does not extend far beyond the expected end date of the doctoral programme.

As this study is an abbreiviated version of grounded theory, it is likely to have limited theroretical sampling opportunities compared to the full grounded theory approach. If clarification of a theory element is essential, the researcher may request an interview to answer the question. This might involve asking for a second interview with a participant or requesting an interview with a participant who's written account suggests they have relevant experience.

P4.1) If relevant, please upload your research protocol.

P5) What do you consider are the ethical issues associated with conducting this research and how do you propose to address them?

This research is likely to increase a participant's awareness of the subjective and intersubjective processes associated with compulsive electronic interactions. However, it is not expected that gathering this data will increase emotional, health, educational, social or psychological risks to the participants. Nevertheless, there is a protocol for the management of risk by the researcher.

Specifically, after gaining a contact number, a screening phone call will allow the researcher to determine that participants are safe to participate, including that they feel safe and well enough to participate. The questions on the CORE-10 will provide a guide for the researcher for checking the appropriateness of participation in the research.

For those who are highly distressed (indicated the screening call – for example, if there are indications of suicide risk), they will be informed that I believe that now would not the right time to participate in research due to those concerns around risk/thoughts/feelings. I would signpost them to external sources of support.

Details of possible sources of support will be shared with them (email/verbally) and they will be encouraged to seek some support.

All participants will be provided details of appropriate sources of support (e.g., external counselling services, GP, A&E). For those not undertaking an interview (only providing a written account), the information and debrief sheets will be the main sources of information and support. Notably, however, these include the researcher's contact details so they can signpost participants to appropriate sources of support.

Due to the nature of counselling psychology training, the researcher, will be highly attuned to the mental states and reactions of each participant and will assess risk throughout the interview. Any cause for concern will result in stopping the interview and acting to support the participant to prioritise their welfare and signpost them to sources of support. This duty of care will result in determining levels of risk (risk to self or others). For example, in the presence of suicidal ideation, the researcher will ask about means for or plans of suicide. With significant risk and/or distress, the researcher will encourage access to services and seek permission to contact the participant's GP on their behalf or facilitate GP contact. If it appears the participant is at risk of significantly harming themselves (serious injury or suicide) the researcher will discuss with the participant appropriate sources of support (e.g., A&E, GP out of hours, family members who may be contacted). If there is any apparent risk to others (e.g., suggested by plans cause serious harm to another person), the information will be shared with the research supervisor and if further sharing is considered appropriate, information will be shared with the relevant agency (e.g., police or social services). Following any risk concerns, the researcher will contact the research supervisor to keep them informed and seek further assistance in risk management.

•It will be important to limit any adverse affects to those people who are excluded from the research. These will either be exclusions due to the participant being unsuitable for the research aims (low compulsion levels) or due to the participant being highly distressed (e.g., suicidal).

•The screening call will also include administering the GPIUS-2 measure. Those who are unsuitable due to not having severe enough or appropriate symptoms (i.e., a GPIUS-2 score of less than 70) will be informed that "Because the research is looking at a very specific type of person, only a small number of people matched the aims of the study" and although their "offer to participate is very much appreciated, on this occasion the research will focus on people with slightly different characteristics."

P6) Project start date: The start date will be the date of approval.
P7) Anticipated project end date: 30 Sept 2022
P8) Where will the research take place?
The research will take place over the internet. This means it is likely participants and researcher will be in their respective homes for data gathering.

P10) Is this application or any part of this research project being submitted to another ethics committee, or has it previously been submitted to an ethics committee? No

Human participants: information and participation
The options for the following question are one or more of:
'Under 18'; 'Adults at risk'; 'Individuals aged 16 and over potentially without the capacity to consent'; 'None of the above'.

H1) Will persons from any of the following groups be participating in the project? None of the above

H2) How many participants will be recruited? 40

H3) Explain how the sample size has been determined.

Only an estimate of sample size can be made due to the nature of the research method. Grounded Theory Methods aim to build a theory that reflects a phenomenon. They gather data until they reach theoretical saturation - this means that additional participant data do not add anything extra to the theory.

H4) What is the age group of the participants?

Lower   Upper

18

H5) Please specify inclusion and exclusion criteria.

They will not be non-English speakers (due to difficulties in understanding and consent). Those are currently suffering from severe mental health problems from a disorder such as schizophrenia or bipolar disorder will be excluded since this research wishes to solely look at compulsive electronic communication. Similarly, indicators of anxiety and depression are expected to be concomitant with compulsive electronic communication, however potential participants will be screened to exclude those with severe problems. To achieve this, participants will complete the CORE-10 and the researcher will also use their clinical judgement to determine if the person is too vulnerable to participate in the research. A CORE-10 score over 25/40 ("severe") would indicate exclusion with additional attention given to the "suicidal plans" question on the CORE-10 which would indicate exclusion. In addition, those who do not meet the severity threshold (a score of 70) on the generalised problematic Internet use scale-2 (GPIUS-2), will also be excluded. This is because a GPIUS-2 score of under 70 will suggest they will not be reflective of the phenomenon under investigation.

Criteria for inclusion:

●   Those having difficulties with Compulsive Electronic Communication (indicated by a GPIUS-2 score of 70 or more.

●   Resided in the UK (ensuring I can provide consistent resources for support).

●   Those able to fluently speak English (for the purposes of efficient data gathering).

Criteria for exclusion:

●   Those experiencing severe mental health problems (indicated a score over 25/40 on the CORE-10 measure).

●   Those who have suicidal plans as indicated by the CORE-10.

●   Those considered too vulnerable to take part (as indicated by the screening call).

●   People with a direct prior or current relationship with the researcher.

H6) What are the potential risks and burdens for research participants and how will you minimise them?

There will be a low level of risk involved in conducting this research with these participants. However, the researcher will respond to problems according to the already outline protocol.

Participants providing textual accounts of compulsions around electronic communication will be invited to send these to my City Outlook email, and as long as it stays in Outlook, it will be secure. The content of these accounts might indicate some need for further support. If the researcher finds the content concerning, they will contact the contributor to discuss possible sources of support.

During the interview, if there is any sign of physical health problems or distress in the participants, the interview will be stopped, and the participant will be signposted to appropriate sources of support. Although research will have no direct impact on physical health, if a (non-research-based) incident occurred, the researcher will attempt to consult with the participant to determine their needs as part of their duty of care; if necessary, the researcher would contact emergency services and direct them to the participant's location. Following any incident researcher would contact the research supervisor of the project to let them know what has occurred and so that they can advise. In addition, the researcher would fill in an adverse events form and provide this to the Secretary of Senate Research Ethics Committee and the Secretary of the psychology department research ethics committee.

My position as a counselling psychologist may have predisposed participants to expect a professional judgement on their mental wellbeing. As such, the introductory phase of recruitment dispelled such illusions regarding my role.

The BPS (2007) guidelines for Internet Mediated Research (IMR) points to some ethical concerns. The IMR guidance from the BPS (2007) concerns itself with the blurring of private and public space when conducting Internet research. Internet activity leaves a trace that may, at first, appear private but can become public. To protect against this, although information for participation will be emailed to prospective participants, their responses will be relayed securely by voice in the screening call or by a mobile phone photo message (MMS). Consent forms will be signed and returned to me securely again by MMS. Another concern is the lack of controllability of the participant's environment during Zoom or Teams calls. A discussion about the importance of the interview environment will help it to be controlled so that it is quiet and there are no chances of being overheard or there being interruptions. If there are interruptions, the researcher will give the participant the opportunity to stop the interview and resume at a different time (if they wish to continue).

Utilising the Internet for research into compulsive electronic communication may provide one of the few ways to access this population, especially when many of them may experience social anxiety (Caplan, 2002). Caplan suggests that people who prefer computer-mediated interactions may be avoiding social demands due to undeveloped social skills. With this in mind, the researcher shall remain aware of the participant's comfort levels and take action to reduce social discomfort (e.g., by taking breaks).

Bearing in mind the social challenges that may be faced by those with compulsive electronic communication problems, I will check to see if participants had experienced any social pressure to participate in the research by asking, "Does anyone have any strong opinions regarding you participating?" While checking for social pressures, I will highlight the research's voluntary nature and the participant's right to cease participation or withhold their data at any stage without disadvantage (until the final analysis). To ensure the participants have informed consent, the evolving nature of grounded theory will be explained. In particular, explaining how the focus of the research may subtly transform into something for which the participants have not explicitly given their consent.

If participants are asked to speak about mental health problems and then after the interview they are left to their own devices, this introduces risk to them. To minimise this, sources of support will be offered to all participants and those who are considered too vulnerable to participate will be excluded (see inclusion and exclusion criteria – found in answer to question H5).

H7) Will you specifically recruit pregnant women, women in labour, or women who have had a recent stillbirth or miscarriage (within the last 12 months)? No
H8) Will you directly recruit any staff and/or students at City? None of the above
H8.1) If you intend to contact staff/students directly for recruitment purpose, please upload a letter of approval from the respective School(s)/Department(s).

H9) How are participants to be identified, approached and recruited, and by whom?

Participants will be self-selecting by responding to internet-based adverts. They will firstly self-identify as having "compulsions in relation to the internet". This will be achieved through social media platforms such as "Facebook". If "Facebook" recruitment does not prove fruitful, the search will be extended through the use of other social media platforms, e.g., "snapchat", "instagram", and "twitter". Participants will be recruited and selected by the researcher, David Hull, on the basis of their appropriateness for the research. There will be three stages of data gathering involved in recruitment. After indicating their interest in participating, potential participants will be sent/emailed an invitation sheet outlining the nature of the research (found in appendix B). For those indicating interest, contact phone numbers will be asked for and potential participants will be invited to a screening phone call where the researcher will determine their suitability for the research. This will involve inquiring (chatting) about their safety (using the CORE-10 as a guide), and their sense of safety and wellness in taking part. Using my skills as a counselling psychologist, I shall listen out for any warning signs that might suggest the candidate is inappropriate for participation in the research.

In addition, the screening call will explore:

• Their understanding of the research to ensure they understand the research area and what may be involved if they decide to participate.

• Their reasons for wanting to take part in the research. This will be to ensure they are freely choosing to participate.

• Their understanding of informed consent.

• They will be given the opportunity to ask any questions.

During the phone call, the researcher will also determine their suitability through the GPIUS-2 (see Appendix G) which should indicate the levels of compulsions related to electronic communication.

If they are suitable as a research participant, a discussion about the nature of the research will provide the potential participant with enough information to make an informed decision regarding participation. If they want to consent, they will be sent the consent form to complete and return.

I will receive their signed consent via my City Outlook email, it will be deleted from outlook (I will inform the participant that they can delete it from their mail server). It will then be stored in OneDrive on my city university account. Candidates will be invited to provide a short written account of their experiences of compulsions when communicating electronically. Participants will be asked to "describe [their] relationship with electronic communication" and they will be asked to "share information about any interaction that is not face-to-face." I will receive their text account via my City Outlook email, it will be deleted from outlook (I will inform the participant that they can delete it from their mail server). It will then be stored in OneDrive on my city university account. Purpose of written accounts: It is possible that some potential participants would be reluctant to participate in interviews due to their social difficulties. To avoid missing important information from potential participants who prefer to communicate through text, the research will gather text data in the initial stage. Various factors will be considered regarding selecting participants for interviews:

•Participants will be invited to self-select for interviews on their consent form.

•The researcher shall remain mindful of exclusion criteria (e.g., indications of excessive distress and suicidality)

•Prioritising gathering data from participants who provided rich written accounts

•Trying to gather data that is contrasting – to ensure wide coverage of data

•If a question arises from the data, use theoretical sampling may be used to allow a focus on answering this question.

As this study is abbreviated grounded theory, it is likely to have limited theoretical sampling opportunities compared to the full grounded theory approach. If clarification of a theory element is essential, the researcher may request an interview to answer the question. This might involve asking for a second

interview with a participant or requesting an interview with a participant whose written account suggests they have relevant experience.

The short written accounts will undergo a brief thematic analysis (Braun & Clarke, 2006) with the intention of highlighting important areas for exploration in interviews. The themes will help the researcher develop the interview schedule which will initially tap into the areas mentioned.

Participants will have indicated on their consent form their wish to participate in follow-up Zoom or Teams interviews. That shall be recorded on a stand-alone recording device that will be stored in a secure location.

After interviews have taken place, a potential third stage of recruitment may invite participants to have a further Zoom or Teams interview(s) to explore areas of the developing grounded theory not previously explored.

H10) Please upload your participant information sheets and consent form, or if they are online (e.g. on Qualtrics) paste the link below.

H11) If appropriate, please upload a copy of the advertisement, including recruitment emails, flyers or letter.

H12) Describe the procedure that will be used when seeking and obtaining consent, including when consent will be obtained.

(a)   I (the researcher) will obtain informed consent

(b)   As the consent form will be sent via scan or photograph, participants will keep their copy of the consent form

c)Participants will recieve the information sheet at the first point of contact with the researcher - i.e., when the researcher is contacted by the participant, they will be emailed the information sheet and informed consent form.

(d) Participants will be given around seven days to consider their participation after recieving the infromation sheet.

The participant information sheet will provide details about the study and information about informed consent:

•"Why have I been invited? You have been invited to be a participant in this research because you responded to an online invitation to share your experiences of electronic communication compulsions. In addition, you have met the requirements of the study. If you consent to talk about any compulsions, this may be useful for understanding the phenomenon."

•"Do I have to take part? This research is voluntary and will only proceed after your informed consent. This means that you will understand the nature of the research and freely agree to take part. Please note that even after you consent, you will retain the right to withdraw your participation. This means that you can stop filling in the form, stop the interview or withhold your interview data from the analysis for any reason without penalty. You will not be asked for your reasons (it may be too personal, intrusive or upsetting).

If the research has caused you distress, you will find support available on this document. If you wish to withdraw your data from the study, you must do this before analysis takes place. Since grounded theory method (used here) recommends immediate analysis of data after the interview, you will need to tell the researcher to withdraw your data within 24 hours of the interview time. This analysis may generate influential ideas about electronic communication compulsions that may influence subsequent analyses in spite of withdrawing your data from the research."

All written correspondence will be carried out on my City Outlook email, and as long as it stays in Outlook, it will be secure.

H13) Are there any pressures that may make it difficult for participants to refuse to take part in the project? Yes

H13.1) Please provide details and describe how you propose to address these.

Utilising the Internet for research into compulsive electronic communication may provide one of the few ways to access this population, especially when many of them may experience social anxiety (Caplan, 2002). Caplan suggests that people who prefer computer-mediated interactions may be avoiding social demands due to undeveloped social skills. With this in mind, the researcher shall remain aware of the participant's comfort levels and take action to reduce social discomfort (e.g., by taking breaks).

Bearing in mind the social challenges that may be faced by those with compulsive electronic communication problems, I will check to see if participants had experienced any social pressure to participate in the research by asking, "Does anyone have any strong opinions regarding you participating?" While checking for social pressures, I will highlight the research's voluntary nature and the participant's right to cease participation or withhold their data at any stage without disadvantage (until the final analysis). To ensure the participants have informed consent, the evolving nature of grounded theory will be explained. In particular, explaining how the focus of the research may subtly transform into something for which the participants have not explicitly given their consent.

H14) Is any part of the research being conducted with participants outside the UK?
No

Human participants: method
The options for the following question are one or more of:
'Invasive procedures (for example medical or surgical)'; 'Intrusive procedures (for example psychological or social)'; 'Potentially harmful procedures of any kind'; 'Drugs, placebos, or other substances administered to participants'; 'None of the above'.

M1) Will any of the following methods be involved in the project:
None of the above

M2) Does the project involve any deceptive research practices?
No

M3) Is there a possibility for over-research of participants?
No

M4) Please upload copies of any questionnaires, topic guides for interviews or focus groups, or equivalent research materials.
M5) Will participants be provided with the findings or outcomes of the project? Yes

M5.1) Explain how this information will be provided.

Participants will be offered the opportunity to have a summary of the findings:

"Participants may request a copy of the final research paper and/or an easy-read summary of the results. Please let the researcher know if you would like to hear more about the research and its results."

A contacts list (probably emails) will be held until the results are ready to be sent to interested parties. Participants data will not be identifiable from their inclusion on this list. It shall be held securely (locked in filing cabinet or in a password protected file on password protected computer).

M6) If the research is intended to benefit the participants, third parties or the local community, please give details.

Participants are told: "In doing this research, you may discover things about yourself that you find helpful. You may also be helping other people. You may be helping people who have similar difficulties to you. This is by helping to better educate their therapists about electronic communication compulsions. "

M7) Are you offering any incentives for participating?

Yes

M7.1) Please give details, justifying their type and amount.

The participants will be offered a £10 gift certificate in appreciation for undertaking an interview. This payment will be to compensate for the time the participant gives to the research. A gift certificate can be emailed and this will ensure it will arrive safely.

M8) Does the research involve clinical trial or clinical intervention testing that does not require Health Research Authority or MHRA approval? No

M9) Will the project involve the collection of human tissue or other biological samples that does not fall under the Human Tissue Act (2004) that does not require Health Research Authority Research Ethics Service approval? No

M10) Will the project involve potentially sensitive topics, such as participants' sexual behaviour, their legal or political behaviour, their experience of violence?

No

M11) Will the project involve activities that may lead to 'labelling' either by the researcher (e.g. categorisation) or by the participant (e.g. 'I'm stupid', 'I'm not normal')?

No

Data
D1) Indicate which of the following you will be using to collect your data.

Questionnaire

Interviews

Audio/digital recording interviewees or events Other

D1.1) Provide details if you have selected other.

This research will screen participants using the Caplan's (2010a) "Generalised problematic Internet use scale-2" GPIUS-2 and the CORE-10 mental health measure. The GPIUS-2 will indicate the severity of problems associated with their use of the internet; those with a score under 70 will be excluded since they may not reflect the phenomenon under study. The CORE-10 will function to exclude those people who with severe levels of anxiety or depression where participation might be associated with higher risk (excluding scores from 25/40 to 40/40 which would indicate "severe" level of psychological difficulty). Screening will also avoid recruiting people with confounding mental health problems unless these are strongly associated with internet addiction (e.g., social anxiety, depression). These measures (GPIUS-2 and CORE-10) will allow the researcher to determine if the participant is suitable for the study but the data from this will not be used in the final analysis.

If a participant appears suitable for the study, then their data will be collected through them providing a freely written account of their experiences of electronic communication compulsions. Candidates will be

invited to provide a short written account of their experiences of electronic communication compulsions. They will be asked to "describe [their] relationship with electronic communication" and "talk about other non-face-to-face interactions they may have" (e.g., telephone).They may then agree to have a semi-structured interview. Since grounded theory features an evolving interview schedule based on previous interviewees' answers, the exact details of the questions cannot be written with any authority. Broadly speaking, the questions will ask participants to describe their experience, thoughts and patterns of behaviour associated with electronic communication compulsions; examples of these questions can be found in Appendix E. Interviews will be audio recorded and transcribed later for analysis.

D2) How will the the privacy of the participants be protected?
De-identified samples or data

D3) Will the research involve use of direct quotes?
Yes

D5) Where/how do you intend to store your data?
Data to be kept in a locked filing cabinet
Data and identifiers to be kept in separate, locked filing cabinets
Password protected computer files
Storage at City
Storage at other site

D5.1) If stored at another site, please provide details.
Storage of data will be through my City OneDrive account. This is an encrypted storage space that features automatic locking (this means that access is automatically locked after a short period of time). An antivirus program and password protection on the storage computer offers further security on the researcher's computer.

All data from participants will be labelled with a unique anonymising identifier code.

Receipt of written accounts, personal details and consent forms:

•	Written accounts, personal details and consent forms will be sent to the researcher through City's Outlook email service.

•	Emailed data will be deleted from the email server and participants will be advised to delete this data from the server they emailed from.

For personal details, and consent forms:

•	To ensure that the author of anonymised data cannot be identified by someone accessing OneDrive.

•	Personal details (e.g., names, email addresses, telephone numbers) and consent forms will be labelled with a unique identifier code.

•	They will be printed and stored in a locked filing cabinet.

•	All corresponding digital copies will be deleted (i.e., from the computer and email servers).

Written accounts:

•	Written accounts will be labelled with the participant's identifier code.

- The written accounts will be stored in City's OneDrive account since this provides secure encrypted storage.

- This data will be held on city's server in accordance with the university's regulations for 10 years.

Audio recordings:

- When I am carrying out research interviews via Zoom or Teams, I will not use the Zoom or Teams recording tool, instead I shall use an external audio recorder as if I were doing the interviews face-toface.

- The recordings shall be deleted from the audio recorder and securely stored on OneDrive.

- Recordings will be labelled with the identifier code for the participant.

- When interviews are transcribed on my computer, they will be de-identified/anonymised at that point.

For all text data from written and interview contributions:

- All data that could be used to identify a person (e.g., name, address, phone number, email address, gender, date of birth, diagnoses) will be removed from written accounts and transcripts.

- Data will not be directly stored on my personal computer or held in my home. They will only be accessible through OneDrive which is password protected and encrypted.

- A document with names, emails and identifiers will be securely stored in a locked filing cabinet. These would be required in case of safeguarding a participant or if they choose to withdraw their data from the study.

- The identifier codes will be the only link between personal details and participant written accounts and interview data.

- In the unlikely event a hacker gaining access to OneDrive, the document with personal data and identifiers would not be accessible due to them being physically stored in a filing cabinet (and not stored on a computer) this would protect participants' anonymity.

D6) Will personal data collected be shared with other organisations?
No

D7) Will the data be accessed by people other than the named researcher, supervisors or examiners? No

D8) Is the data intended or required (e.g. by funding body) to be published for reuse or to be shared as part of longitudinal research or a different/wider research project now or in the future?
No

D10) How long are you intending to keep the research data generated by the study?
All data will be held for 10 years in line with City University's data storage guidelines. After this time data will be destroyed.

D11) How long will personal data be stored or accessed after the study has ended?
All data will be held for 10 years in line with City University's data storage guidelines. After this time data will be destroyed.

D12) How are you intending to destroy the personal data after this period?

Digital data will be destroyed using a file shredding computer program. Any paper based data will be shredded and securely disoposed of according to city's current destruction policy: "Shredded within University using a cross cut shredder which conforms to standard DIN level 5 (maximum size of paper is 0.8mm x 12mm) and then disposed of via University's confidential waste management contract."

Health & safety

HS1) Are there any health and safety risks to the researchers over and above that of their normal working life? Yes

HS2) How have you addressed the health and safety concerns of the researchers and any other people impacted by this project?

Minimal.

Since interviews will be taking place over the internet, there will be no physical risk posed to the researcher. For the same reason, there will be no need to risk assess the researcher's own home, where the interviewer side of the interview will take place. There will also be no reason to inform others of meetings with participants since these will not be face-to-face.

The researcher will need to increase his use of social media and this will require him to agree to share his personal details with the relevant organisation. Although the purpose of gaining access to these platforms will support the research, there will a personal price paid (by the researcher) for access through sharing his personal information with organisations like facebook. As such, this may lead to the generation of a public image. It will be necessary that any public internet image and information are conducive to professionalism and that personal details (e.g., about the researcher's friends and family) are not provided to the participants. If the public profiles are to be deleted after recruitment, the participants (potential and actual) will still have email details via city's email services.

To restrict participants' access to the researcher's personal information the following steps will be taken:

•	Accounts will be created with only the purpose of recruitment and these will not be mixed with any personal account held by the researcher.

•	Very limited personal data will be used to create the account. This information will depend on the terms and conditions of use of the social media provider. However, the minimum amount of personal data will be accessible by participants. It is expected that this may result in only the researcher's name being viewable.

•	The only social media activity will be in the form of adverts which will invite potential participants to contact the researcher through the researcher's city email address.

•	All correspondence will take place through city email or mobile phone messages (this will include the sending of any information about the research).

•	Both personal social media accounts and accounts that support recruitment for this research will be made private so that participants will not be able to see personal information.

No participants will be added to the researcher's friends lists (for either personal or research-based accounts).

The research will be taking place outside the university buildings. However, the risks involved in gathering a text description of experiences and conducting an interview over Zoom or Teams are minimal. There will be no risk to persons physically introduced by the research (interview). If however the participant or researcher find they are getting distressed by the research, as soon as this is detected the interview will stop. If researcher or participant feels distressed by the research, the interview will stop and the best course of action will be considered. If participants are distressed they will be referred to sources of support (e.g., GP, mental health crisis line, A&E department). If the participant reports feeling unwell, and becomes unable to

communicate, the researcher will contact emergency services to request an ambulance to the participant's address (information requested after the screening stage).

HS3) Are there hazards associated with undertaking this project where a formal risk assessment would be required?
No

Appendix L: Ethics ETH2021-2180 (Amendments): (Medium risk)

Date Created   26 Jun 2021
Date Submitted   26 Jun 2021
Date of last resubmission   29 Jun 2021
Date forwarded to   30 Jun 2021 committee

Academic Staff	Mr Dave Hull
Student ID	090052050
Category	Doctoral Researcher
Supervisor	Prof Carla Willig
Project	Grounded Theory of Compulsive Electronic Communication
School	School of Health & Psychological Sciences
Department	Psychology
Current status	Approved

Ethics application
Amendments
SA1) Types of modification/s

Change the design and/or methodology of the project, including changing or adding a new research method and/or research instrument

Change project documentation such as protocol, information sheets, consent forms, questionnaires, recruitment materials (please upload the relevant files with highlighted changes)

SA2) Details of modification

I would like to request some amendments to my research. Changes to rewards: 20 participants who provide written accounts (£7.95/hour) and 4 to 6 participants taking part in interviews (£15/interview). The main changes to the recruitment strategy. To achieve this change, I am requesting that I use two services: Prolific (https://www.prolific.co/) and Qualtrics. Prolific provides a participant finding service and handles payments to participants. They will not handle any data gathering or storage. Their service channels participants to other services for data gathering (in this case Qualtrics).

I have uploaded an "Amendments to Ethics" document and the corresponding documents that are identical downloadable document versions of the pages included in Qualtrics.

I have included a link to the qualtrics questionnaire preview:

https://cityunilondon.eu.qualtrics.com/jfe/preview/SV_2hS5sCl8vgcv9Xg?Q_CHL=preview&Q_SurveyVersionID=current

This is a preview and it is not yet live. Copy and paste this into an internet browser.

SA3) Justify why the amendment is needed

I had lots of difficulty in getting participants using social media. Prolific offers a large pool of potential participants who have expressed a willingness to do research. Text-based contributions have been changed to paid for due to Prolific's business model. They have minimum payment amounts per hour of time given, therefore the amount paid for interviews had to be increased.

I have also attempted to reduce paperwork barriers to participation; I have attempted to clarify the information sheet; "Sources of support" is simply available to download as a standalone document; also previously the plan was to have participants send completed documents over email. Now the same forms will be completed on Qualtrics.

SA4) Other information

SA5) Please upload all relevant documentation with highlighted changes

Project amendments
P1) Project title

Grounded Theory of Compulsive Electronic Communication

P2) Principal Applicant

Name

Mr Dave Hull

Provide a summary of the researcher's training and experience that is relevant to this research project.

BSc Psychology (including dissertation)

MSc Psychological Research Methods(including dissertation)

4th year Doctoral student in Counselling Psychology

580 hours clinical experience (one to one counselling) - making me attuned to the mental states and potential distress of participants in such a project.

P3) Co-Applicant(s) at City

P4) External Co-Applicant(s)

P5) Supervisor(s)

Prof Carla Willig

Attached files
Sources of Support.docx

Debrief.docx

Information about research.docx

Amendments to Ethics.docx

Appendix M: Qualtrics Survey

Research into Messaging/Texting/Video Chat

Q1 Welcome to this research is looking at experiences around "electronic chat". This research has passed ethical approval with the ethics board of City University London for a doctoral research student (David Hull).

This research is completely voluntary and you can freely decide not to participate or share your data. This research is focusing on individuals who feel compulsions to chat through internet messaging, texting and/or voice/video chatting. If you are an adult, who experiences compulsions to message, text or voice/video chat, then this research aims to find out more about you.

- First you will have the opportunity to learn about this research.

- You will have the opportunity to give your consent for your data to be used to support this research.

- You will be asked to fill in some forms to ensure it will be safe and appropriate to proceed with the research. Also, these forms will make sure you have the kinds of experiences this research is focused on.

- You will be given the opportunity to freely write about your personal experiences of "electronic chat".

- You will be asked if you are willing to have an optional interview. Only a small number of people will be invited to an interview.

- Please click until the last page, so that you can be returned to Prolific. If filling in this form somehow goes wrong for you, please feel free to contact me (Email: ███████████████).

To move to the next page, go to the bottom of each page and click "->".

Q2
Information about this Research:
"Compelled to Communicate Electronically"
City Ethics Reference Code: ETH2021-1930

Before you decide whether you would like to take part it is important that you understand why the research is being done and what it would ask of from you.

What is the purpose of the study?
This research aims to understand people who feel compelled to communicate through texting, messaging or voice/video chat over the internet. It will develop a theory of how people are compelled to communicate electronically. The research should be completed by March 2021. The finished report is expected to be completed by September 2022.

Why have I been invited? *You have been invited to be a participant because you responded to an online invitation to share your experiences of compulsions around electronic communication. If you consent to talk about any compulsions, this may be useful for understanding the phenomenon.*

Do I have to take part? *No, this research is completely voluntary. Even if you consent, you can still withdraw your participation afterwards and ask that your data is not used. If you wish to withdraw your data from the study, you must do this before the analysis takes place. If you choose to withdraw from this study, doing so will not result in any disadvantage or penalty. For this approach, contributions are analysed very quickly. This means you will need to tell the researcher within 24 hours if you do not want your data used.*

What will I do next?
- *Read on to find out more about this research.*
- *After reading about this research, feel free to email me if you want me to answer any questions about this study.*
- *To ensure that you are the type of person this research is looking for, you will be asked to complete two short questionnaires. These would not take long to complete (no writing involved). One will ask about your mood and the other will ask about your experiences of texting or online communication.*
- *If you are a good fit and you are happy to proceed, you can give your consent electronically.*
- *Then you would be asked to write about your experiences of compulsions with texting/messaging/voice or video chatting.*

Optional Interview Stage

There is an optional interview stage for this research. The written contributions will help me develop questions for interviews.
- *You may be offered an online interview that can take place over Zoom or Teams, or messaging using text.*

- *This interview is optional. As this is a more in-depth interview, I will invite you for a screening phone call. This short friendly call would just be to ensure you are a good fit for the interview.*
- *We will arrange the interview which may last from 45 to 90 minutes.*
- *Interviews will be sensitively done.*
- *Interviews will be audio recorded.*
- *You can freely decide not to take part in an interview without any disadvantage or penalty.*

What happens to my data? *The text and interviews will be analysed to try to find patterns in people's experiences. The researcher will try to produce a theory that could help us understand compulsive texting and online communication.*

About the optional interview: *The interview will ask you to share your experiences with and around "electronic chat". Although this interview has set questions, the researcher will invite you to talk about what you think is important.*

What are the possible disadvantages and risks of taking part? *This research will explore personal areas that some people may find difficult. It is not expected that such an exploration would cause distress, but it is possible. Fortunately, the researcher is trained in counselling psychology and will prioritise your wellbeing. If anything has distressed you, please let the researcher know.*

What are the possible benefits of taking part? *In doing this research, you may discover things about yourself that you find helpful. Taking part may also help people who have similar experiences to you. This research aims to learn from you and then educate therapists about the area.*

Payment *There is a "thank you" payment given for your contribution here. Details of this will have been given to you before starting this survey (£7.95/hr). If you do not have those details, please get in touch with me and I will tell you how to get paid for participation. For interviews, you will be paid be emailing you a voucher code (e.g., for Amazon or Apple; you can choose) of the value £15.*

Will my taking part in the study be kept confidential? *Absolutely. Only the researcher will access your data. All written accounts, audio recordings and transcriptions will be anonymised (removing identifying information), kept confidential and will be secured in a locked filing cabinet or password-protected computer. All data will be held for 10 years in line with City University's data storage guidelines. After this time, data will be destroyed. With any research, there are occasionally reasons to break confidentiality and anonymity. This would only happen if the researcher acted to protect someone from harm.*

Use of your words in the research report *With your permission, quotes from you may be used in the final write up. Quotes will not identify you and would only be used to help explain the research findings.*

What will happen to the results of the research study? *The final research report will be published by City University London. Later, it could be published in a journal and or presented at a psychology conference. You can request a copy of the final research paper or an easyread summary of the results. Please let me know if you would like these sent to you.*

Who has reviewed this study? This study has been approved by City University London Research Ethics Committee, ethics code: ETH2021-1930.
Further information and contact details:
David Hull (doctoral student). Email: ▮▮▮▮▮▮▮▮▮▮▮▮
OR
Carla Willig (project supervisor). Email: ▮▮▮▮▮▮▮▮▮▮▮
Click on the following link to download Information about this Research.

- -

Q3
Standard Data Protection Notice
Provided to all research participants

What are my rights under the data protection legislation? *City, University of London is the data controller for the personal data collected for this research project. Your personal data will be processed for the purposes outlined in this notice. The legal basis for processing your personal data will be that this research is a task in the public interest, that is City, University of London considers the lawful basis for processing personal data to fall under Article 6(1)(e) of GDPR (public task) as the processing of research participant data is necessary for learning and teaching purposes and all research with human participants by staff and students has to be scrutinised and approved by one of City's Research Ethics Committees. Further, City considers the processing of special category personal data will fall under Article 9(2)(g) of the GDPR as the processing of special category data has to be for the public interest in order to receive research ethics approval and occurs on the basis of law that is, inter alia, proportionate to the aim pursued and protects the rights of data subjects.*

The rights you have under the data protection legislation are listed below, but not all of the rights will be apply to the personal data collected in each research project.
right to be informed   right of access   right to rectification   right to erasure right to restrict processing   right to object to data processing   right to data portability   right to object   rights in relation to automated decision making and profiling
For more information, please visit www.city.ac.uk/about/city-information/legal

What if I have concerns about how my personal data
will be used after I have participated in the research?
In the first instance you should raise any concerns with the research team, but if you are dissatisfied with the response, you may contact the Information Compliance Team at

dataprotection@city.ac.uk _or phone 0207 040 4000, who will liaise with City's Data Protection Officer Dr William Jordan to answer your query._

If you are dissatisfied with City's response you may also complain to the Information Commissioner's Office at www.ico.org.uk

What if there is a problem?

If you have any problems, concerns or questions about this study, you should ask to speak to a member of the research team. If you remain unhappy and wish to complain formally, you can do this through the University complaints procedure. To complain about the study, you need to phone 020 7040 3040. You can then ask to speak to the Secretary to Senate Research Ethics Committee and inform them that the name of the project is: Grounded Theory of electronic communication compulsions.

You could also write to the Secretary, Anna Ramberg, at:
Anna Ramberg
Secretary to Senate Research Ethics Committee
Research Office, E214
City University London
Northampton Square
London
_EC1V 0HB_
Email: ███████████████

City University London holds insurance policies that apply to this study. If you feel you have been harmed or injured by taking part in this study you may be eligible to claim compensation. This does not affect your legal rights to seek compensation. If you are harmed due to someone's negligence, then you may have grounds for legal action.

Click on the following link to download Information about this Research.

Q4
Are you aged 18 or

over? ○   Yes (1)

○   No (2)

Q5 Unfortunately, this research can only be done by someone who is an adult because ethical approval has only been granted for those who are 18 or over.

However, thank you for giving your time to this research. Below, you will find sources of support that you may find useful.

Sources of support

If you feel that this research has raised concerns for you, you may find this list of possible support helpful to you.

*Contact your **GP***

*If you have a **personal therapist**, contact them.*

***Mind** (promoting views and needs of people with mental health problems): Tel: 0300 123 3393 (Mon-Fri, 9am-6pm).* www.mind.org.uk.

***Rethink Mental Illness**. (Support and advice for people living with mental illness). Phone: 0300 5000 927 (Mon-Fri, 9.30am-4pm).* www.rethink.org.

***Mental Health Foundation**. Provides information and support for anyone with mental health problems.* www.mentalhealth.org.uk.

*Contact the **Samaritans**:* http://www.samaritans.org/how-we-can-help-you/contact-us .

Free phone call: 116 123. Email jo@samaritans.org.

***SANEline**. Providing emotional support and advice. Tel: 0300 304 7000.*

*Contact your local **psychological therapies service (IAPT)** using this NHS search engine:* https://www.nhs.uk/service-search/Psychological-therapies(IAPT)/LocationSearch/10008.

If you have concerns about this research that you wish to discuss with the researcher or the research supervisor, feel free to contact them through email:

*Contact the **researcher**: David Hull. Email:* ▮▮▮▮▮▮▮▮▮▮▮▮

*Contact the **project supervisor**: Carla Willig. Email:* ▮▮▮▮▮▮▮▮▮▮▮▮

Click on the following link to download the above sources of support information.

Skip To: End of Survey If Unfortunately, this research can only be done by someone who is an adult because ethical approval... Is Displayed

Display This Question:
If Are you aged 18 or over? = Yes

Q6 Click those that apply to you?

○ I am currently in mental health crisis (1)

○ I have been diagnosed with severe learning disability

(2)

○   I do not speak English (3) ○   I am unable to write

in English (4) ○   I am not resident in the UK (5) ○

None of the above apply to me (6)

> *Display This Question:*
> *If Click those that apply to you? = I am currently in mental health crisis*
> *Or Click those that apply to you? = I have been diagnosed with severe learning disability*
> *Or Click those that apply to you? = I do not speak English*
> *Or Click those that apply to you? = I am unable to write in English*
> *Or Click those that apply to you? = I am not resident in the UK*

Q7 Unfortunately, this research has only been given ethical approval for those who are: At least 18 years old. Not currently in a mental health crisis.   Not considering suicidal plans   Not diagnosed with a severe learning disability.   Able to speak English.   Able to write English. Resident in the UK.
 If you feel you feel that you fulfil the inclusion criteria above and would like to take part in the study please restart the study and click on "None of the above applies to me".

If you do not fulfil the above inclusion criteria then I would just like to thank you for giving your time to this research. Below, you will find sources of support that you may find useful.

Sources of support
 If you feel that this research has raised concerns for you, you may find this list of possible support helpful to you.
*Contact your **GP***
*If you have a **personal therapist**, contact them.*
***Mind** (promoting views and needs of people with mental health problems): Tel: 0300 123 3393 (Mon-Fri, 9am-6pm).* www.mind.org.uk*.*
***Rethink Mental Illness**. (Support and advice for people living with mental illness). Phone: 0300 5000 927 (Mon-Fri, 9.30am-4pm).* www.rethink.org*.*
***Mental Health Foundation**. Provides information and support for anyone with mental health problems.* www.mentalhealth.org.uk*.*
*Contact the **Samaritans**:* http://www.samaritans.org/how-we-can-help-you/contact-us *.*
Free phone call: 116 123. Email jo@samaritans.org*.*
***SANEline**. Providing emotional support and advice. Tel: 0300 304 7000.*
*Contact your local **psychological therapies service (IAPT)** using this NHS search engine:* https://www.nhs.uk/service-search/Psychological-therapies(IAPT)/LocationSearch/10008*.*

If you have concerns about this research that you wish to discuss with the researcher or the research supervisor, feel free to contact them through email:
*Contact the **researcher**: David Hull. Email:* ▮▮▮▮▮▮▮▮▮▮
*Contact the **project supervisor**: Carla Willig. Email:* ▮▮▮▮▮▮▮▮

Click on the following link to download the above <u>sources of support</u> information.

Q8

Consent Form

 This is the consent form. By clicking "I agree and give my consent to the above" you will have given your consent to the following:

1) **I have read the participant information sheet, which I may keep for my records.**
2) **I agree to take part in the City University London research project, "Compelled to**

Communicate Electronically" which is also known as "Compulsions in Text and Online Communication"

 I understand this will initially involve:
Completing a questionnaire asking me about electronic communication compulsions.
Completing a questionnaire asking me about my mental well-being.
Providing a short written account of my experiences of electronic communication compulsions

3) **I understand that if I choose to do an <u>optional</u> follow-up interview this will involve:**
Having interviews with the researcher over the internet (voice or text).
Allowing any interviews to be audio recorded or text stored.

4) **This information will be held and processed for the following purposes: To transcribe, analyse and develop a theory of compulsions around electronic communication.**

The legal basis for processing your personal data will be that this research is a task in the public interest, that is City, University of London considers the lawful basis for processing personal data to fall under Article 6(1)(e) of GDPR (public task) as the processing of research participant data is necessary for learning and teaching purposes and all research with human participants by staff and students has to be scrutinised and approved by one of City's Research Ethics Committees.

5) **I understand that the following "special category" data will be collected and retained as part of this research study: data concerning my mental health and associated behaviours.**

City considers the processing of "special category" personal data will fall under: Article 9(2)(g) of the GDPR as the processing of special category data has to be for the public interest in order to receive research ethics approval and occurs on the basis of law that is, inter alia, proportionate to the aim pursued and protects the rights of data subjects and also under Article 9(2)(a) of the GDPR as the provision of these personal data is completely voluntary.   **6) I understand that any information I provide is confidential and that no information that could lead to the identification of any individual will be disclosed in**

any reports on the project or to any other party. No identifiable personal data will be published. The identifiable data will not be shared with any other organisation.

7) **I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalized or disadvantaged in any way.**

8) **I agree to the arrangements for data storage, archiving, sharing.**

9) **I consent to extracts of my anonymised transcript to be used in the final written thesis.**

10) **I agree to extracts of my anonymised transcript to be used in publication.**

11) **I agree to Qualtrics and City University London recording and processing this information about me. I understand that this information will be used only for the purpose(s) set out in this statement and my consent is conditional on the University complying with its duties and obligations under the Data Protection Act 1998.**

12) **I agree to take part in the above study.**

Download the above Consent Form

○   I agree and give my consent to all the above.

○   I agree and give my consent to the above (except for items 9 and 10 - I do not agree to have my anonymised transcript/words used in the final written work or publication).

○   I agree and give my consent to the above (except for item 3 - I do not agree for my data to be used if I do an optional interview). (4)

○   I agree and give my consent to the above (except for items 3, 9 and 10). (5)

○   I do not agree to the above (3)

Display This Question:

If Consent Form This is the consent form. By clicking "I agree and give my consent to the above" you... = I do not agree to the above

Q9 You have decided not to give your consent to have your data used for this research. This means that it would not be appropriate to collect any data from you. Thank you for considering participating in this study. Below, you will find sources of support that you may find useful.

Sources of support
If you feel that this research has raised concerns for you, you may find this list of possible support helpful to you.
*Contact your **GP***
*If you have a **personal therapist**, contact them.*
***Mind** (promoting views and needs of people with mental health problems): Tel: 0300 123 3393 (Mon-Fri, 9am-6pm).* www.mind.org.uk.
***Rethink Mental Illness**. (Support and advice for people living with mental illness). Phone: 0300 5000 927 (Mon-Fri, 9.30am-4pm).* www.rethink.org.
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*Contact the **Samaritans**:* http://www.samaritans.org/how-we-can-help-you/contact-us .
Free phone call: 116 123. Email jo@samaritans.org.
***SANEline**. Providing emotional support and advice. Tel: 0300 304 7000.*
*Contact your local **psychological therapies service (IAPT)** using this NHS search engine:* https://www.nhs.uk/service-search/Psychological-therapies(IAPT)/LocationSearch/10008.

If you have concerns about this research that you wish to discuss with the researcher or the research supervisor, feel free to contact them through email:
*Contact the **researcher**: David Hull. Email:* ▉▉▉▉▉▉▉▉▉▉
*Contact the **project supervisor**: Carla Willig. Email:* ▉▉▉▉▉▉▉▉

Click on the following link to download the above sources of support information.

Skip To: End of Survey If You have decided not to give your consent to have your data used for this research. This means th... Is Displayed

Page Break

Q21
Please enter your unique Prolific ID here. This is needed for you to be paid for contributing. I hope that you will be able to write a page or more. If you do not have a Prolific ID, you can put your email in the space and I will contact you. Alternatively, you could return to this questionnaire after signing up to be a participant at https://www.prolific.co/.

Q10 The following 10 questions (known as the CORE-10) will ask about your mood and mental well-being. Click the box which is closest to your experience.

Over the last week....

	Not at all (1)	Only occasionally (2)	Sometimes (3)	Often (4)	Most or all of the time (5)

Q11

Your answer indicates that, in the last week, you have had significant difficulties with your mood or been thinking about suicidal plans. I am sure your contribution would have been interesting and valuable, however, this research has not been given ethical approval for people in your current situation. That decision was made to help keep people safe from being asked potentially triggering questions.

I would really like to thank you for giving your time to this research. Please put your information into the form at the bottom of this page.

If you are currently experiencing difficulties with your mental health, I would be happy to help you find support, please email me, David, at ████████████████. I would be happy to email you, message you or call you to discuss the best way to help. If you prefer not to contact me, I have included below some sources of support that you may find useful.

Please click this link to return back to Prolific:
[https ████████████████████████](#)

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Free phone call: 116 123. Email jo@samaritans.org.
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Contact the **researcher**: *David Hull. Email:* ████████████████
Contact the **project supervisor**: *Carla Willig. Email:* ████████████████

Click on the following link to download the above [sources of support](#) information.

Q12 The following 15 questions (known as the *GPIUS-2*) ask about experiences with the internet. If you are mostly texting, just pretend that the question asks about texting when it mentions the internet. Please click the box which is closest to your experience.

Question:	Definitely disagree		Neither agree or disagree		Definitely agree

Q13

Your answer to the questionnaire suggests that your difficulties are not as severe as this research is trying to investigate. I am sure your contribution would have been interesting and valuable, however, this research has not been given ethical approval for people in your current situation. That decision was made to ensure that people's time is not taken up answering questions when their data cannot be used.

I would really like to thank you for giving your time to this research. If you are currently experiencing difficulties with your mental health, I would be happy to help you find support, please email me, David, at ▮▮▮▮▮▮▮▮▮▮▮. I would be happy to email you, message you or call you to discuss the best way to help. If you prefer not to contact me, I have included below some sources of support that you may find useful.

Please click this link to return back to Prolific:
https ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

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Phone:
0300 5000 927 (Mon-Fri, 9.30am-4pm). www.rethink.org.
***Mental Health Foundation**. Provides information and support for anyone with mental health problems. www.mentalhealth.org.uk.*
*Contact the **Samaritans**: http://www.samaritans.org/how-we-can-help-you/contact-us . Free phone call: 116 123. Email jo@samaritans.org.*
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If you have concerns about this research that you wish to discuss with the researcher or the research supervisor, feel free to contact them through email:
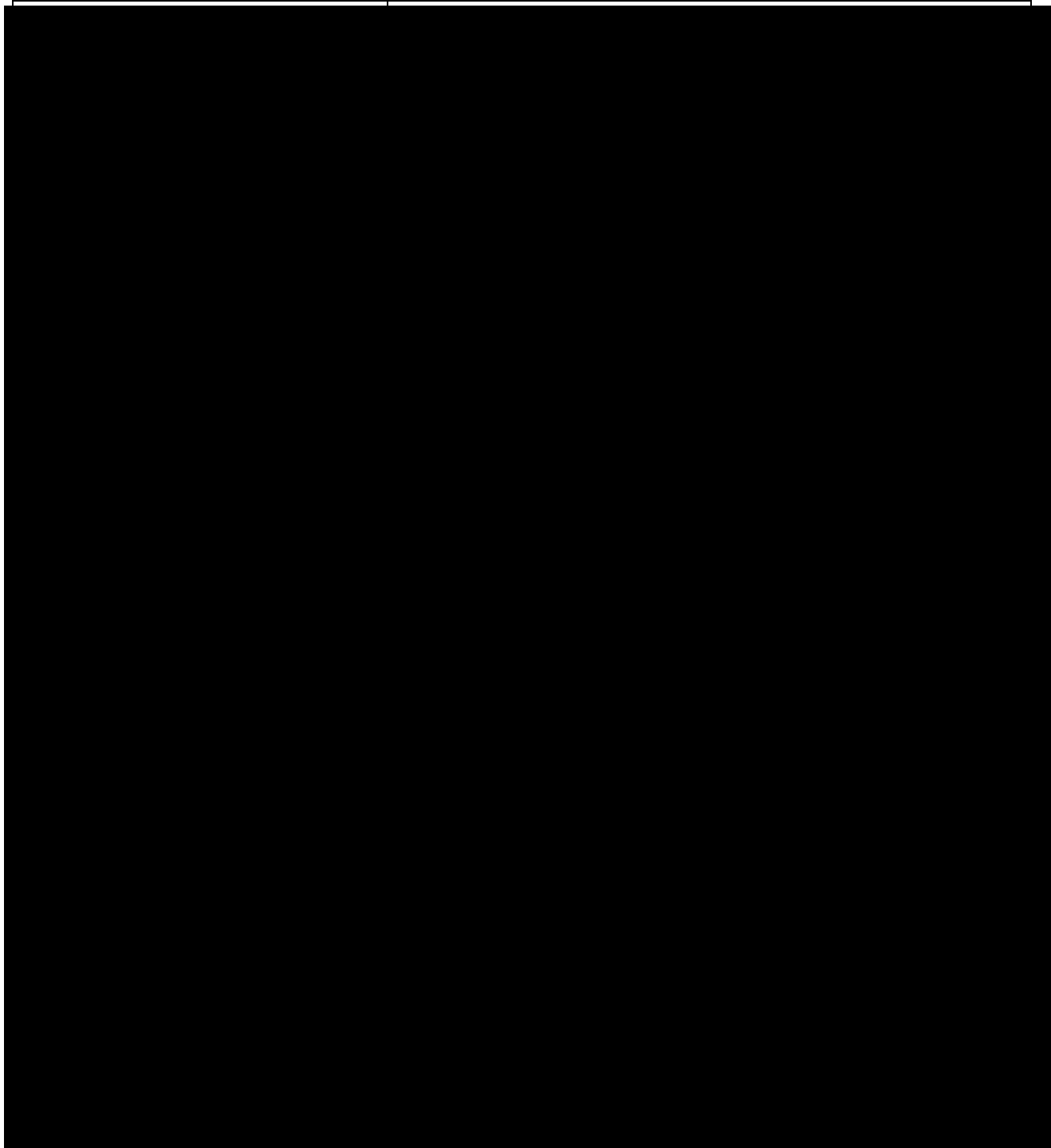
*Contact the **researcher**: David Hull. Email:* ▮▮▮▮▮▮▮▮▮▮▮
*Contact the **project supervisor**: Carla Willig. Email:* ▮▮▮▮▮▮▮▮

Click on the following link to download the above sources of support information.

Q15
Please share your personal experiences around texting, messaging or voice/video chat ("electronic chat").

 I would like you to write freely, but you may find the *optional* questions below that may assist you: What are your experiences of texting, messaging or voice/video chat?   How would you describe your relationship with electronic chat? Describe the social sides of electronic chat. What thoughts and feelings do you experience around electronic chat?   What often happens before, during and after you spend time chatting electronically? Is there a connection between electronic chat and how you see yourself and others?   With a focus on text/internet chatting, what would a typical day be like for you? How is electronic chat different from face-to-face communication? What are the positives and negatives of text/internet chatting?
Please write about how texting, messaging or voice/video chat fit into your life.

_____

_____

_____

Q16 Would you like to be invited for a paid interview over messaging, video or voice chat?
Please freely choose what you prefer; your answer will not disadvantage you in any way. Stating that you are interested in an interview does not guarantee that you will be invited.

What would you prefer?

○   I do not want to take part in an interview (1)

○   I would like to take part in an interview but only over text messaging (2)

○   I would like to take part in an interview but only over voice chat (3)

○   I would like to take part in an interview but only over video chat (4)

○   I am open to being interviewed in any way (messaging, video or voice chat) (5)

> *Display This Question:*
>
> *If Would you like to be invited for a paid interview over messaging, video or voice chat? Please fre... = I would like to take part in an interview but only over text messaging*
>
> *Or Would you like to be invited for a paid interview over messaging, video or voice chat? Please fre... = I would like to take part in an interview but only over voice chat*
>
> *Or Would you like to be invited for a paid interview over messaging, video or voice chat? Please fre... = I would like to take part in an interview but only over voice chat*
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> *Or Would you like to be invited for a paid interview over messaging, video or voice chat? Please fre... = I would like to take part in an interview but only over video chat*
>
> *Or Would you like to be invited for a paid interview over messaging, video or voice chat? Please fre... = I am open to being interviewed in any way (messaging, video or voice chat)*

Q20 Please provide your email address so that I can contact you to arrange an interview. If you would like time to consider doing an interview you can leave the space below blank and email me (███████████) to express your interest in an interview.

Please type your email address if you are open to being interviewed:

Q16
Thank you for taking part in this study on electronic chat! What follows is a debrief form that provides you with other information.

Debrief Information

***Title of study:* "Compelled to Communicate Electronically"** *City*
***Ethics Reference Code:* ETH2021-1930**

This research aims to use participant interviews to generate a theory of electronic communication compulsions. To achieve this, it attempted to find participants who could safely contribute to the study. After consenting to take part, participants were asked to complete a questionnaire about Problematic Internet Use. This was intended to check if they were a good fit for data gathering. If this suggested that the participant was appropriate for the study, they were invited to write about their experiences.

There will be a follow-up interview based on the answers you have provided today. You may be invited to take part in a paid interview.

It is hoped that the data from these interviews will inspire further questions that will help to illuminate the nature of electronic chat compulsions in additional interviews. When all the participant data is combined, a theory of electronic chat compulsions will be developed. This may provide valuable information to therapists helping people struggling with electronic chat.

If you would like to chat about this research, I can arrange to call you or email you back. Please let me know by emailing me: .

Please click this link to return back ▮▮▮▮▮▮▮▮▮▮▮
https

Sources of support

 Thank you for giving your time to this research. On this page, you will find sources of support that you may find useful.

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0300 5000 927 (Mon-Fri, 9.30am-4pm). www.rethink.org.
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*Contact the **Samaritans**:* http://www.samaritans.org/how-we-can-help-you/contact-us
.
Free phone call: 116 123. Email jo@samaritans.org.
***SANEline**. Providing emotional support and advice. Tel: 0300 304 7000.*
*Contact your local **psychological therapies service (IAPT)** using this NHS search engine:* https://www.nhs.uk/service-search/Psychological-therapies(IAPT)/LocationSearch/10008.

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*Contact the **project supervisor**: Carla Willig. Email:* ▮▮▮▮▮▮▮▮▮
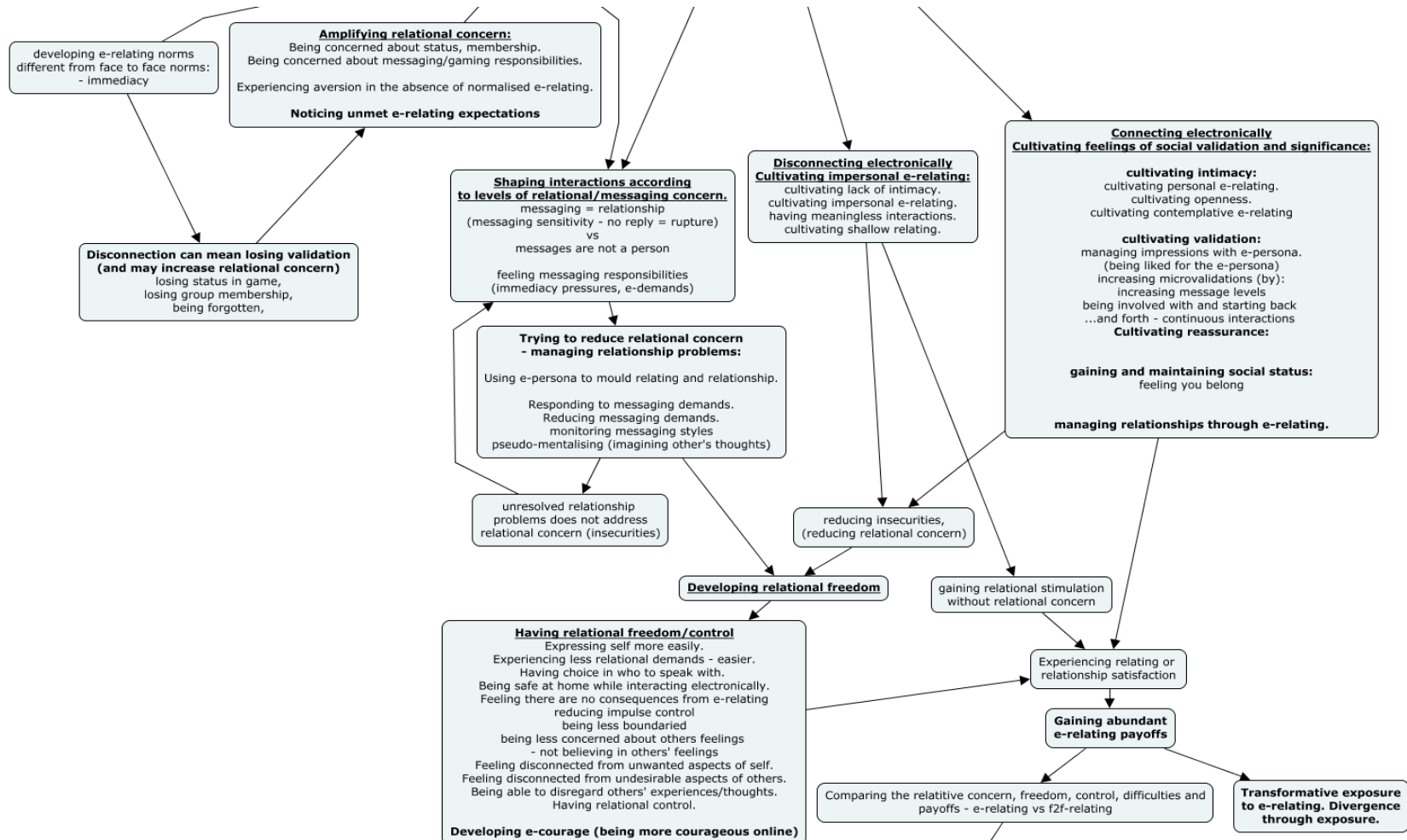
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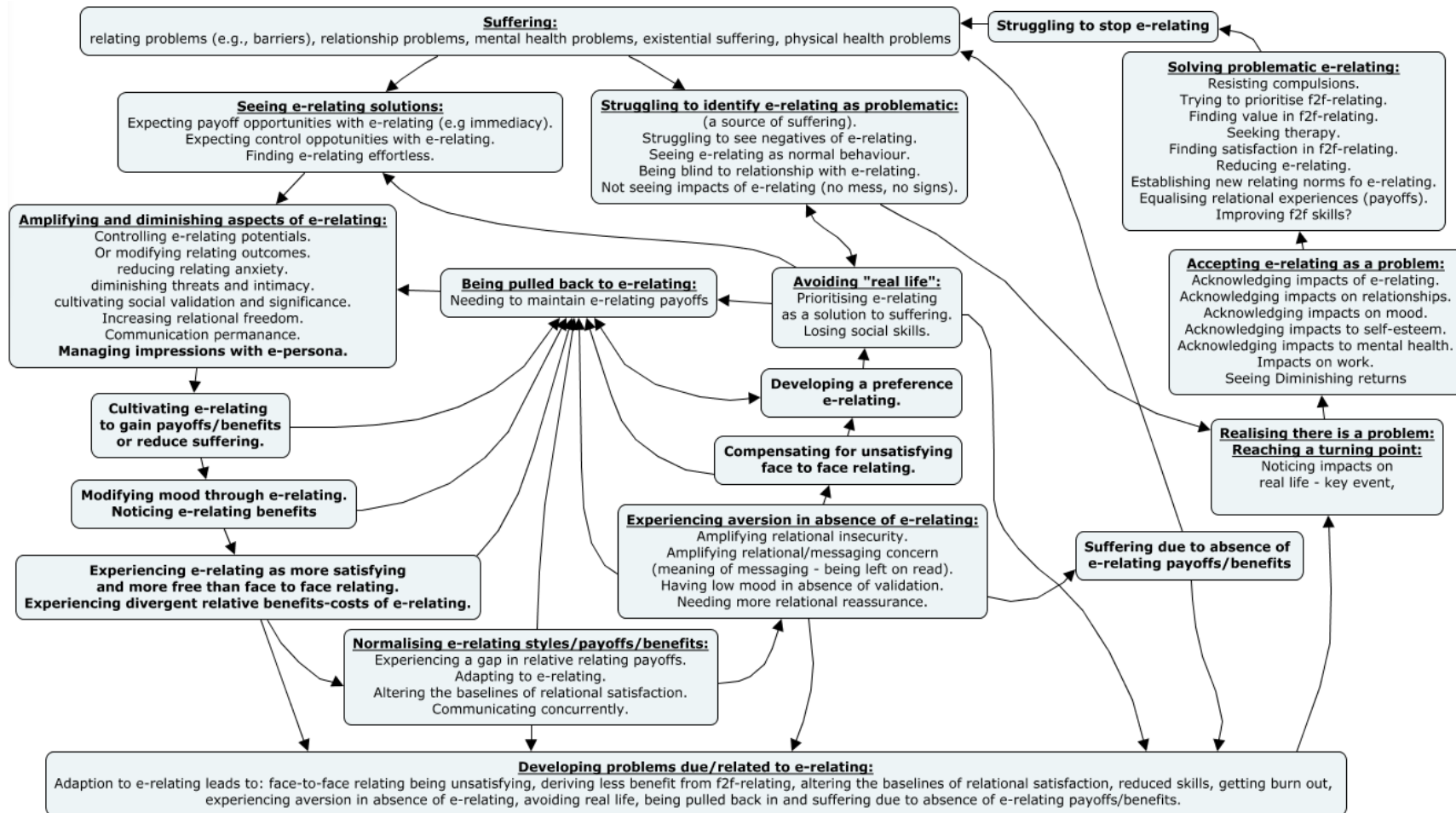
Q22
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Appendix N: Preliminary results of selective coding

developing e-relating norms
different from face to face norms:
- immediacy

Amplifying relational concern:
Being concerned about status, membership.
Being concerned about messaging/gaming responsibilities.

Experiencing aversion in the absence of normalised e-relating.

Noticing unmet e-relating expectations

Disconnecting electronically
Cultivating impersonal e-relating:
cultivating lack of intimacy.
cultivating impersonal e-relating.
having meaningless interactions.
cultivating shallow relating.

Connecting electronically
Cultivating feelings of social validation and significance:

cultivating intimacy:
cultivating personal e-relating.
cultivating openness.
cultivating contemplative e-relating

cultivating validation:
managing impressions with e-persona.
(being liked for the e-persona)
increasing microvalidations (by):
increasing message levels
being involved with and starting back
...and forth - continuous interactions
Cultivating reassurance:

gaining and maintaining social status:
feeling you belong

managing relationships through e-relating.

Shaping interactions according
to levels of relational/messaging concern.
messaging = relationship
(messaging sensitivity - no reply = rupture)
vs
messages are not a person

feeling messaging responsibilities
(immediacy pressures, e-demands)

Disconnection can mean losing validation
(and may increase relational concern)
losing status in game,
losing group membership,
being forgotten,

Trying to reduce relational concern
- managing relationship problems:

Using e-persona to mould relating and relationship.

Responding to messaging demands.
Reducing messaging demands.
monitoring messaging styles
pseudo-mentalising (imagining other's thoughts)

unresolved relationship
problems does not address
relational concern (insecurities)

reducing insecurities,
(reducing relational concern)

Developing relational freedom

gaining relational stimulation
without relational concern

Having relational freedom/control
Expressing self more easily.
Experiencing less relational demands - easier.
Having choice in who to speak with.
Being safe at home while interacting electronically.
Feeling there are no consequences from e-relating
reducing impulse control
being less boundaried
being less concerned about others feelings
- not believing in others' feelings
Feeling disconnected from unwanted aspects of self.
Feeling disconnected from undesirable aspects of others.
Being able to disregard others' experiences/thoughts.
Having relational control.

Developing e-courage (being more courageous online)

Experiencing relating or
relationship satisfaction

Gaining abundant
e-relating payoffs

Comparing the relatitive concern, freedom, control, difficulties and
payoffs - e-relating vs f2f-relating

Transformative exposure
to e-relating. Divergence
through exposure.

Appendix O: Preliminary results of selective coding

Suffering:
relating problems (e.g., barriers), relationship problems, mental health problems, existential suffering, physical health problems

Struggling to stop e-relating

Solving problematic e-relating:
Resisting compulsions.
Trying to prioritise f2f-relating.
Finding value in f2f-relating.
Seeking therapy.
Finding satisfaction in f2f-relating.
Reducing e-relating.
Establishing new relating norms fo e-relating.
Equalising relational experiences (payoffs).
Improving f2f skills?

Seeing e-relating solutions:
Expecting payoff opportunities with e-relating (e.g immediacy).
Expecting control oppotunities with e-relating.
Finding e-relating effortless.

Struggling to identify e-relating as problematic:
(a source of suffering).
Struggling to see negatives of e-relating.
Seeing e-relating as normal behaviour.
Being blind to relationship with e-relating.
Not seeing impacts of e-relating (no mess, no signs).

Amplifying and diminishing aspects of e-relating:
Controlling e-relating potentials.
Or modifying relating outcomes.
reducing relating anxiety.
diminishing threats and intimacy.
cultivating social validation and significance.
Increasing relational freedom.
Communication permanance.
Managing impressions with e-persona.

Accepting e-relating as a problem:
Acknowledging impacts of e-relating.
Acknowledging impacts on relationships.
Acknowledging impacts on mood.
Acknowledging impacts to self-esteem.
Acknowledging impacts to mental health.
Impacts on work.
Seeing Diminishing returns

Being pulled back to e-relating:
Needing to maintain e-relating payoffs

Avoiding "real life":
Prioritising e-relating
as a solution to suffering.
Losing social skills.

**Cultivating e-relating
to gain payoffs/benefits
or reduce suffering.**

**Developing a preference
e-relating.**

**Realising there is a problem:
Reaching a turning point:**
Noticing impacts on
real life - key event,

**Modifying mood through e-relating.
Noticing e-relating benefits**

**Compensating for unsatisfying
face to face relating.**

**Experiencing e-relating as more satisfying
and more free than face to face relating.
Experiencing divergent relative benefits-costs of e-relating.**

Experiencing aversion in absence of e-relating:
Amplifying relational insecurity.
Amplifying relational/messaging concern
(meaning of messaging - being left on read).
Having low mood in absence of validation.
Needing more relational reassurance.

**Suffering due to absence of
e-relating payoffs/benefits**

Normalising e-relating styles/payoffs/benefits:
Experiencing a gap in relative relating payoffs.
Adapting to e-relating.
Altering the baselines of relational satisfaction.
Communicating concurrently.

Developing problems due/related to e-relating:
Adaption to e-relating leads to: face-to-face relating being unsatisfying, deriving less benefit from f2f-relating, altering the baselines of relational satisfaction, reduced skills, getting burn out, experiencing aversion in absence of e-relating, avoiding real life, being pulled back in and suffering due to absence of e-relating payoffs/benefits.

Appendix P: Phase 3 Results of the Qualitative Literature Search

Author (year)	Research focus/aim, (Participant characteristics)	Location of study	Number of participants, (age in years)	Data collection method	Analytic strategy
Alavi Asil et al. (2022)	Explaining the process of internet addiction. (Participants self-identified as having internet addiction).	Tehran, Iran.	N=15, (university students)	Interviews	Grounded theory method
Arness & Ollis (2022)	Attention dysregulation in social media use, (Participants had indications of ADHD).	Australia	N=24, (18-31)	Focus group	Thematic analysis
Bell (2019)	The function of social media in adolescent development, creating, sharing, and responding to images	England, UK	N=35, (13-17)	Focus group	Thematic analysis
Best et al. (2015)	The connection between social media and wellbeing; adolescent males	Northen Ireland	N=56, (14-15)	Focus group	Thematic analysis
Burnette et al. (2017)	Perceptions of impact of social media on adolescent female body image	America	N=38, (12-14)	Focus group	Thematic analysis
Calancie et al. (2017)	Narratives around perceived Facebook negatives and how these may affect anxiety disorders. (Psychiatric patients, anxiety disorder diagnosis).	Canada	N=8, (13-15)	Focus group	Interpretive narrative analysis

Chegeni et al. (2021)	Reasons for social media addiction. (Psychiatric patients, social media addition diagnosis).	Iran	N=18, (16-41)	Interviews	Content analysis
Chua and Chang (2016)	Connection between social media self-presentation and social comparisons	Singapore	N=26, (12-16)	Interviews	Grounded narrative analysis
Conroy et al. (2022)	Smartphone over-reliance and efforts to reduce use. (Participants did not identify as having online life problems).	UK	N=14, (18-30)	Interviews	IPA
Danso, and Awudi (2022)	internet addiction triggers.	Winneba, Ghana	N=12, (18-23)	Interviews and focus groups	Thematic analysis
De Groote et al. (2022)	Causes of digital stress and pressure in friendships. (Participants did not identify as having online life problems).	Belgium	N=24, (13-16)	Focus groups	Thematic analysis
Duvenage et al. (2020)	Motivations and experiences of engagement and managing mood with online environments	Australia	N=16, (13-16)	Focus groups	Thematic analysis
Hjetland et al. (2021)	Social media use in relation to mental health	Norway	N=27, (15-18)	Focus groups	Thematic analysis

Jong and Drummond (2016)	Connection between the immediacy of social media communication and identity	Australia	N=28, (12-14)	Focus groups	Thematic content analysis
Kamalikhah et al. (2021)	Explaining health impacts of excessive social media use	Tehran, Iran	N=27, (mean = 16.14)	Interviews	Content analysis
Keles et al. (2023)	Social media impacts on mental health in context of COVID-19	England, UK	N=11, (14-16)	Interviews	IPA
Li et al. (2015)	Addressing abundance of quantitative social media research. (Participants self-identified as "overusers").	America	N=27, (mean = 21.0)	Focus groups	Grounded analysis
MacIsaac et al. (2017)	Use of school facilitated online social spaces	Scotland	N=41, (11-18)	Focus group, interviews	Thematic analysis
O'Reilly (2020)	Connection between social media and mental health	England, UK	N=54, (11-18)	Focus group	Thematic analysis
O'Reilly et al. (2018)	Experience of social media from a well-being perspective	England, UK	N=54, (11-18)	Focus group	Thematic analysis
Radovic et al. (2017)	Positive and negative experiences of social media, impact on mood	America	N=23, (13-20)	Interviews	Content analysis
Rakhmawati et al. (2021)	Socioemotional experiences of males to inform internet addiction intervention policy	Indonesia	N=9, (15-17)	Interviews	Thematic analysis

Romero Saletti et al. (2022)	Meanings of Instagram, motivations for engagement	Belgium and Perú	N=19, (18-28)	Surveys and Interviews	Constructivist grounded theory method
Ryan et al. (2016)	To construct a Facebook addiction psychological construct	Australia	N=417, (18-80)	Online surveys	Phenomenological thematic analysis
Scott et al. (2019)	Motivations behind social media engagement at bedtime, impact on sleep	Scotland, UK	N=24, (11-17)	Focus group	Thematic analysis
Singleton et al. (2016)	Perceptions of role of social media in wellbeing and distress. Use of self-disclosure and self-presentation	England, UK	N=12, (14-18)	Interview	Constructivist grounded theory method
Sun (2018)	Internal and social factors influencing internet addiction	China	N=20, (not stated)	Focus groups, interviews	Content analysis
Throuvala et al. (2019a)	Uses, motivation, and values of social media and screen time	England, UK	N=42, (12-16)	Focus groups	Thematic analysis
Throuvala et al. (2019b)	Exploring processes of engagement with social media	England, UK	N=42, (12-16)	Focus groups	Constructivist grounded theory method
Vermeulen et al. (2018)	Communication modes used to share emotions on social media	Belgium	N=22, (14-18)	Interviews	Thematic analysis
Weinstein (2018)	How daily social media interactions influence affect	America	N=26, (13-18)	Interviews	Thematic analysis

Winstone et al. (2021)	Connection between social media use and connectedness experiences	England, UK	N=24, (13-14)	Interviews 1 to 1, paired and group of 3	Thematic analysis

Appendix Q: Eight Meta-Themes that Emerged from the Phase 3 Thematic Analysis of the 32 Included Qualitative Studies

Meta-Theme / Study	Background Factors	Empowerment and Gaining Control	Disempowerment and Losing Control	Impression management	Positive and negative consequences	Online Norms	Identity	Instrumental/Purposeful Use		
								Connection and Disconnection	Emotional Regulation	Other Instrumental Use
Alavi Asil et al. (2022)	x	x	x		x			x	x	x
Arness & Ollis (2022)	x		x		x			x	x	x
Bell (2019)		x				x	x	x		
Best et al. (2015)		x					x	x		
Burnette et al. (2017)		x	x			x				
Calancie et al. (2017)					x		x	x		
Chegeni et al. (2021)	x		x						x	
Chua and Chang (2016)			x	x	x					
Conroy et al. (2022)			x					x		
Danso, and Awudi (2022)	x	x	x		x					
De Groote et al. (2022)					x	x				
Duvenage et al. (2020)					x				x	
Hjetland et al. (2021)			x	x	x	x		x		

Study										
Jong and Drummond (2016)					x		x			
Kamalikhah et al. (2021)	x	x	x		x			x	x	x
Keles et al. (2023)		x	x		x			x		
Li et al. (2015)	x				x				x	x
MacIsaac et al. (2017)		x		x				x		x
O'reilly (2020)		x	x		x				x	x
O'reilly et al. (2018)			x					x		
Radovic et al. (2017)			x		x			x		
Rakhmawati et al. (2021)		x	x		x			x	x	
Romero Saletti et al. (2022)			x	x	x	x		x	x	x
Ryan et al. (2016)		x	x		x			x	x	
Scott et al. (2019)						x		x		
Singleton et al. (2016)		x	x	x	x		x	x		
Sun (2018)	x		x		x			x	x	
Throuvala et al. (2019a)			x	x			x	x	x	x
Throuvala et al. (2019b)		x	x	x	x	x	x	x	x	x

Vermeulen et al. (2018)	x	x	x	x	x
Weinstein (2018)			x	x	
Winstone et al. (2021)			x	x	x

Appendix R: Open Writing Contribution from Edward
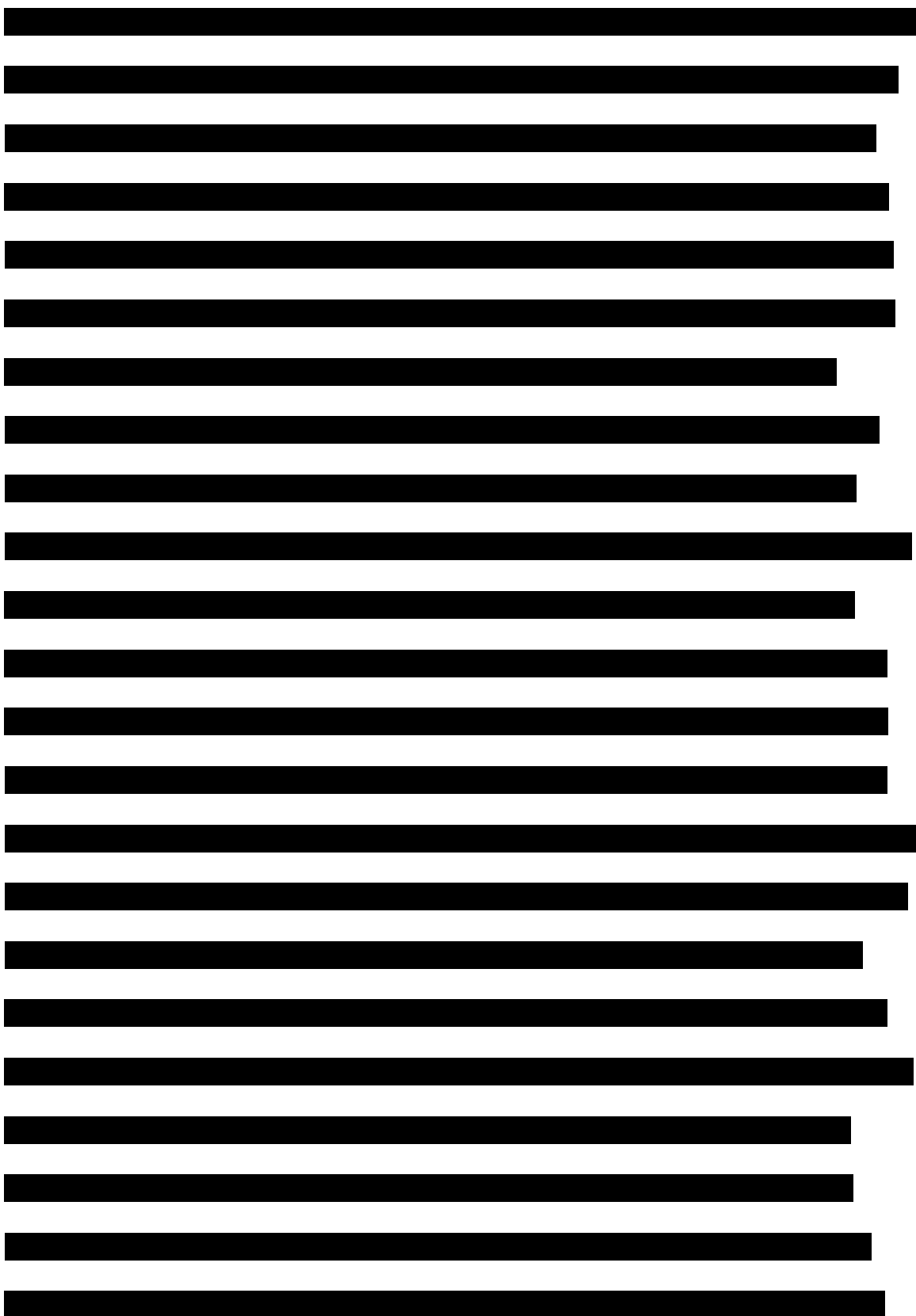
Appendix S: Open Writing Contribution from Karen
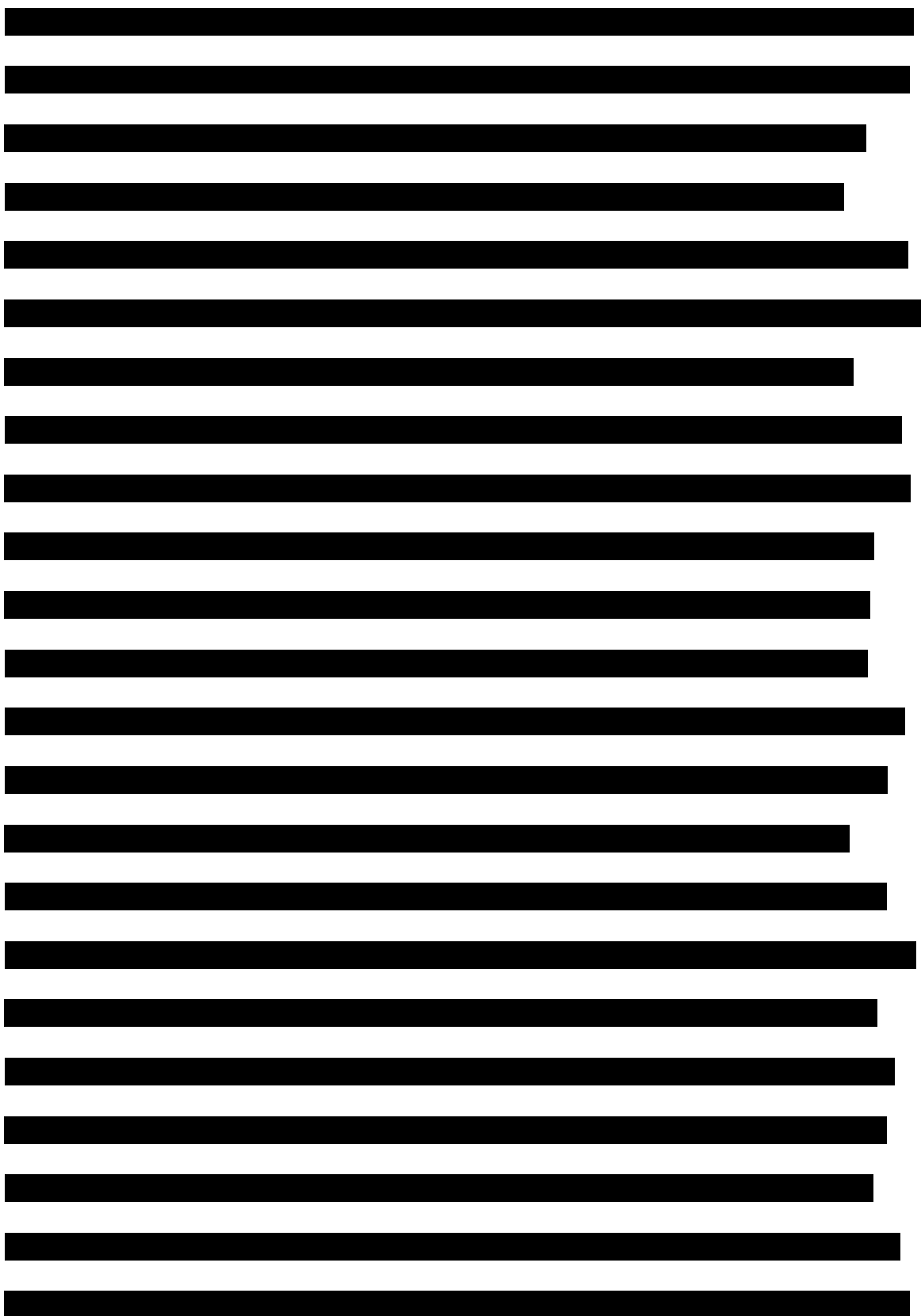
Appendix T: Aiden's Interview Transcript

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Appendix U: Aiden's Open Writing Contribution

Appendix V: Screenshots Illustrating the Open Coding of Adien's Data in NVivo Software

Participant: Um, I think I didn't have an obvious outlet for that processing. I guess. So if you, I suppose I think if you, if you, if you were married and you had a bad day at work, you might, you might not take that out on, but you might use that relationship to work through whatever your irritation was with the day. Um, I guess if you were in a physical office, lots of people would be kind of comfortable with unloading onto their coworkers or whatever things that were going on in their day-to-day life. Um, and in more normal times or where I didn't have quite as much responsibility[   ] I guess I would have found more face to face social interactions where that might've happened. So I might've been down the pub on a Friday night moaning about my day[   ] whatever it was. So I don't know whether stress is quite right, but I think an important part of working through what I felt was discussing it with other people. And this was, this was the mechanism that I had to do that. Um,

Interviewer: It was like you had stuff to work through and that led you to connecting through this kind of chat.

Participant: I think so. More so than feeling stressed by what has happened in reaching for comfort or release or relaxation or something through that, but it probably is a bit of both. It's quite hard to separate out. Um, but then to kind of finish that thought... I guess there was also that macro... what I'm calling the macro level stuff. Um, I think there were also.. and this is perhaps even more unhealthy in many ways. [   ] I think it could have, it did feel more attractive to retreat into.... [long pause] What I'm trying to say is retreat from perhaps the immediacy or the emotion of that of the stress of that perhaps. You're right. Um, because I guess messaging apps offer a degree of detachment to the communication. Um, they don't have the same pressures or they have different pressures, but they don't have, I suppose, the same pressures as a face-to-face conversation or dealing with something in person. Um, and so I think, I think there were probably times where that that ability to have a ... Maybe there's something about the written form too, as well. I think, I think for a bunch of reasons is it was attractive to retreat into that known discourse environment rather than confront some of the stuff that was around me, perhaps I was just having a bad time in real life and it seemed, uh, it seemed like a simpler... or safer space or something. I'm not sure.

Interviewer: Um, maybe a safer space for you to be in rather than in the thick of it.

CODE STRIPES

Coding Density

- taking time to figure out his thoughts
- offloading problems onto coworkers in an office
- experiencing more comfort in expressing complex emotional things within e-chat
- reaching for comfort or release or relaxation
- having personality characteristics
- feeling uncomfortable with conflict
- avoiding dealing face to face with the kids
- using your partner to work through a problem with your day - him not being able to
- experiencing more responsibility with children
- difficulties in finding face-to-face interactions for offloading
- working though experiences by discussing them with others
- retreating into known disc
- experiencing pressures in face-to-face c
- finding conflict aversive
- feeling more comfortable with a written and considerative situation
- having a bad day at work when with a partner
- awareness of macro-level stuff
- experiencing chat as unhealthy in many ways
- retreating from the immediacy of stress and difficul
- experiencing less pressure in communicating
- experiencing less pressure in communicati
- detachment thought e-chat
- communicating with detachment
- avoiding confronting the
- children losing their tempers over nothing important
- Being in a prescribed ring-fenced space
- preferring emails to video chat
- working though experiences through e-chat
- retreating away from conflict - life's challenges
- experiencing e-chat.

known discourse environment rather than confront some of the stuff that was around me, perhaps I was just having a bad time in real life and it seemed, uh, it seemed like a simpler... or safer space or something. I'm not sure.

Interviewer: Um, maybe a safer space for you to be in rather than in the thick of it.

Participant: Yeah. Yeah. Or a more... more ring-fenced or more, um, kind of prescribed space, I guess.

Interviewer: What made it prescribed or ring-fenced?

Participant: So I think probably my personality generally, and it doesn't sound like I'm answering the question but I am. Um, my personality generally is that I probably don't deal all that well with conflict, um, or large groups. I'm probably, um, you know, some, some degree of introversion and tend to want to take my time. You probably got this from this conversation already. I tend to want to take my time to figure out what my thoughts on something are. Um, and so I think for me personally, dealing with ▮▮▮▮▮▮▮ ▮▮▮▮▮▮▮ not my most, uh, you know, comfortable environment, whereas I guess the back and forth or something that's written and considerative and whatever. Even if you're talking about or trying to express complex or emotional, um, concepts is more naturally comfortable to me. Um, like I'd probably rather exchange emails than have a video chat, I suppose, is what I'm saying. And to some extent, those were the options offered to me. I could either deal with the face-to-face with the kids or retreat into a more comfortable format.

CODE STRIPES

Coding Density

- retreating away from conflict - life's challenges
- Being in a prescribed ring-fenced space
- experiencing e-chat as safer
- awareness of macro-level stuff
- experiencing chat as unhealthy in many ways
- detachment thought e-chat
- communicating with detachment
- having a bad day at work when with a partner
- avoiding confronting the stuff around him
- finding conflict aversive
- retreating from the immediacy of stress and difficult emotions
- experiencing less pressure in communicating electronically
- experiencing less pressure in communicating electronically
- working though experiences by discussing them with others
- experiencing more responsibility
- using your partner to work through a problem with your day - him not being able to
- difficulties in finding face-to-face interactions for offloading
- experiencing pressures in face-to-face communication
- having personality characteristics
- retreating into known discourse environment
- offloading problems onto coworkers in an office
- reaching for comfort or release or relaxation
- taking time to figure out his thoughts
- feeling uncomfortable with conflict
- experiencing more comfort in expressing complex emotional things within e-chat
- feeling more comfortable with a written and considerative situation
- preferring emails to video chat

Appendix W: A Screenshot Illustrating Focused Coding Within the NVivo Software

Appendix X: A Screenshot Illustrating of Axial Coding Within the MindManager 9 Software